

# **The Impact of State Income Tax Rates on Migration Of Middle-Age Upper-Income Earners**

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### Abstract

Recent tax law changes removing the deduction of state and local government taxes from Federal income tax calculations have highlighted that states have different local income tax rates. States in the Northeast tend to have higher state income tax rates than those in the South. The 2018 Tax Cuts and Jobs Act will generally raise the Federal tax amount that citizens in high tax states will now have to pay. This new law could cause an outmigration from the high tax rate states. One way to shed light on this question is to see if higher state marginal income tax rates have in the past caused an outmigration of high income earners to states with low state income tax rates. This paper focuses on middle-age upper-income earners. It finds that in a state like New Jersey, for every additional one percent a state's tax rate is higher than others, it has for the past five years caused an average net outmigration of about 115 high income earners each year, everything held constant. This net outmigration of 115 people times their marginal tax rate, on top of outmigration for other reason, has/is contributing to a slow downward economic spiral for certain state economies.

Key words: housing, migration, state income tax rates, state revenues

Economic Literature Codes: H24, H71, R11 and R21

## 1. Introduction

Recent tax law changes removing the deduction of state and local government taxes from Federal income tax calculations have highlighted the fact that states have different local income tax rates. States in the Northeast tend to have higher state income tax (and/or property tax) rates than those in the South. The 2018 Tax Cuts and Jobs Act, by eliminating state and local taxes (SALT) as a deduction from Federal taxable income, generally raises the Federal tax amount that citizens in high tax states will now have to pay. This new law could cause an outmigration of high income earners from the high SALT states. One way to shed light on this question is to see if higher state marginal income tax rates have, in the past, caused an outmigration of high income earners to states with lower state income tax rates. If higher state income taxes have caused/are causing an outmigration, then the 2018 Tax Cuts and Jobs Act will exacerbate outmigration of high income earners from high SALT states.

In this vein, several papers have looked at the impact of high income tax rates on millionaires, star scientist and pro soccer player. Other papers have looked at the behavior of retirees. The results have been mixed. This paper focuses on middle-age upper-income earners. We explicitly focus on non-retirees, and non-millionaires because we are trying to understand the behavior of a wider group of the working population who might be impacted – what motivates the best and the brightest who can earn an upper middle-class income, to stay (or leave) leave a particular market?

Outmigration causes state tax revenues to decline; this causes the state to cut back on essential services (or further raise tax rates); this creates incentives for the citizens with the highest income potential to leave for places that offer more opportunity and/or a better climate; this reduces the economic vitality of the exited geographical area and this creates a further incentive for others to leave.

This paper answers several critical questions. The most important of these questions is whether people leave a state because economic conditions are better in another state, or because the state's income tax rate is relatively higher than most others. We find that for incomes between \$100K-200K, the motivating force to move is the relative strengths between two state's economies. However, we find that for incomes above \$200K (including individuals making more than \$1 million), migration is motivated by both the relative economic climate, but also relative income tax rates. Property taxes also play a role. This information suggests that the 2018 Tax Cuts and Jobs Act will negatively impact the long term fiscal condition of high SALT states and cities. This will likely increase polarity between have and have not's in America.

The next section outlines the problems facing states with high income and property tax rates and it looks at previous research. Section 3 puts the problem into a wider contexts – that is, does outmigration hurt the state's economy? Section 4 explains the data and our model. Section 5 shows our results. The last section gives our conclusions.

## 2. Background and prior research

According to the 2017 National Movers Study released by United Van Lines, Illinois moved up to the number 1 spot of states with a net outbound population (63 percent net outbound). The report also notes that many states in the Northeast continue to experience a moving deficit with New Jersey leading the way (63 percent) and New York (61 percent) making the list of top 10 outbound states for the sixth consecutive year. Two other states in the region — Connecticut (57 percent) and Massachusetts (56 percent) — can be also found in the top 10 outbound list. The exception to this trend is Vermont (68 percent inbound), which moved up one spot on the list of top inbound states to number 1. These states, that are experiencing high outmigration, tend to have high state and local taxes.

The economic reasoning behind tax flight is straightforward: individuals respond to incentives, and they will choose to move to states with lower tax burdens, holding all else equal. The historical evidence is less clear cut. Many states have successfully levied income taxes over the past half century without observing mass outmigration. In other words, people have moved in the past, for reasons besides their state's income tax rate. This was especially true because taxes paid to state and local governments could be deducted from their federal income for tax purposes. People move primarily to places where they can find jobs, or where they can find better jobs. Workers tend to migrate to regions where they can receive the highest returns for their skills. They also move because of better housing affordability, climate, families, education and other state amenities.

A large outmigration of high-skilled high-paying citizens can lead to a downward spiral in a state's revenues and services. Dalio (2017) argues. "As state and local tax rates and debts rise because there are shortfalls that can't be narrowed, it is financially smart for high income taxpayers to escape these taxes and debt burdens by moving to lower tax and less indebted locations, so they do. As they do, property values decline, further raising the costs of staying in the high SALT location." Declining property values can eventually lead to mortgage defaults and a hastening of this downward spiral. Dalio's argument is an updated version of Laffer and Brown's (2014) state competitiveness index and the notion that people "vote with the feet" and that they move to low tax states.

Several Northeast states have been concerned about this issue for a while. The states of Connecticut and New Jersey have employed academic researchers to determine if each respective state's high income tax rate was causing a net outmigration of its top income earners.

Thompson (2011) using annual IRS migration data from 1988 to 2006 for Connecticut studied the impacts of economic as well as fiscal factors on migration, including measures for income taxes, sales taxes, total state and local government revenues, crime, and educational services. He finds that taxes do not play a very important role in outmigration. He notes:

1. More than half of American adults have never lived in any state other than where they were born, and just 3 percent of Americans move across state lines in a given year.

2. The rate of people leaving New England and Connecticut is much lower than the national average.
3. The vast majority of households that move indicate employment, family, and housing as the main reason for their move.
4. Results of analysis of migration suggest there is no simple impact of taxes on migration. Economic conditions, property crime rates, and higher education enrollment all impact migration in anticipated ways. Overall the results suggest that taxes do not cause out-migration, but do influence the choice of destination for some migrating households.

Cohen, Lai, and Steindel (2011) perform a similar analysis for the state of New Jersey. Using the same annual IRS migration data but from 1992 to 2008, they find that variations in differential average marginal tax rates are associated with small but significant effects on net out-migration from a state. They find that by the end of the last decade, the state's cumulative losses from increases in average marginal tax rates after 2003 (most importantly the 2004 "millionaires' tax") totaled roughly 20,000 taxpayers and \$2.5 billion in annual income. Thus the conclusions of the two studies focusing on individual states conflict with each other.

This same mixed results applies to more formal academic studies. Cohen, Lai, and Steindel (2014) find mixed evidence of tax-induced migration of the general population. Young and Varner (2011) and Varner and Young (2012) find no evidence of tax-induced migration in the case of millionaires taxes in California and New Jersey. Suárez Serrato and Zidar (2014) focus on corporate taxes and find moderate effects on wages, total employment, and land prices. Giroud and Rauh (2015) find an effect of business taxes on the number of establishments and establishment size. Bakija and Slemrod (2004) find a moderate effect