AMERICAN EXPERIMENT

TAXES AND MIGRATION

Minnesotans on the Move to Lower Tax States

JOHN PHELAN • ECONOMIST
WITH ASSISTANCE FROM PETER FLANDERS

John Phelan is an economist at Center of the American Experiment. He is a graduate of Birkbeck College, University of London, where he earned a BSc in Economics, and of the London School of Economics where he earned an MSc. John worked in finance for ten years before becoming a professional economist. He worked at Capital Economics in London, where he wrote reports ranging from the impact of Brexit on the British economy to the effect of government regulation on cell phone coverage. John has written for *City A.M.* in London and for *The Wall Street Journal* in both Europe and the U.S. He has also been published in the journal *Economic Affairs*.

Center of the American Experiment's mission is to build a culture of prosperity for Minnesota and the nation. Our daily pursuit is a free and thriving Minnesota whose cultural and intellectual center of gravity is grounded in free enterprise, limited government, individual freedom, and other time-tested American virtues. As a 501(c)(3) educational organization, contributions to American Experiment are tax deductible.

Bulk orders of this publication are available by contacting Peter Zeller at Peter.Zeller@AmericanExperiment.org or 612-338-3605.

8421 Wayzata Boulevard ★ Suite 110 ★ Golden Valley, MN 55426

OCTOBER 2021

Taxes and Migration

Minnesotans on the Move to Lower Tax States

CONTENTS

Executive Summary

- Minnesota's population growth lags that of the United States. Since the turn of the 21st century, Minnesota has ranked 26th among the fifty states and District of Columbia with population growth of 14.7 percent over this period compared to 16.8 percent for the United States.
- Our state's population growth rate this century has also lagged that of our neighbors to the west, South and North Dakota, with growth of 18.1 and 19.2 percent respectively.
- Net domestic out-migration of Minnesota residents to other states accounts for some of this slow population growth. Net domestic migration of people into Minnesota turned negative in 2002 and remained negative until 2017. That year and the following, our state actually gained residents on net from other states, but this inflow dried up as suddenly as it had come. In 2019, Minnesota lost 965 residents on net and in 2020 the net loss was 9,757, the third largest net loss of residents to other states in thirty years.
- Minnesota's net losses are driven largely by people declining to move here. Both the inflow and outflow of population consistently increased through the 1990s. However, in the 2000s the outflow of people leaving Minnesota plateaued while the inflow of people dropped. Thus, the decline in the net number of people moving to Minnesota is primarily due to fewer people moving into Minnesota.
- As Minnesota has lost residents to other states, it has also lost income to other states. Minnesota began experiencing substantial annual losses in Adjusted Gross Income (AGI) in 1997—five years before net domestic migration turned negative, suggesting that higher earners, on average, were at the forefront of this. Minnesota has lost income to other states in every year since then. Income losses to domestic migration held somewhat steady between 1996 and 2011, averaging $514.5 million annually in 2019 dollars. This loss then increased sharply up to 2014, peaking at over $1 billion, before declining up to 2017 and then rising sharply again in the last two years for which we have data.
- For migration to boost per capita incomes, Minnesota needs to attract/retain workers with above average productivity. Data shows that our state has seen net inflows of domestic migrants in every income category below $50,000 annually but net outflows at every income level above that. If we make the standard economic assumption that income is driven by productivity, this means that Minnesota has experienced a net loss among its most economically productive residents.
- Losing high earners will also impact state budgets because the rich pay a disproportionate amount of state income taxes. In 2018, the bottom 30 percent of Minnesota households by income (who earned 5.8 percent of all income earned in the state) paid no individual income tax. By contrast, the top ten percent of Minnesota households by income earned 43.0 percent of all the income earned in the state but paid 59.4 percent of total income tax revenues for an effective state income tax rate of 6.4 percent. For the top 1 percent, the disparity is even greater: they earned 16.5 percent of all income earned in the state but paid 27.1 percent of all income tax revenues for an effective state income tax rate of 7.7 percent.

- Many factors go into an individual's decision as to where to live, work, and play. One of these is the comparative tax burdens that different jurisdictions will subject them to. A recent paper by economists Henrik Kleven, Camille Landais, Mathilde Muñoz, and Stefanie Stantcheva that "review[ed] what we know about mobility responses to personal taxation" found that: "There is growing evidence that taxes can affect the geographic location of people both within and across countries. This migration channel creates another efficiency cost of taxation with which policymakers need to contend when setting tax policy."
- Research also finds that wealth taxes, such as the estate tax, influence the migration decisions of higher earners.
- Examining the relationship between average tax burdens in other states over the period 2009 to 2018 and the ratio of domestic in-migrants to out-migrants over the period 2009-2010 to 2018-2019, we see a positive relationship between the tax burden in a state and the ratio of in-migrants to out-migrants from that state to Minnesota: in other words, the higher the other state's tax burden the greater, on average, the ratio of in-migrants to out-migrants and the lower the other state's tax rate the lower the ratio of in-migrants to out-migrants. Put more simply, the lower (higher) the tax burden in the other state the greater our migration loss to (gain from) it.
- Minnesota's net domestic out-migration makes sense given the findings of the empirical literature: our state has high income and wealth taxes.
- At 10.2 percent in 2019, Minnesota had the 6th highest ratio of state and local sales, property, and individual incomes tax revenues to Personal Income out of the fifty states and District of Columbia. Our state's tax burden has ranked in the top ten on this measure in every year since at least 2009.
- This high burden is driven in large part by our state's high rates of individual income tax. Our state had the fifth highest rate of state individual income tax in 2021 at 9.85 percent on incomes over $166,040: Only California, Hawaii, New Jersey, and Oregon have higher rates. Furthermore, for both California and New Jersey, the top rate only kicks in at an income threshold of $1 million. Notably, Minnesota doesn't just tax 'the rich' heavily: our state's starting rate of personal income tax – 5.35 percent – is higher than the top rate in 23 states.
- Minnesota imposes high wealth taxes, too. Ours is one of only twelve states and the District of Columbia to impose an estate tax (a further six impose an inheritance tax, and Maryland imposes both). To compound this, of these 13 jurisdictions, Minnesota's exemption, $3 million, is lower than in eight. At 13 percent, Minnesota has the second-highest minimum rate of estate tax after Vermont. Minnesota's top rate of estate tax, 16 percent, is tied for the second highest.

Minnesota's population growth is below average

In April, Minnesotans breathed a sigh of relief when numbers for the 2020 census showed that the state would not lose one of its eight congressional seats, as had been widely predicted. But it was a close run thing: if the state of New York had counted just 89 more people in the census, it, rather than Minnesota, would have been allotted the 435th of the 435 House seats.[1]

Minnesota's population growth has long lagged that of the United States. As Figure 1 shows, since the turn of the 21st century, Minnesota has ranked 26th among the fifty states and District of Columbia with population growth of 14.7 percent over this period compared to 16.8 percent for the United States.

It has been argued that this is part of broader phenomenon as a growing share of the United States' population is found in Southern and Western states, driven to migrate there by things like the invention of air conditioning.[2] But Minnesota's population growth this century has also lagged that of its neighbors to the west, South and North Dakota. With growth of 18.1 and 19.2 percent respectively, the Dakotas have also seen their populations grow at a rate greater than the United States. Neither of them has a climate much different from Minnesota which suggests that geography isn't necessarily destiny.

In fact, an annual Census Bureau survey asks people who move any distance their main reason for doing so. Of those who moved in 2020, just 0.4 percent cited 'Change of climate' as the main reason for their move. The three most popular choices were 'Wanted newer/better/larger house or apartment' (14.6 percent), 'New job or job transfer' (11.4 percent), and 'To establish own household' (10.6 percent).[3]

Each of these relates to the opportunities offered for employment or housing, which suggests that state government policy in these areas could influence migration decisions, either positively or negatively.

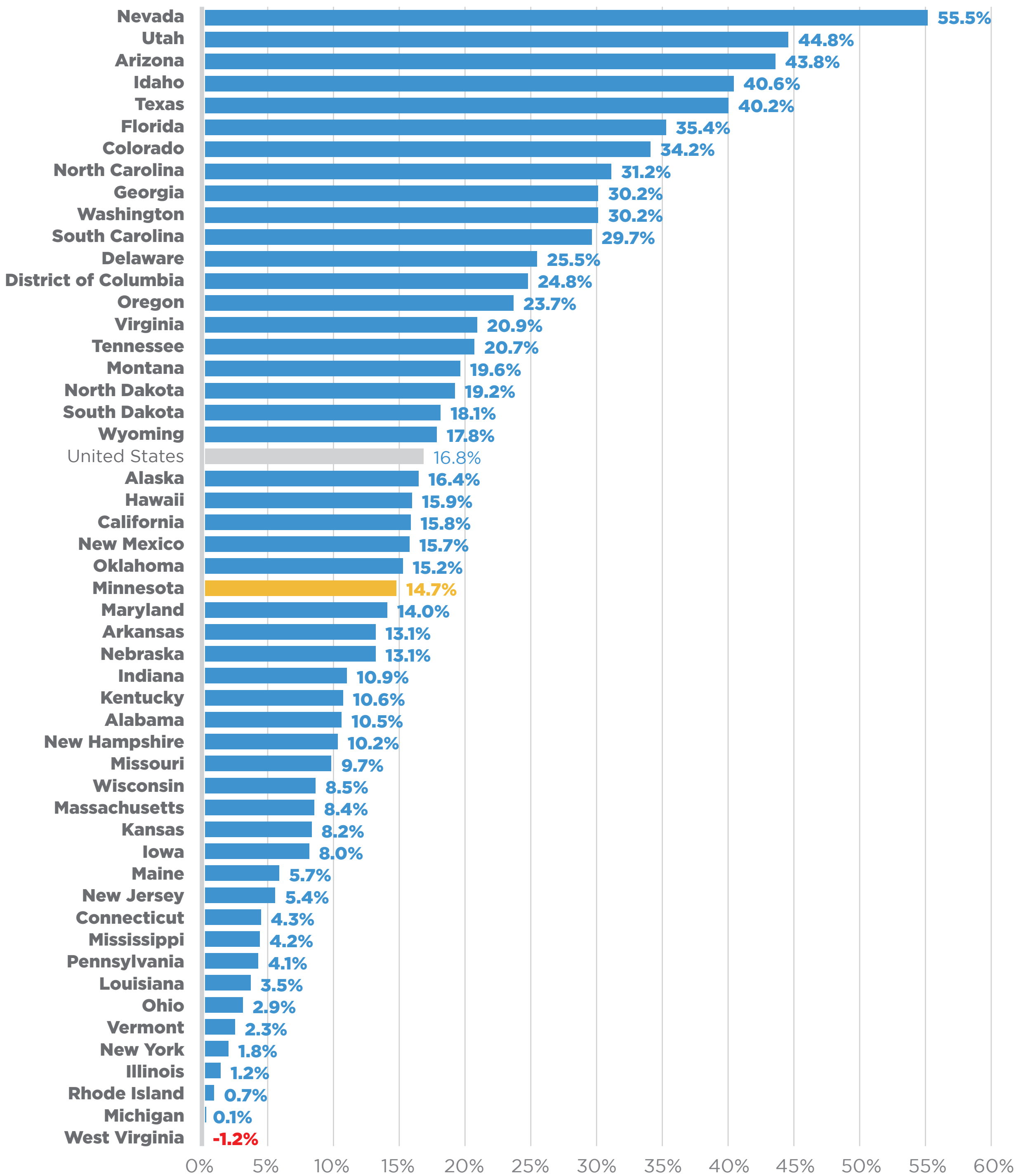
From an economic standpoint, slow or even no population growth need not spell doom. Per capita economic growth is what matters for prosperity and that comes from greater productivity *per worker*, not more workers necessarily. To boost the rate of per capita economic growth, what Minnesota needs is more productive workers, either by making those currently in the state more productive or attracting more productive workers from elsewhere.

It is also the case that higher productivity workers tend to earn higher incomes and, as a result, pay higher taxes. State income tax revenues come, disproportionately, from higher income residents. Just as losing these people will hit state government revenues, attracting them here will boost them.

State economic policy falls into two broad categories: fiscal policy, which relates to taxes and spending, and regulatory policy. Building on a previous report by my colleague Peter Nelson which looked at the impact of state tax rates on migration patterns into and out of Minnesota,[4] this report begins by reviewing the evidence on the impact of taxes on migration; looks at tax burdens in Minnesota compared to other states; examines patterns of net migration into and out of our state; analyzes the effect of relative state tax burdens on these movements; and finally explains why the patterns we see offer cause for concern, both for future economic growth and the state government's fiscal sustainability. ■

Population change, 2000 to 2020

FIGURE 1



SOURCE: CENSUS BUREAU

Taxes affect where people locate

Many factors go into an individual's decision as to where to live, work, and play. One of these is the comparative tax burdens that different jurisdictions will subject them to. There are those, policymakers included, who deny this.[5] Empirical research indicates that those people are wrong.

Since the 1970s, economist Richard Cebula has published studies attributing interstate migration flows to a range of factors, including state economic growth, housing costs, taxes, climate, crime rates, and public school spending. He has consistently found that income and property tax burdens are statistically significant in explaining interstate migration.[6] Looking further at overall burdens, economist Yu Hsing calculated an 'optimal' value for the state and local tax burden and found that "Interstate in-migration rates are likely to increase (decrease) given a change in tax burdens, if the current level is below (above) the optimal tax level."[7] Economist Robert R. Preuhs examined "the effects of state policy on net interstate migration" and found that "states with low taxation levels, high investment-consumption ratios, and more liberal ideologies relative to other states, tend to experience more population growth via interstate migration."[8]

"States with low taxation levels, high investment-consumption ratios, and more liberal ideologies relative to other states, tend to experience more population growth via interstate migration."

— Robert R. Preuhs, economist

The effect of income taxes

One of the most studied taxes is the individual income tax.

A study by economist Mark Gius found that "income taxes have an effect on migration for most races and age groups. Individuals move from states with high income taxes to states with low income taxes."[9] Economists Karen Smith Conway and Andrew J. Houtenville looked at "whether elderly migration is affected by state fiscal policies" and found that, in addition to other factors, "Low personal income and death taxes also encourage migration."[10] A study by economists David Clark and William Hunter finds that "working males in their peak earning years are detracted by high income taxes."[11] A paper by economists Antony Davies and John Pulito concludes that "higher state income-tax rates cause a net out-migration not only of higher-income residents, but of residents in general."[12] The results of a study by economists Roger Cohen, Andrew Lai, and Charles Steindel "indicate that variations in differential average marginal tax rates are associated with small but significant effects on net outmigration from a state."[13] In another paper, Cohen, Lai, and Steindel found that New Jersey's increase in its top individual income tax rate in 2004 induced net out-migration of 80 or more millionaires a year.[14] This is a small number of people, but given the progressivity of income taxes, they have an outsized impact on state tax revenues. These findings were supported by research by economists Joshua Rauh and Ryan J. Shyu which documented "a substantial one-time out-migration response to increased state tax rates" with "strong behavioral responses to income taxation amongst high earners."[15] A recent paper by economists Henrik Kleven, Camille Landais, Mathilde Muñoz, and Stefanie Stantcheva that "re-

"PEOPLE MOVE IN RESPONSE TO TAXES"
MORE ON INCOME TAXES AND MIGRATION

While Kleven, Landais, Muñoz, and Stantcheva find that: "There is growing evidence that taxes can affect the geographic location of people both within and across countries" and that "[t]his migration channel creates another efficiency cost of taxation with which policymakers need to contend when setting tax policy," they also offer two arguments "against overusing these empirical findings to argue in favor of an ineluctable reduction in the level of taxation or progressivity."

First, they point out that "while the mobility responses documented in some of the recent literature are striking and perhaps surprisingly large, they pertain to specific groups of people and to specific countries." While true, it is also true that high tax rates only affect relatively small numbers of people of which the groups studied are not unreasonable samples and who research shows tend to be more responsive to tax rates. It should also be pointed out that four of the twelve studies they cite relate to movement between states of the union.

Second, they note that "the strength of the mobility response to taxes…depends critically on the size of the tax jurisdiction, the extent of international or sub-national tax coordination, and the prevalence of other forces that foster or limit the movement of people, all of which can also be affected by policies." While states remain free to set their own tax rates, the scope for "sub-national tax coordination" will be limited. Furthermore, movement between the states is much easier than movement between different countries, so we ought actually to see greater mobility responses resulting from state tax policy.

Neither of these points, then, should stop us from applying the findings of empirical research to Minnesota's tax policies: people move in response to taxes.

view[ed] what we know about mobility responses to personal taxation" found that:

> *There is growing evidence that taxes can affect the geographic location of people both within and across countries. This migration channel creates another efficiency cost of taxation with which policymakers need to contend when setting tax policy.*[16]

The effect of wealth taxes

Kleven, Landais, Muñoz, and Stantcheva look at papers estimating mobility responses to personal income taxes, but there is also evidence that taxes on wealth and capital income drive migration.

In addition to Conway and Houtenville's findings on the effects of the estate tax cited above, in another paper they find that "all elderly age groups avoid moving to states with high estate/inheritance/gift taxes" and that "the younger elderly appear to be 'shopping around' for destinations with a temperate climate and favorable government policies regarding income taxes and welfare spending, whereas the older elderly are more likely to be 'driven out' of their origin state by a high cost of living and income and property taxes."[17] Clark and Hunter, also cited above, find that "all migrants aged 55 to 69 avoid counties in states with high inheritance and estate taxes."[18] A paper by economists Jon Bakija and Joel Slemrod finds that high inheritance and estate taxes have statistically significant, if modest, negative impacts on the number of federal estate tax returns filed in a state.[19] A study focusing on individuals from the Forbes 400 in the United States suggests that mobility responses to estate tax incentives might be larger at the very top of the wealth distribution. This paper, by economists Enrico Moretti and Daniel J. Wilson, weighs the revenue brought in by state estate taxes against the revenues lost when people leave the state and take future payments of income and sales taxes with them. They find that, while "the [revenue] benefit [of an estate tax] exceeds the cost for the vast majority of states," this was not the case for Minnesota. Ours is one of four states where the costs in terms of lost revenues from other taxes outweigh the benefits in terms of estate tax revenues. Those states are the ones with the highest top rates of income tax: Hawaii, Minnesota, Oregon, and Vermont.[20] This echoes the findings of our own study in 2018[21] and strongly suggests that a state can impose either an estate tax or a high top rate of personal income tax, but it cannot impose both without people leaving and taking their revenues with them.

Taxes are (dis)incentives

These findings should not be surprising. After all, taxes are (dis)incentives and much public policy, from cigarette taxes to carbon taxes, is based on the notion that people respond to the (dis)incentives provided by taxation. But, while policymakers generally embrace this logic when it comes to the fight against smoking or global warming, all too often many of those same policymakers abandon it when it comes to taxation of incomes or wealth. For some reason, people who think that smoking will decline if the tax on smoking is increased think that there will be no effect, that people will just go on working and investing exactly as before, if taxes on labor or investment income are increased. This discontinuity in logic is hard to account for, but it is an obstacle to sound, evidence based public policy. ■

Minnesota has high taxes

Minnesota is a high tax state.[22]

Minnesota's overall tax burden is high. Census Bureau and Bureau of Economic Analysis data, seen in Figure 2, show that, at 10.2 percent in 2019, Minnesota had the 6th highest ratio of state and local sales, property, and individual incomes tax revenues to Personal Income out of the fifty states and District of Columbia. Our state's tax burden has ranked in the top ten on this measure in every year since at least 2009.

This high burden is driven in large part by our state's high rates of individual income tax. According to the Tax Foundation, our state had the fifth highest rate of state individual income tax in 2021 at 9.85 percent on incomes over $166,040. As Figure 3 shows, only California, Hawaii, New Jersey, and Oregon have higher rates. Furthermore, for both California and New Jersey, the top rate only kicks in at an income threshold of $1 million. Notably, Minnesota doesn't just tax 'the rich' heavily: our state's starting rate of personal income tax [5.35 percent] is higher than the top rate in 23 states.[23]

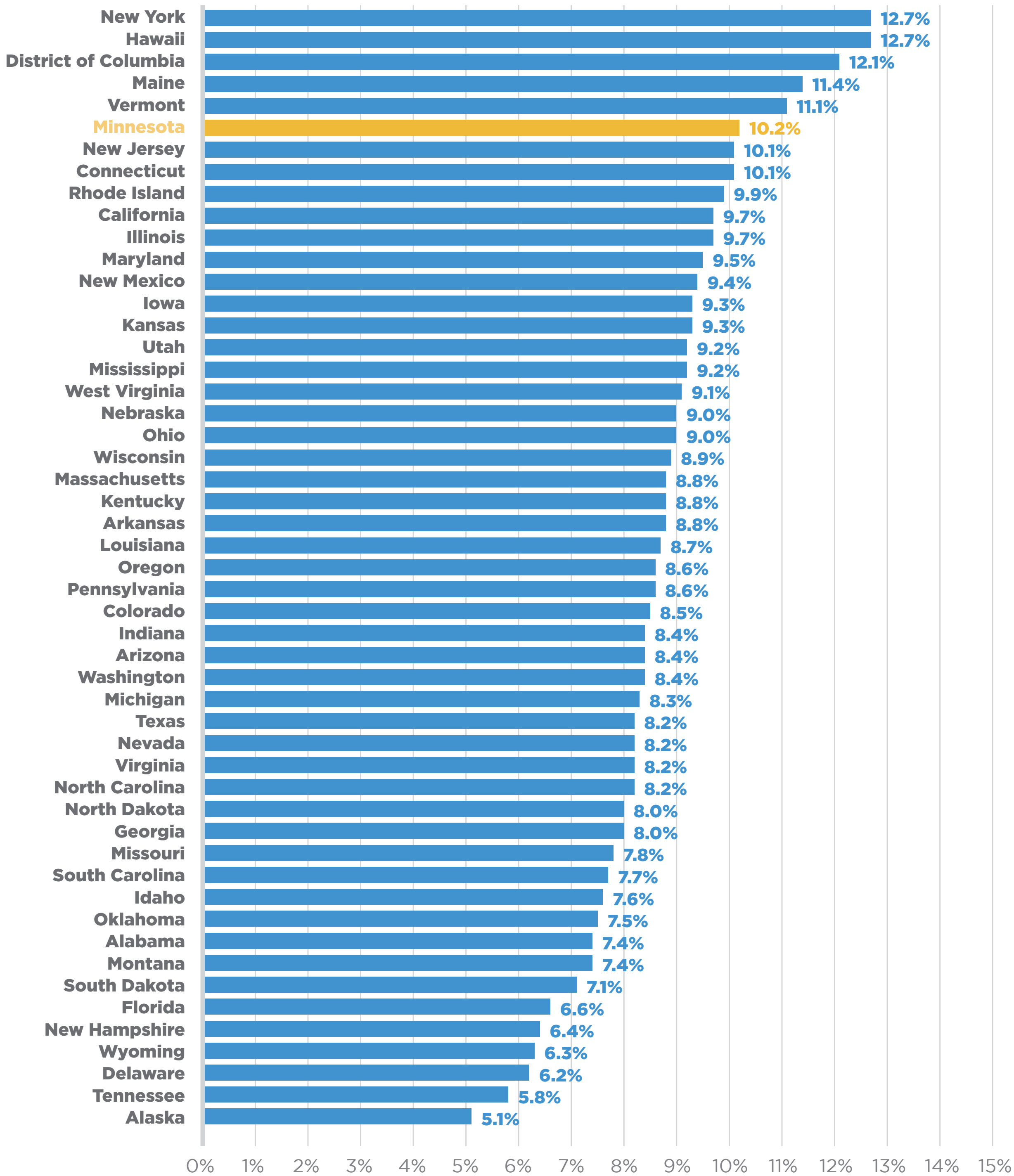
"Minnesota doesn't just tax 'the rich' heavily: our state's starting rate of personal income tax – 5.35 percent – is higher than the top rate in 23 states."

When we look at other taxes which studies have found drive migration patterns, such as the estate tax, we find that, once again, Minnesota imposes a high burden. The Tax Foundation reports that ours is one of only twelve states and the District of Columbia to impose an estate tax (a further six impose an inheritance tax, and Maryland imposes both), as seen in Figure 4. To compound this, of these 13 jurisdictions, Minnesota's exemption, $3 million, is lower than in eight. At 13 percent, Minnesota has the second-highest minimum rate of estate tax after Vermont. Minnesota's top rate of estate tax, 16 percent, is the joint second highest.[24]

Minnesota does not benefit from lower tax burdens in other areas, like property taxes and sales taxes. While not among the highest ranked on these taxes, Minnesota is still higher than average on both, 19th on property and 17th on sales according to the Tax Foundation. These taxes also contribute to Minnesota's high overall tax burden. ■

State and local sales, property, and individual incomes tax revenues as a share of Personal Income, 2019

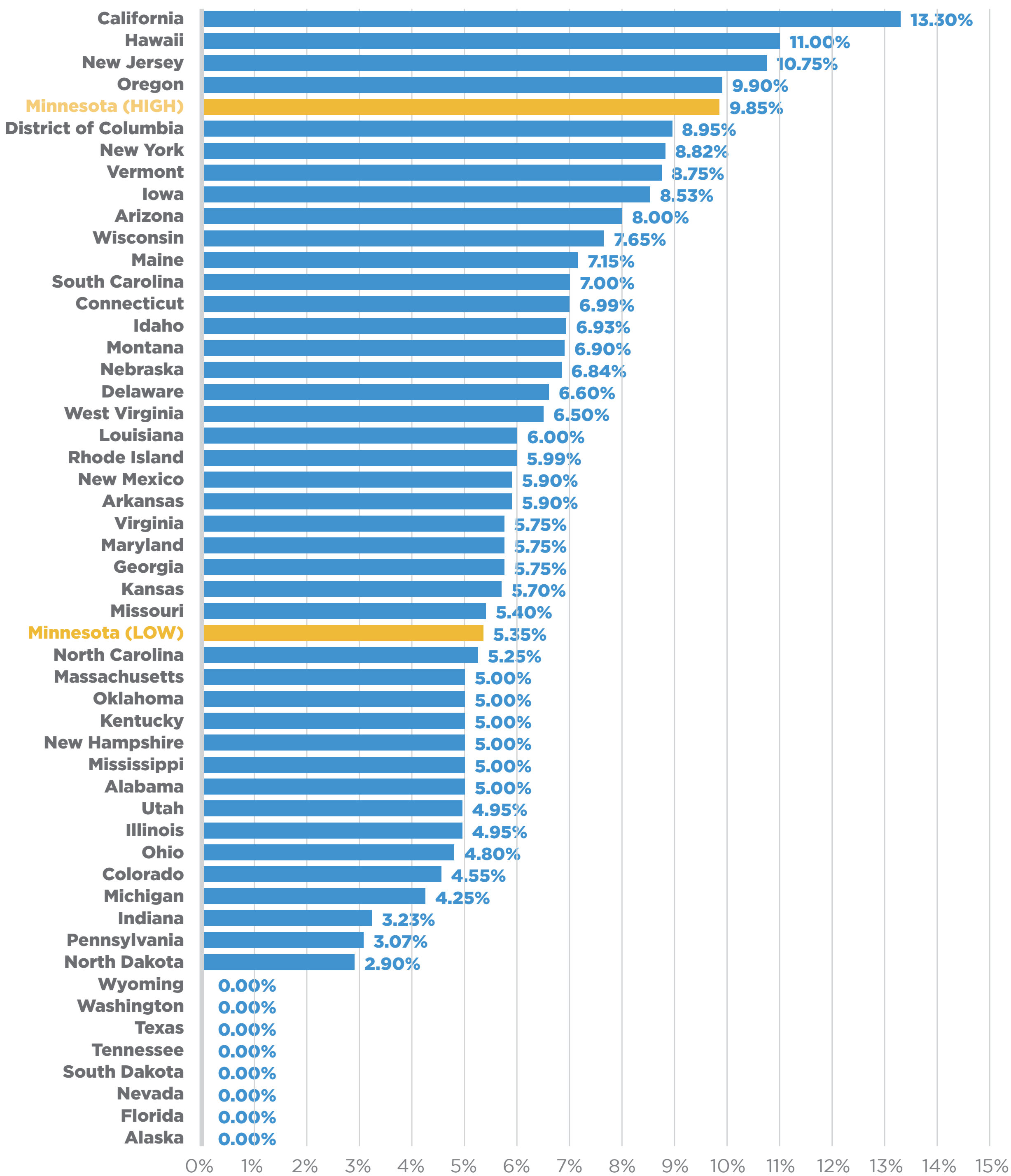
FIGURE 2



SOURCES: CENSUS BUREAU AND BUREAU OF ECONOMIC ANALYSIS

Top rates of state personal income tax and Minnesota's lowest rate, 2021

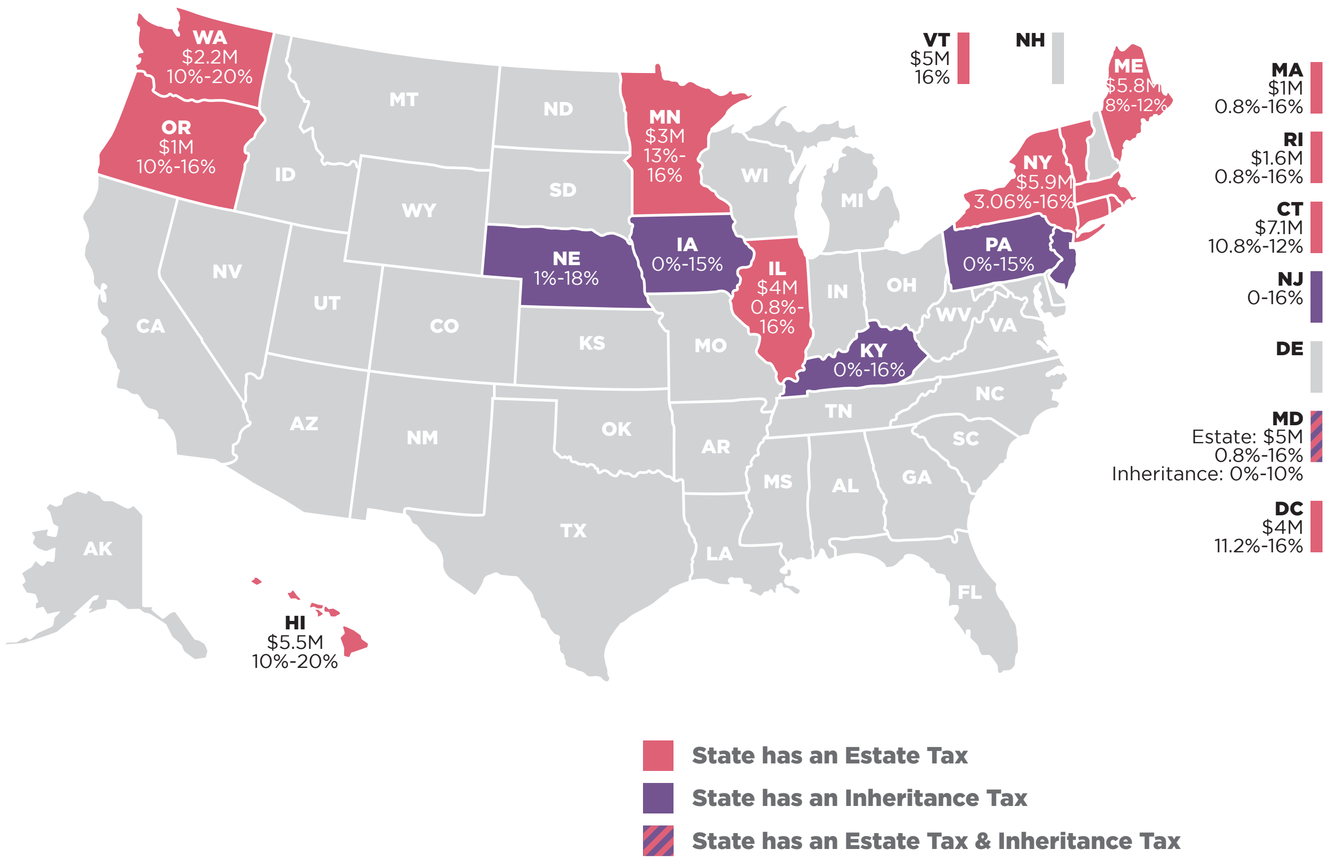
FIGURE 3



SOURCE: THE TAX FOUNDATION

State Estate & Inheritance Tax Rate & Exemptions

FIGURE 4



SOURCE: THE TAX FOUNDATION

Minnesota loses residents to other states

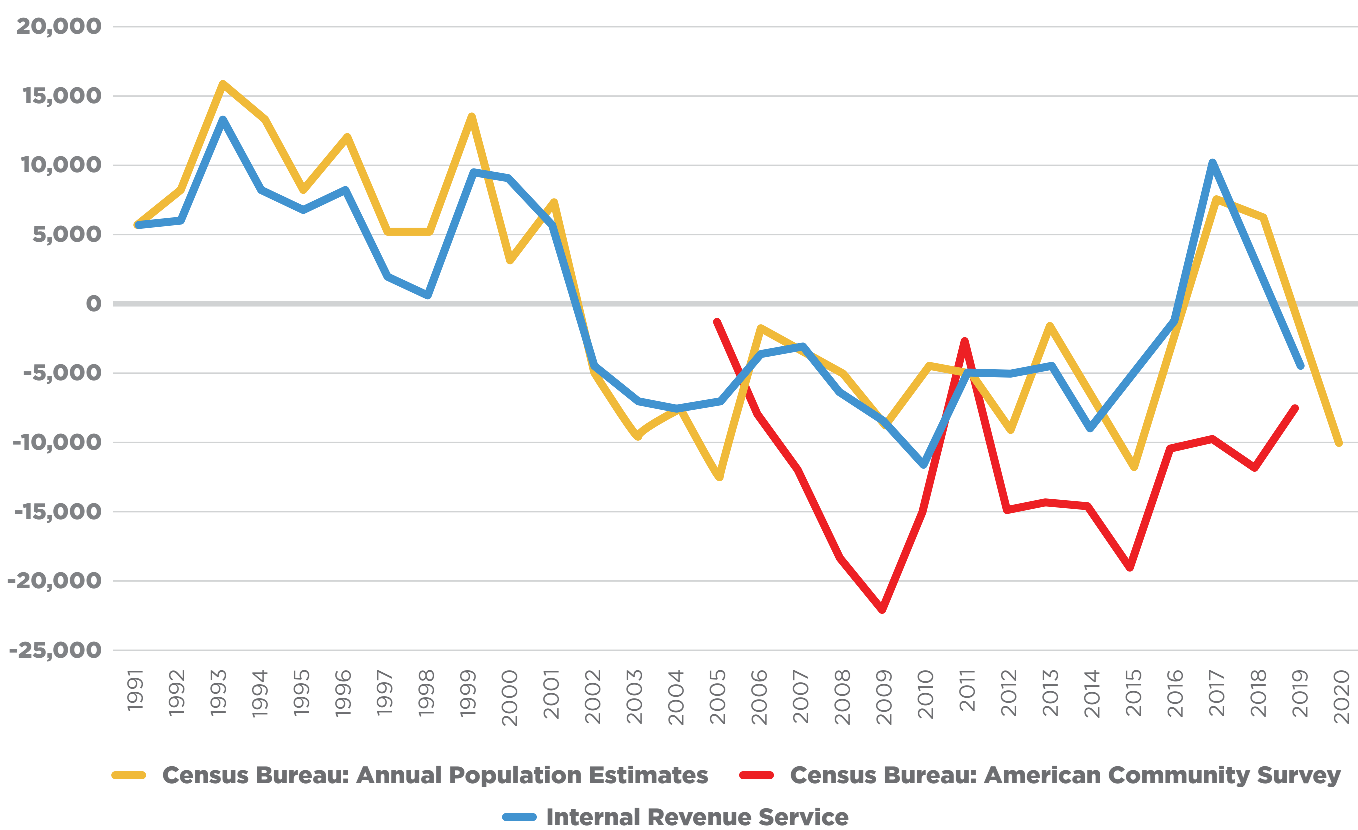
Given these two facts, that taxes affect where people locate and that Minnesota has some of the highest taxes in the United States, we would expect to see Minnesota residents leave the state and residents of other states declining to move here. That is, indeed, what the data show.

Movement of people

The data shown in Figure 5 from both the Census Bureau and the Internal Revenue Service tell us that the net domestic migration of people into Minnesota turned negative in 2002 and remained negative until 2017.[25] That year and the following, our state actually gained residents on net from other states and some heralded this as a vindication of public policy here.[26] However, this inflow dried up as suddenly as it had come: In 2019, Minnesota lost 965 residents on net according to the Census Bureau and in 2020 the net loss was 9,757, the third largest net loss of residents to oth-

Annual net domestic migration in Minnesota

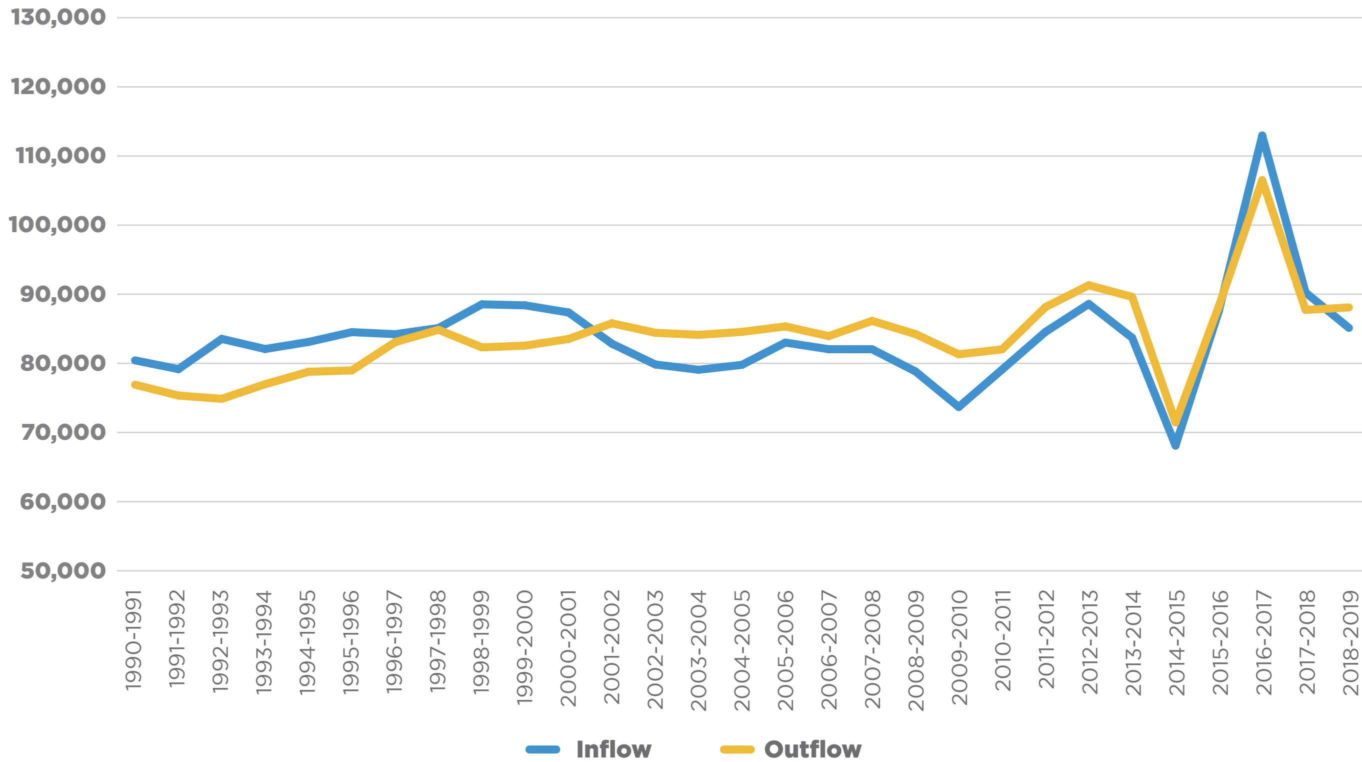
FIGURE 5



SOURCES: CENSUS BUREAU AND INTERNAL REVENUE SERVICE

Minnesota's annual inflow and outflow of taxpayers and dependents

FIGURE 6



SOURCE: INTERNAL REVENUE SERVICE

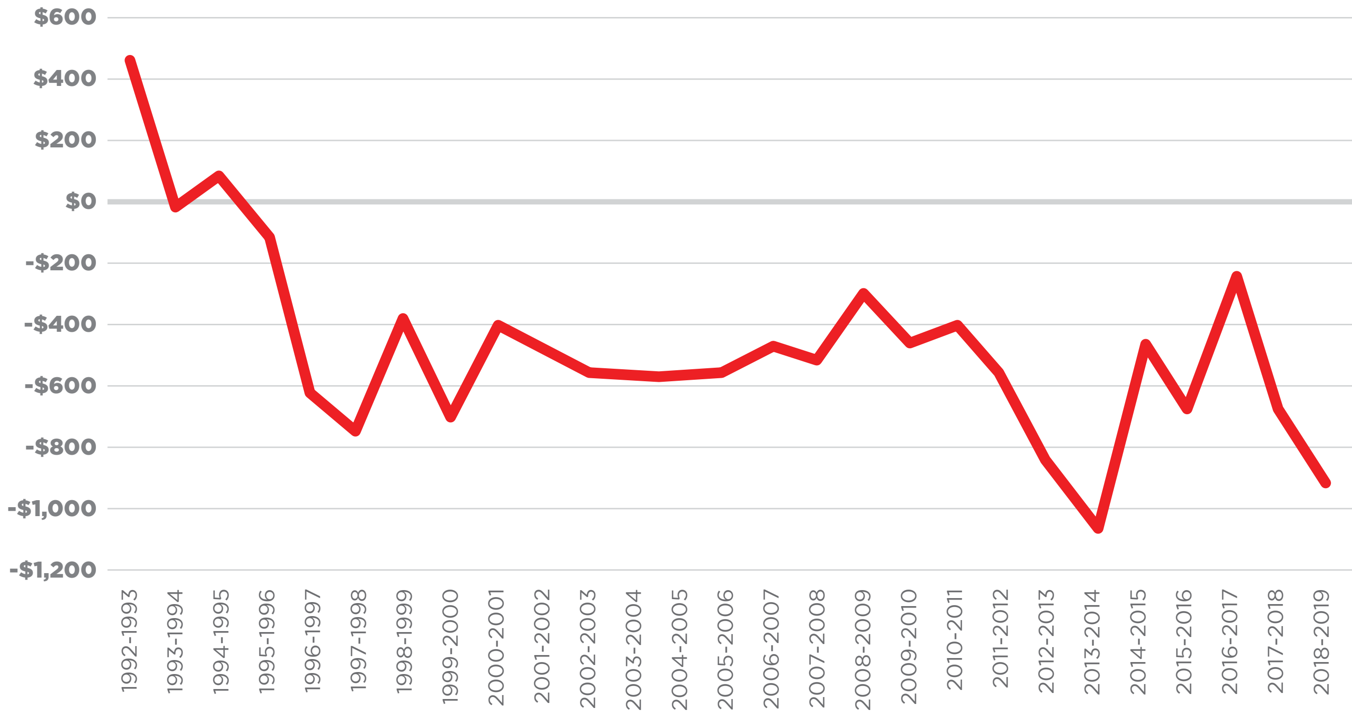
er states in thirty years.[27] Interestingly, the migration numbers for the Census Bureau's American Community Survey report clear and consistent net outflows from Minnesota in recent years.

Comparing the three decades of the 1990s, 2000s, and 2010s, Minnesota experienced a net *gain* of 86,847 people in the 1990s, but net losses of 43,962 in the 2000s and 27,569 in the 2010s, according to the Census Bureau. Positive net migration from abroad means that Minnesota still generally sees positive net migration figures overall. But, once in Minnesota, these people can then join the net domestic outflow of migrants.

Net domestic migration is the number of people moving to the state from elsewhere in the United States minus the number of people moving *from* it to other states. Data suggests that Minnesota's net losses are driven largely by people declining to move here. Figure 6 shows the inflow and outflow of people as reported by the Internal Revenue Service.[28] Both the inflow and outflow consistently increased through the 1990s. However, in the 2000s the outflow of people leaving Minnesota plateaued while the inflow of people dropped. Thus, the decline in the net number of people moving to Minnesota is primarily due to fewer people moving into Minnesota.

Annual net flow of Adjusted Gross Income in and out of Minnesota, 1990-2018 (Millions 2019 Dollars)

FIGURE 7



SOURCE: INTERNAL REVENUE SERVICE

Movement of income

As Minnesota has lost residents to other states, it has also lost income to other states.

Strictly speaking, income does not move; people do. An individual's income may be higher or lower after moving to a new state. Nevertheless, saying that income is "moving" is useful shorthand for saying that the earning power of those households is moving between states.[29]

Figure 7 shows that Minnesota began experiencing substantial annual losses in Adjusted Gross Income (AGI) in 1997—five years before net domestic migration turned negative.[30] This suggests that higher earners, on average, were at the forefront of this. Minnesota has lost income to other states in every year since then. Income losses to domestic migration held somewhat steady between 1996 and 2011, averaging $514.5 million annually in 2019 dollars. This loss then deepened sharply up to 2014, peaking at over $1 billion, before declining up to 2017 and then rising sharply again in the last two years for which we have data. ■

Taxes are influencing Minnesota's migration

Looking at the data on the tax burdens in the states that Minnesota is gaining residents from and losing them to, we see that, as theory and the empirical literature suggest, these flows are being driven, in part, by our state's high taxes.

Figure 8 shows where, over the last ten years for which we have IRS data (2009-2010 to 2018-2019) Minnesota has gained residents from and where it has lost them to. The ten main sources of residents over this period were Kansas, Indiana, Ohio, Michigan, Nebraska, Wisconsin, New York, North Dakota, Iowa, and Illinois. The net gain of 11,674 residents from Illinois over this decade is especially striking: it is nearly double the gain from second place Iowa. The ten leading destinations for Minnesota residents over this period were California, South Carolina, Oregon, Georgia, North Carolina, Washington, Colorado, Texas, Arizona, and Florida. These ten years saw 21,956 Minnesotans on net move to Florida. In total, the states in green on Figure 8 sent 51,177 residents to Minnesota between 2009-2010 and 2018-2019 while Minnesota sent 80,450 residents to the states in red for a net loss of 29,273.

"The net gain of 11,674 residents from Illinois over this decade is especially striking: it is nearly double the gain from second place Iowa."

Of course, Illinois (population 12.7 million in 2019) has more people to send to other states than Iowa (population 3.1 million in 2019). To account for this, we can look at the ratio of Minnesota's in-migrants from a particular state to its out-migrants to it. The ratios for these in-migrants to out-migrants for the period from 2009-2010 to 2018-2019 are shown in Figure 9. A ratio above 1.0 means that Minnesota gained residents from that state, a ratio below 1.0 means we lost residents to it.

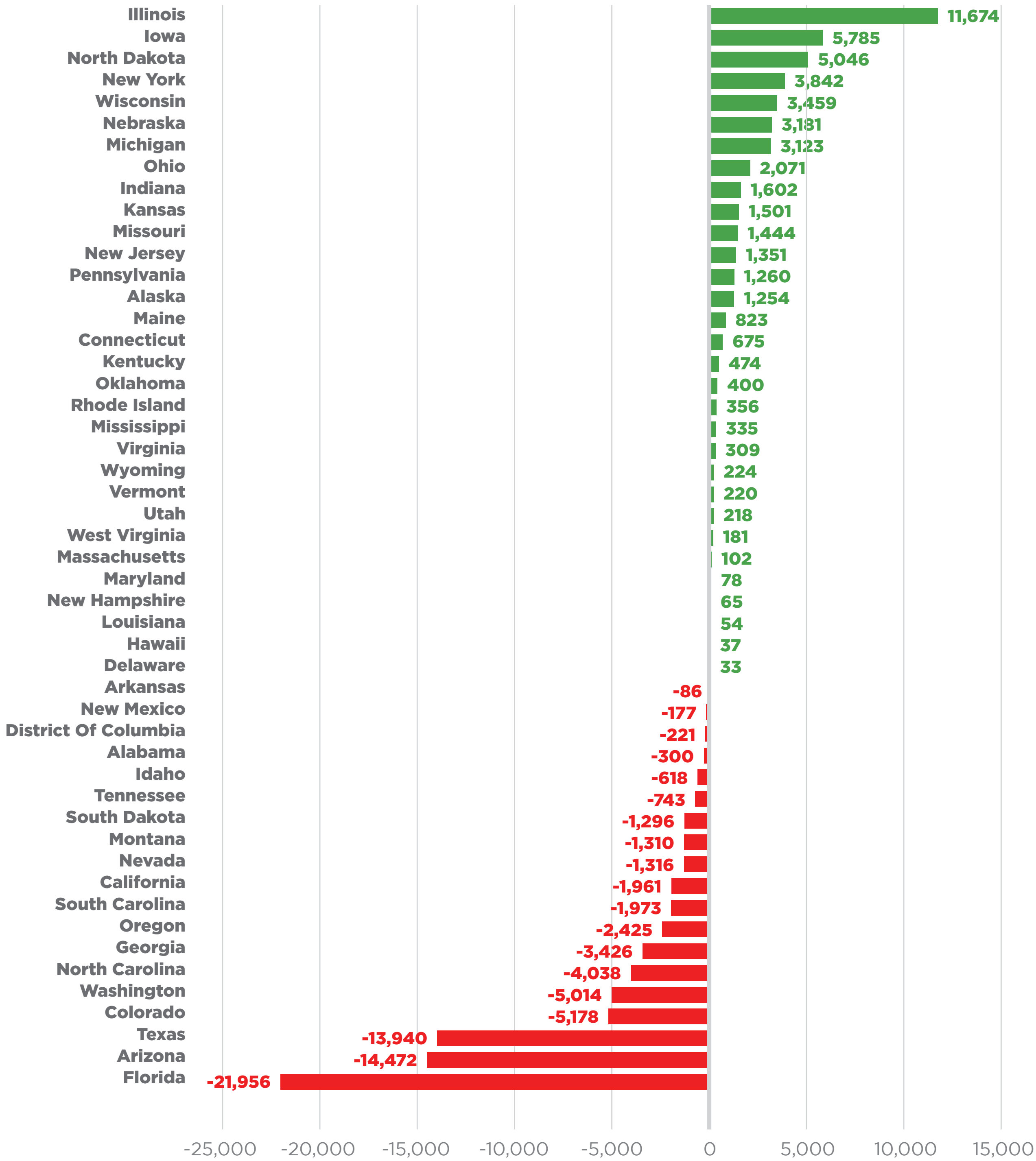
Figure 10 shows the average burden of state and local sales, property, and individual income taxes as a share of Personal Income in the 49 other states and the District of Columbia for the period 2009 to 2018. Over this period, just seven jurisdictions (highlighted in red) had tax burdens higher than Minnesota: New Jersey, Rhode Island, Maine, Vermont, Hawaii, the District of Columbia, and New York.

It is striking that five of these jurisdictions with tax burdens higher than ours, New Jersey, New York, Vermont, Rhode Island, and Maine, were among the top ten sources of domestic migrants to our state over the period 2009-2010 to 2018-2019, as measured by the ratio of residents moving in to residents moving out. Indeed, a broad look shows that the average tax burden over this period of the top ten sources of migrants to Minnesota was 9.6 percent (the median was 10.0 percent) while the average tax burden of the top ten destinations of domestic migrants from Minnesota was 8.1 percent (the median was 8.2 percent).

Figure 11 shows the relationship between average tax burdens in other states over the period 2009 to 2018 (from Figure 10) and the ratio of domestic in-migrants to out-migrants over the period 2009-2010 to 2018-2019 (from Figure 9). We see a positive relationship between the tax burden in a state and the ratio of in-migrants to out-migrants from that state to Minnesota: in other words, the higher the other state's tax burden the greater, on average, the ratio of in-migrants to out-migrants and the lower the other state's tax rate the lower the ratio of in-migrants to out-migrants. Put more

Net flow of domestic migrants into and out of Minnesota, 2009-2010 to 2018-2019

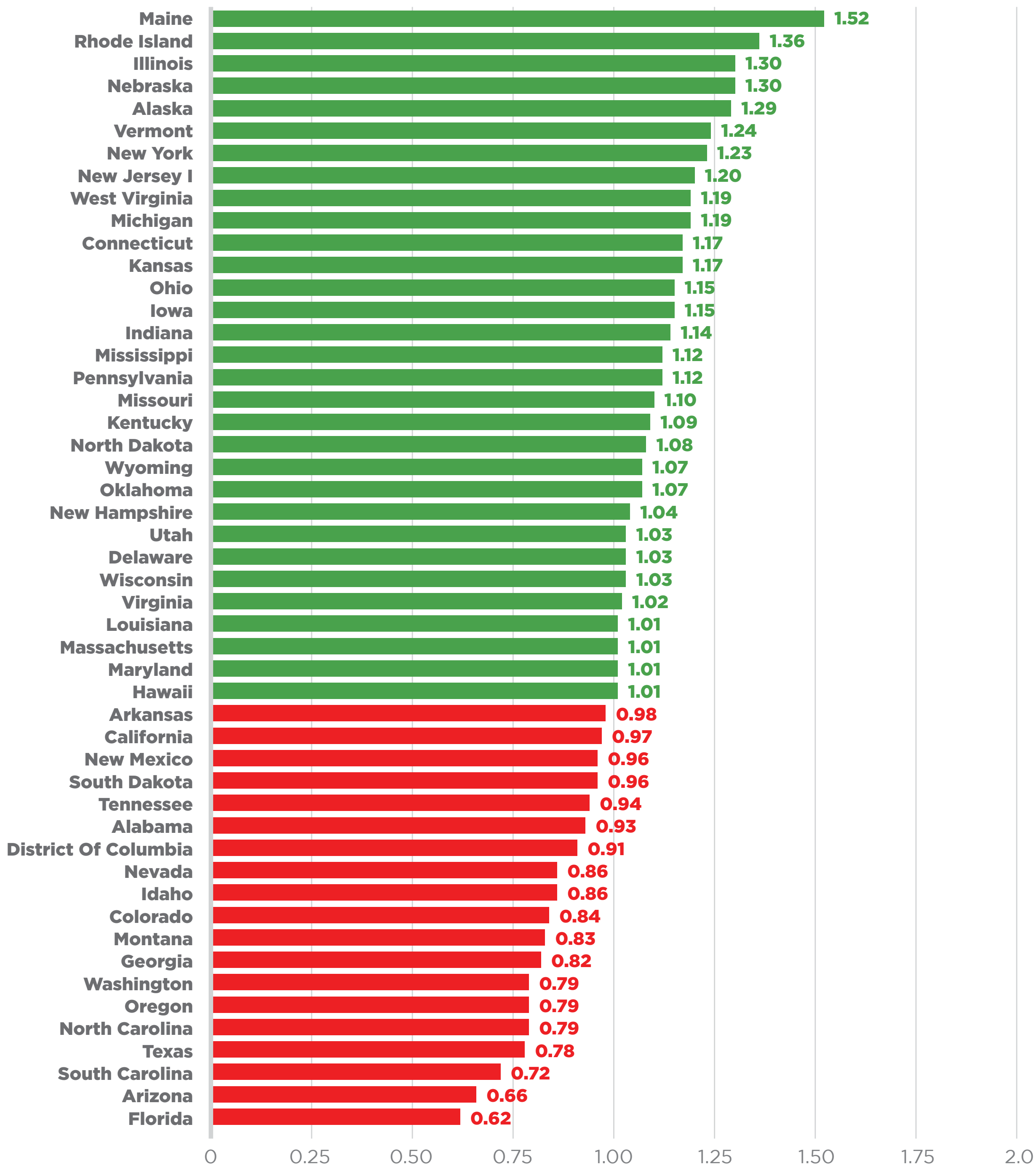
FIGURE 8



SOURCE: INTERNAL REVENUE SERVICE

Ratio of Minnesota's domestic in-migrants to out-migrants, 2009-2010 to 2018-2019

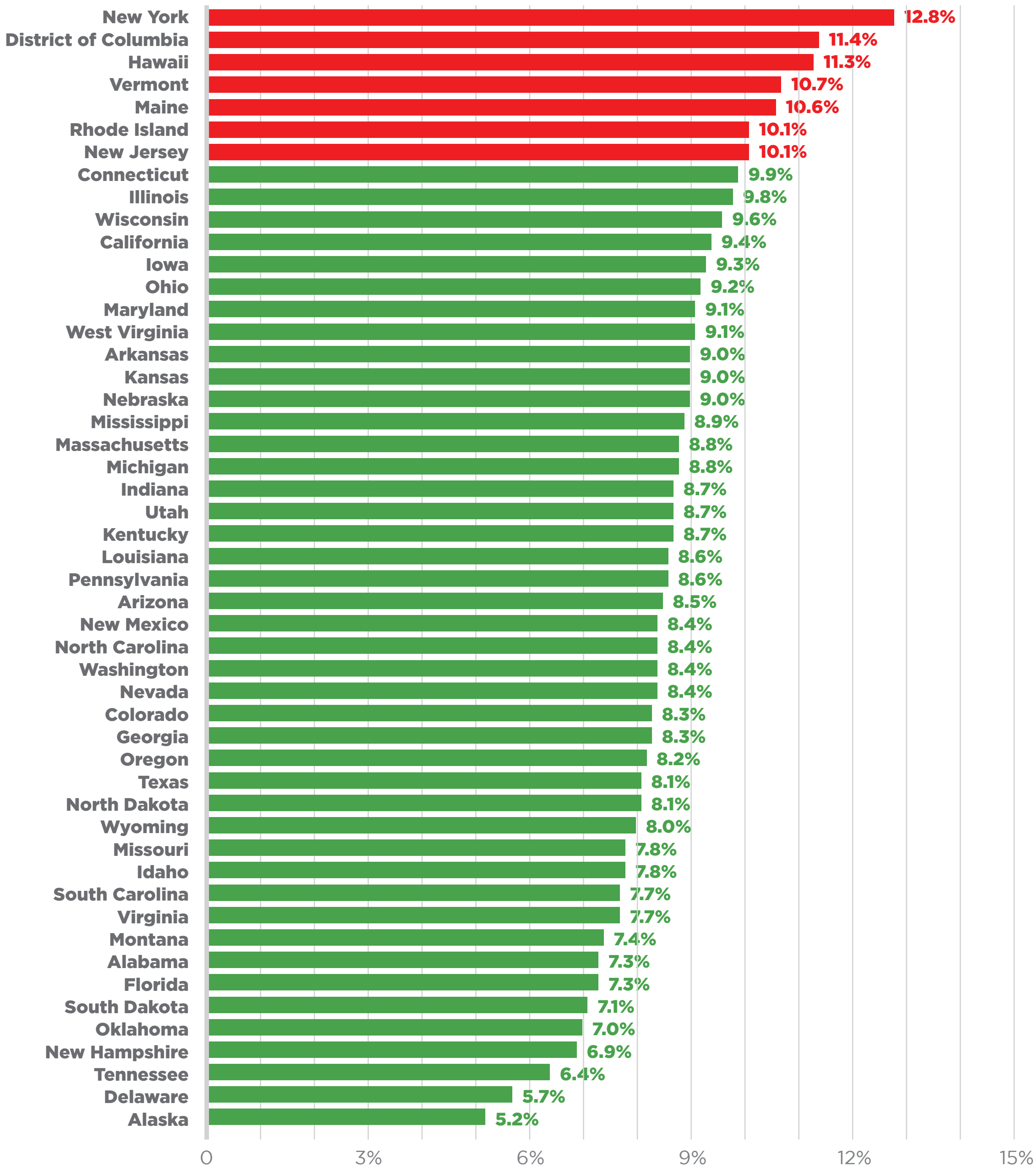
FIGURE 9



SOURCE: INTERNAL REVENUE SERVICE

Average burden of state and local taxes as a share of Personal Income, 2009-2018

FIGURE 10



NOTE: INCLUDES STATE AND LOCAL SALES, PROPERTY, AND INDIVIDUAL INCOMES TAXES

SOURCE: CENSUS BUREAU AND BUREAU OF ECONOMIC ANALYSIS

Tax burdens and Minnesota's net migration rates

FIGURE 11

SOURCE: CENTER OF THE AMERICAN EXPERIMENT

simply, the lower (higher) the tax burden in the other state the greater our migration loss to (gain from) it.

To see whether this relationship is 'significant' – i.e. whether or not the apparent relationship between tax burdens and the migration patterns we see is causal (deterministic) rather than the result of randomness (stochastic) – we can calculate a *p*-value. A lower *p*-value indicates a stronger relationship and the rule of thumb is that *p*-values less than 0.05 indicate a relationship strong enough to be noteworthy. For our data set, the *p*-value is 0.000, indicating a highly significant relationship between state tax burdens and migration patterns.[31] R^2 measures what fraction of variations in the outcome variable – migration patterns – is explained by variations in the factor variable – state tax burdens. For the data in Figure 11, the R^2 is 0.1357, meaning that 13.6 percent of the variation in migration ratios can be attributed to variations in state tax burdens.

Tax burdens and net migration rates

FIGURE 12

SOURCE: CENTER OF THE AMERICAN EXPERIMENT

This is part of a broader pattern, as Figure 12 illustrates. This shows the relationship between average tax burdens in the fifty states and District of Columbia over the period 2011 to 2018 (calculated as in Figure 10) and the ratio of domestic in-migrants to out-migrants from each of the fifty states and District of Columbia over the period 2011-2012 to 2018-2019 (calculated as in Figure 9). Consistent with the existing literature, we see a negative relationship between the tax burden in a state and the ratio of in-migrants to out-migrants: in other words, the higher the state's tax burden the greater, on average, the ratio of out-migrants to in-migrants. Put more simply, again, the lower (higher) the tax burden in the state the greater its migration loss (gain).

Once again, the data indicate a highly significant relationship between state tax burdens and migration patterns, with a *p*-value of 0.000.[32] For the data in Figure 12, the R^2 is 0.2581, meaning that 25.8 percent of the variation in migration ratios can be attributed to variations in state tax burdens. ■

Why this matters

There are two main reasons why Minnesota's loss of domestic migrants poses a problem for the state. One is that it will lead to lower rates of per capita economic growth in the future. Another is that it will place increased pressure on state government budgets.

Losing high productivity workers

Per capita economic growth is what matters for material well-being and it comes from increases in productivity per worker, not more workers *per se*. So a loss of residents need not indicate a decline in per capita GDP and living standards. It all depends on how productive those leaving are. If a worker who is more productive than the average of workers resident in a state leaves that state, that worker will decrease GDP (the numerator in the equation GDP / population = per capita income) by a greater increment than they decrease the population (the denominator) which leads to lower GDP per capita.

Sadly, the data here give Minnesotans cause for concern. Figure 13 shows IRS data for the average AGI per return coming into and moving out of Minnesota in 2019 dollars. It shows that tax filers leaving Minnesota have consistently had higher incomes than those moving to our state. In 2018-2019, the average AGI per return of Minnesota's in-migrants was $66,322, for those leaving our state it was $80,684.

Since 2011-2012, the IRS has broken down migration data by income of the primary taxpayer and this allows us to see the net flows of domestic migrants into and out of Minnesota by income group. These numbers, shown in Figure 14, tell us that our state has seen net inflows of domestic migrants in every income category below $50,000 annually but net outflows at every income level above that. If we make the standard economic assumption that income is driven by productivity, this means that Minnesota has experienced a net loss among its most economically productive residents. This makes no judgment on those in or out migrants except to say that, from the standpoint of per capita economic growth, Minnesota has been losing and/or failing to attract residents who would add relatively more to the numerator of our per capita income equation and gaining those who would add relatively more to the denominator. The result will be lower per capita incomes.

'The rich' pay a disproportionate amount of tax

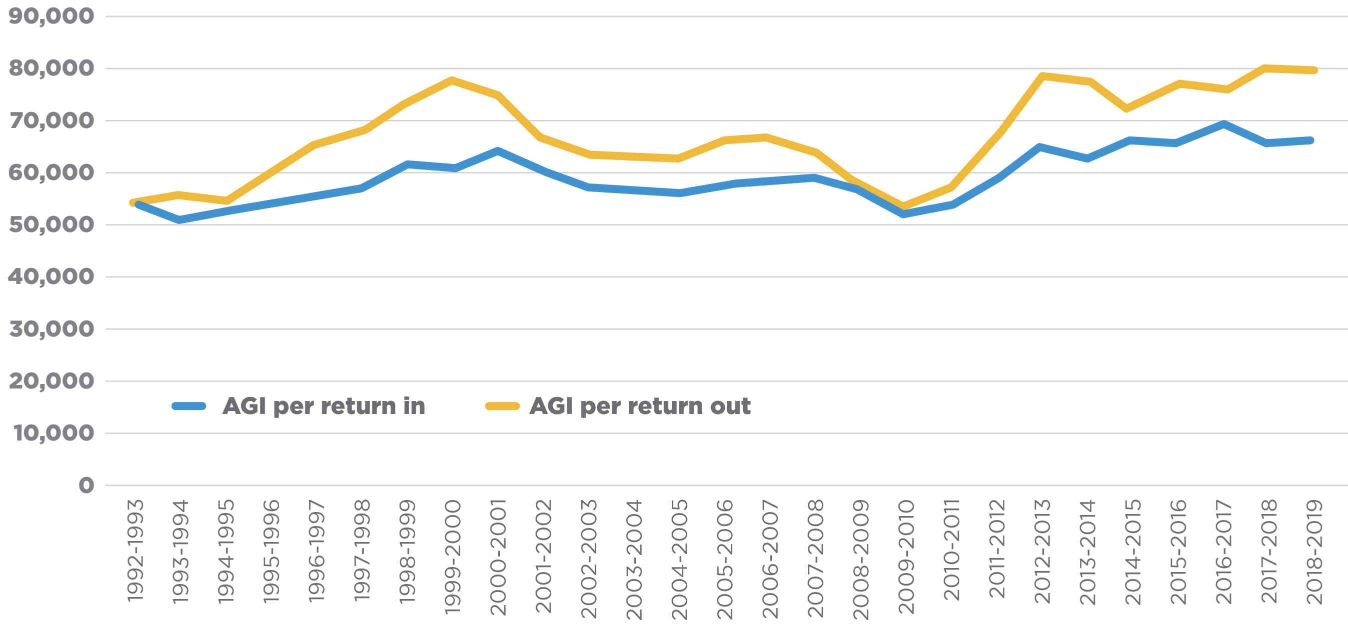
A second reason to worry about the net outflow of higher earners from Minnesota is that state tax revenues come disproportionately from 'the rich'.

IRS Data also allow us to see the net flows of AGI into and out of Minnesota by income of the primary taxpayer for the period from 2011-2012 to 2018-2019. As shown in Figure 15, this tells us that the net 5,838 people with AGI of $1 to $10,000 annually who moved to Minnesota over this period shown in Figure 13 brought a net gain in AGI of $11.9 million (an average of $2,039 per return). Meanwhile, the 18,466 Minnesotans on net with incomes of upwards of $200,000 who left over this period took with them $3.8 billion of AGI ($207,553 per return). A total of $5.5 billion of AGI left the state between 2011-2012 and 2018-2019, driven by the loss of higher earning Minnesotans.

The Minnesota Department of Revenue's Tax Incidence Studies show why this could lead to problems for state finances. They break down the share of all income earned in the state and the share of total tax revenue paid by each population decile by household income. As Figure 16 shows, in 2018 the bottom 30 percent of Minnesota households by income (who earned 5.8 percent of all income earned in the state) paid no individual income tax: indeed, after tax credits, they were negative contributors to state income tax

Average AGI per return of Minnesota's in-migrants and out-migrants, 2019 dollars

FIGURE 13



SOURCE: INTERNAL REVENUE SERVICE

Net flow of taxpayers and dependents to Minnesota by income of primary taxpayer, 2011-2018

FIGURE 14

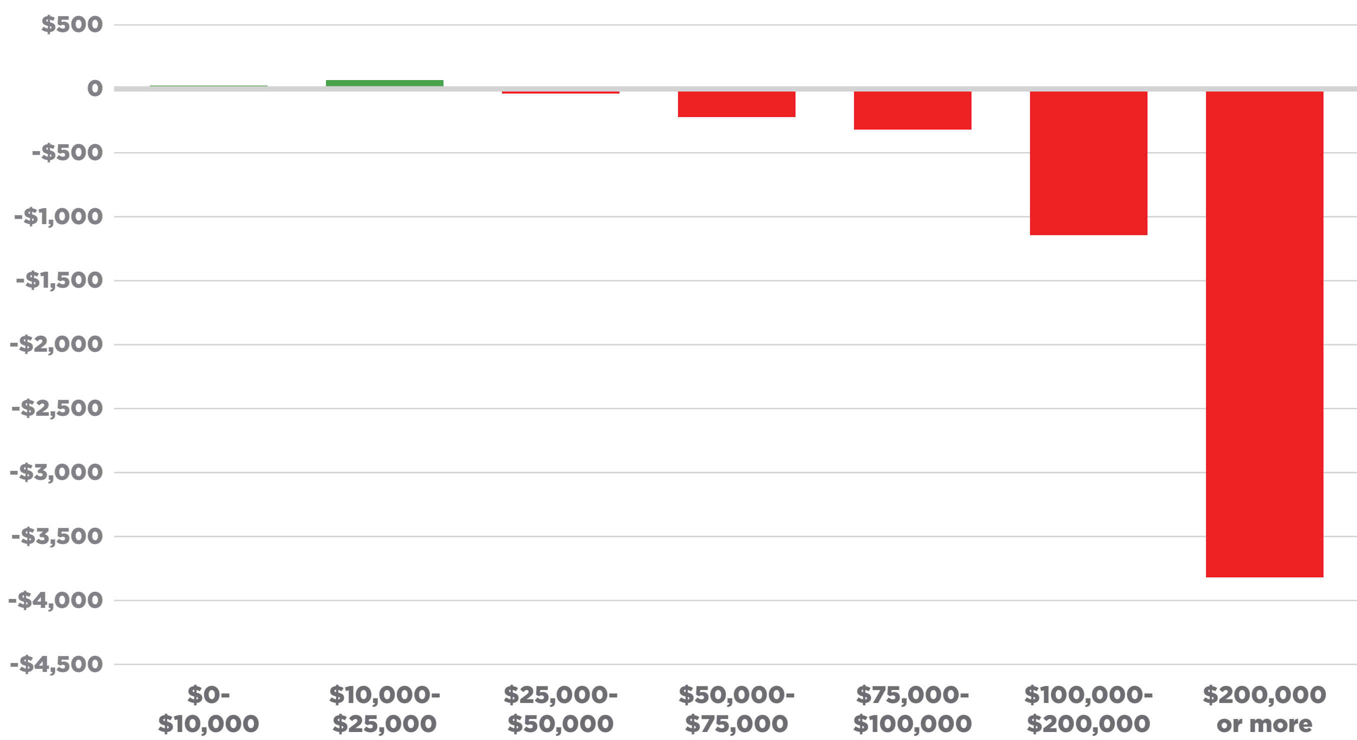
SOURCE: INTERNAL REVENUE SERVICE

revenues with an effective state income tax rate of 0.2 percent. By contrast, the top ten percent of Minnesota households by income earned 43.0 percent of all the income earned in the state but paid 59.4 percent of total income tax revenues for an effective state income tax rate of 6.4 percent. For the top 1 percent, the disparity is even greater: they earned 16.5 percent of all income earned in the state but paid 27.1 percent of all income tax revenues for an effective state income tax rate of 7.7 percent. To put it another way, the 27,882 households in the top ten percent of Minnesota households by income paid more state income tax than the 2,230,008 households in the bottom 80 percent of Minnesota households by income.[33] These shares of income earned and tax paid are strikingly stable over time and are little affected by changes in top tax rates.[34]

This is not to elicit sympathy for 'the rich,' but it should highlight how state policymakers cannot afford to wish away the evidence of 'tax flight' when formulating fiscal policy. ■

Net flow of AGI 2011-2012 to 2018-2019, millions 2019 dollars

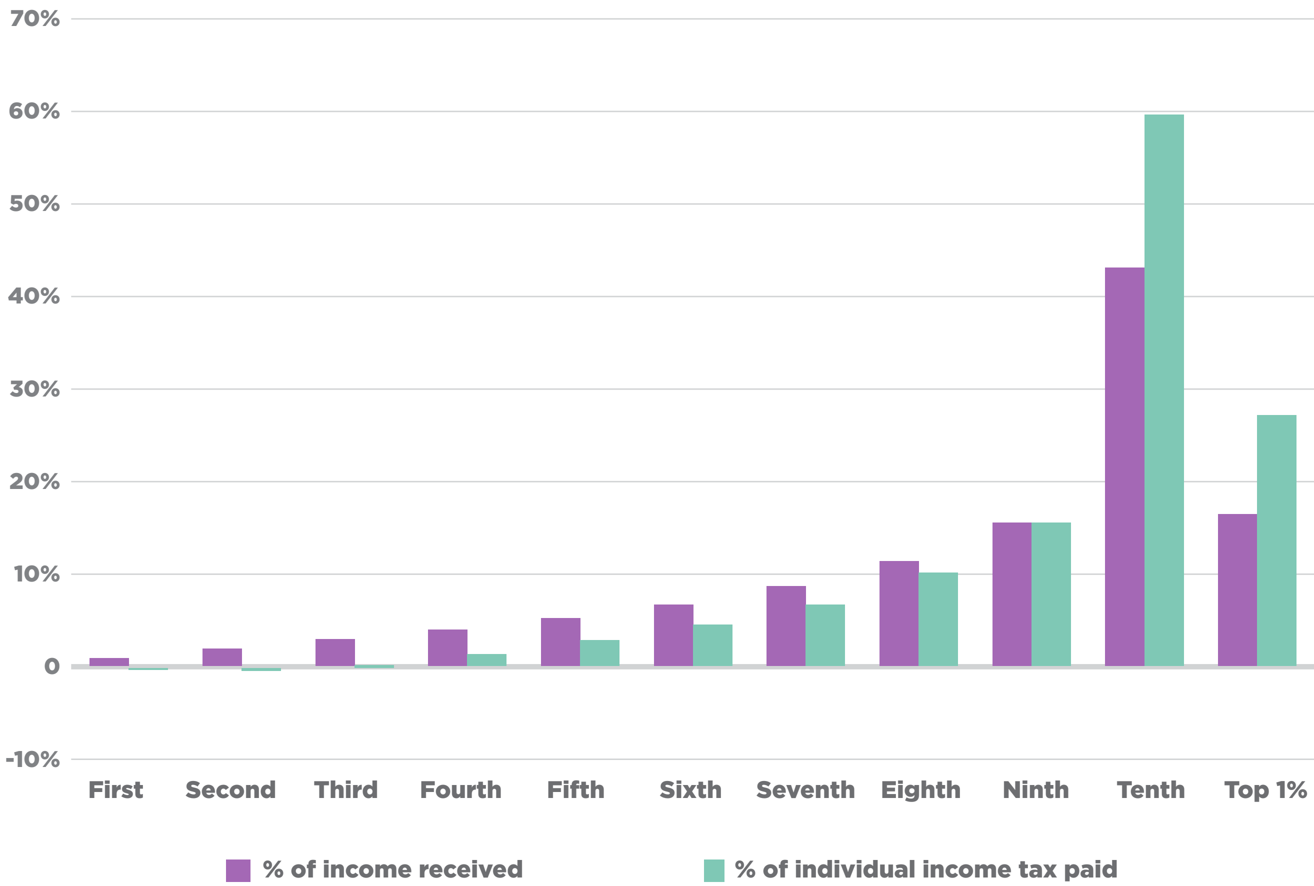
FIGURE 15



SOURCES: INTERNAL REVENUE SERVICE

Share of Minnesota's income earned and individual income taxes paid by income decile, 2018

FIGURE 16



SOURCES: DEPARTMENT OF REVENUE

Conclusion

This report has noted Minnesota's below average population growth since the turn of the century. It has quantified the role played in that by a persistent net loss of residents to other states. It has summarized the findings of a sizable body of empirical research which finds that people move in response to taxes. It has demonstrated that our state's taxes are high, relative to those of other states, so that we should expect to see the net loss of residents to other states that we do. We have demonstrated this relationship between tax rates and migration flows with data specifically relating to Minnesota. Finally, we have explained why this might cause problems for our state in coming years: first, through deskilling our labor force by driving higher productivity workers from the state leading to lower per capita incomes, and second by driving out of Minnesota higher earners who contribute a disproportionate amount of state income tax revenues.

This analysis recommends a clear course of action to help remedy our state's persistent net loss of residents: to reduce domestic out-migration from Minnesota, to retain people and attract new ones, state policymakers should cut our state's taxes.

Concerns that this would lead to 'austerity' for the state's government can be addressed by noting two factors.

The first is that in per person, inflation adjusted terms Minnesota's state government has never spent more money than it is spending right now. Minnesota's state government spent $4,203 per resident in 2020, a 27.4 percent real terms increase over 2011's figure.

The second factor is that tax revenues do not appear to be driven by tax rates. In the 1970s and into the 1980s, Minnesota's politicians tried to claim a large share of their citizens' income with top rates of tax up to 17.0 percent. But Minnesotans did not respond to these rates by handing over a greater share of their money: as a share of GDP, state income tax revenues were more or less flat. Indeed, they handed over a larger share of their incomes to the government in the 1990s, with top income tax rates of 8.50 percent, than they did in the 1970s, when rates were 17.0 percent. The same is true of revenue more broadly. Between 1974 and 2018, the mean average of state tax revenues to state GDP was 6.6 percent and the median was 6.7 percent. In other words, there is very little variation in these numbers in spite of very different tax rates.

There is an important policy lesson here. The dollar amount of tax revenue seems far more likely to be a function of the size of the state's economy than of its tax rates. This means that if you want more money to fund government services, you should look to increase the state's GDP rather than hike its tax rates. And, again, the balance of empirical research on the effects of state tax rates on economic growth is clear: high tax rates and tax hikes slow economic growth.[35]

Endnotes

1 Briana Bierschbach and Patrick Condon, "Minnesota won't lose eighth congressional seat, Census Bureau rules," *Star Tribune*, April 27, 2021, available at https://www.startribune.com/minnesota-won-t-lose-eighth-congressional-seat-census-bureau-rules/600050299/. This can be attributed to New York State's disastrous COVID-19 mortality numbers. See Jonathan Cervas and Bernard Grofman, "The unanticipated effect of COVID-19 on house apportionment," *Social Science Quarterly*, Forthcoming.

2 Paul Krugman, "Air Conditioning and the Rise of the South," *New York Times*, March 28, 2015, available at https://krugman.blogs.nytimes.com/2015/03/28/air-conditioning-and-the-rise-of-the-south/

3 United States Census Bureau, "CPS Historical Migration/Geographic Mobility Tables." Table A-5. The Census Bureau does not ask about taxes but a survey by Bankrate looking at the drivers of location decisions for retirees weighted 'weather' (15 percent) below taxes (20 percent) as a factor. See Jeff Ostrowski, "The best and worst states for retirement 2021," Bankrate, July 7, 2021, at https://www.bankrate.com/retirement/best-and-worst-states-for-retirement/

4 Peter J. Nelson, *Minnesotans on the Move to Lower Tax States 2016* (Center of the American Experiment, April 2016): available at https://www.americanexperiment.org/reports/minnesotans-on-the-move-to-lower-tax-states-2016

5 John Phelan, "Why bill to end 'stepped up' basis of Minnesota's asset taxation is bad," Center of the American Experiment, March 26, 2021, https://www.americanexperiment.org/why-this-bill-to-end-the-stepped-up-basis-of-minnesotas-asset-taxation-is-bad/

6 Richard J. Cebula, "Migration and the Tiebout-Tullock Hypothesis Revisited," *Review of Regional Studies*, Vol. 32 (2002): pp. 87–96; Richard J. Cebula and Usha Nair-Reichert, "Migration and Public Policies: A Further Empirical Analysis," *Journal of Economics and Finance*, Vol. 36, No. 1 (2012): pp. 238–248; Richard J. Cebula, Usha Nair-Reichert, and Christopher K. Coombs, "Total State In-Migration Rates and Public Policy in the United States," *Regional Studies, Regional Science* Vol. 1, No. 1 (2014): pp. 101–115; Richard J. Cebula and Gigi M. Alexander, "Determinants of Net Interstate Migration, 2000–2004," *Journal of Regional Analysis and Policy*, Vol. 36, No. 2 (2006): pp. 116–123; Richard J. Cebula, "The Impacts of State Government Tax and Spending Policies on Domestic Migration in the United States," Journal of Economics, Vol. 42, No. 2 (2016): pp. 1–22; Richard J. Cebula and Usha Nair-Reichert, "Migration and Public Policies: A Further Empirical Analysis," *Journal of Economics and Finance*, Vol. 36, No. 1 (2012): pp. 238–248.

7 Yu Hsing, "A Note on Interstate Migration and Tax Burdens: New Evidence," *Journal of Applied Business Research*, Vol. 12 (Winter 1995/1996): pp. 12–14.

8 Robert R. Preuhs, "State Policy Components of Interstate Migration in the United States," *Political Research Quarterly*, Vol. 52 (September 1999): pp. 527–547.

9 Mark Gius, "The Effect of Income Taxes on Interstate Migration: An Analysis by Age and Race," *Annals of Regional Science*, Vol. 46 (February 2011): pp. 205–218.

10 Karen Smith Conway and Andrew J. Houtenville, "Elderly Migration and State Fiscal Policy: Evidence from the 1990 Census Migration Flows," *National Tax Journal*, Vol. 54 (March 2001): pp. 103–123.

11 David E. Clark and William J. Hunter, "The Impact of Economic Opportunity, Amenities and Fiscal Factors on Age-Specific Migration Rates," *Journal of Regional Science*, Vol. 32 (August 1992): pp. 349–365.

12 Antony Davies and John Pulito, *Tax Rates and Migration* (Mercatus Center at George Mason University, August 2011): available at https://www.mercatus.org/publications/government-spending/tax-rates-and-migration

13 Roger Cohen, Andrew Lai, and Charles Steindel, "Tax Flight Has Tangible Effects on Income Tax Revenue," State Tax Notes, February 20, 2012, available at https://www.taxnotes.com/tax-notes-state/individual-income-taxation/tax-flight-has-tangible-effects-income-tax-revenue/2012/02/20/459191

14 Roger S. Cohen, Andrew E. Lai, and Charles Steindel, "A Replication of 'Millionaire Migration and State Taxation of Top Incomes,'" *Public Finance Review*, Vol. 43, No. 2 (2015): pp. 206–225.

15 Joshua Rauh and Ryan J. Shyu, "Behavioural Responses to State Income Taxation of High Earners: Evidence from California," National Bureau of Economic Research working paper, No. 26349, 2019.

16 Henrik Kleven, Camille Landais, Mathilde Muñoz, and Stefanie Stantcheva, "Taxation and Migration: Evidence and Policy Implications," *Journal of Economic Perspectives*, Vol. 34, No. 2 (Spring 2020): pp. 119-142.

17 Karen Smith Conway and Andrew J. Houtenville, "Out with the Old, In with the Old: A Closer Look at Younger versus Older Elderly Migration," *Social Science Quarterly*, Vol. 84 (May 2003): pp. 309–328.

18 David E. Clark and William J. Hunter, "The Impact of Economic Opportunity, Amenities and Fiscal Factors on Age-Specific Migration Rates," *Journal of Regional Science*, Vol. 32 (August 1992): pp. 349–365.

19 Jon Bakija and Joel Slemrod, "Do the Rich Flee from High State Taxes? Evidence from Federal Estate Tax Returns," National Bureau of Economic Research working paper, No. 10645, 2004.

20 Enrico Moretti and Daniel J. Wilson, "Taxing Billionaires: Estate Taxes and the Geographical Location of the Ultra-Wealthy," National Bureau of Economic Research working paper, No. 26387, 2019.

21 John Phelan, *The Cost of Minnesota's Estate Tax* (Center of the American Experiment, February 2018): available at https://www.americanexperiment.org/reports/the-cost-of-minnesotas-estate-tax

22 While few of any political persuasion contest this, some do. See John Phelan, "State officials should stop twisting the facts about Minnesota's tax burden," Center of the American Experiment, January 28, 2021, https://www.americanexperiment.org/state-officials-should-stop-twisting-the-facts-about-minnesotas-tax-burden/

23 Tax Foundation, Facts & Figures 2021: How Does Your State Compare? (2021), available at https://taxfoundation.org/publications/facts-and-figures/

24 ibid

25 The Census Bureau and Internal Revenue Service collaborate on the data so it is not surprising that it aligns so closely. The IRS data do not include the movement of those who do not file tax returns (about 13 percent of the population) so do not match Census Bureau migration data exactly. However, the IRS numbers are quite precise because they are not based on survey data, as the numbers produced by the Census Bureau are. See Raven Molloy, Christopher L. Smith, and Abigail Wozniak, "Internal Migration in the United States," *Journal of Economic Perspectives*, Vol. 25, No. 2 (Spring 2011): pp. 173–96.

26 Jeff Van Wychen, "No Significant Net Migration From Minnesota," North Star Policy Institute, June 27, 2018, https://northstarpolicy.org/no-significant-net-migration-from-minnesota; Jay Boller, "Minnesota keeps attracting new residents from other states," *City Pages*, Dec. 19, 2018, at http://www.citypages.com/news/minnesota-keeps-attracting-new-residents-from-other-states/503148961

27 U.S. Census Bureau, Population Division, State Population Estimates and Demographic Components of Population Change: Annual Time Series, April 1, 1990 to July 1, 1999 (ST-99-7), Dec. 29, 1999; Annual Estimates of Population Change for the United States, States, and Puerto Rico and State Rankings: April 1, 2000 to July 1, 2009; Population Change and Rankings: April 1, 2010 to July 1, 2019 (NST-EST2019-popchg2010-2019).

28 Tax returns represent household movement, while exemptions add in dependents and represent total population movement for tax filing households.

29 Peter Nelson, "A response to various objections to American Experiment's report, 'Minnesotans on the Move to Lower Tax States 2016'," Center of the American Experiment, March 25, 2016, https://www.americanexperiment.org/a-response-to-various-objections-to-american-experiments-report-minnesotans-on-the-move-to-lower-tax-states-2016/

30 The AGI is the income reported in the first year a household is at a new address.

31 More precisely, it is 0.000000000000000000000000000000000013 with the one-tail test and 0.00000000000000000000000000000000000025 with the two-tail test.

32 More precisely, it is 0.000000000000000000000000000000000022 with the one-tail test and 0.00000000000000000000000000000000000043 with the two-tail test.

33 Minnesota Department of Revenue, *2021 Minnesota Tax Incidence Study* (March 4, 2021), available at https://www.revenue.state.mn.us/tax-incidence-studies

34 John Phelan, "Minnesota's last top rate income tax hike didn't increase the share of state income tax paid by 'the rich'," Center of the American Experiment, March 23, 2021, https://www.americanexperiment.org/minnesotas-last-top-rate-income-tax-hike-didnt-increase-the-share-of-state-income-tax-paid-by-the-rich/

35 Martha Njolomole and John Phelan, *Closing Minnesota's Budget Deficit: Why we should make spending cuts and not raise taxes* (Center of the American Experiment, November 2020): available at https://www.americanexperiment.org/reports/closing-minnesotas-budget-deficit

AMERICAN EXPERIMENT

AMERICAN EXPERIMENT

8421 Wayzata Boulevard ★ Suite 110
Golden Valley, MN 55426

AmericanExperiment.org

NON-PROFIT ORG
U.S. POSTAGE
PAID
TWIN CITIES, MN
PERMIT NO. 4546

To obtain copies of this report or to subscribe to the Center's free quarterly magazine, *Thinking Minnesota*, email Peter Zeller at Peter.Zeller@AmericanExperiment.org or call (612) 338-3605.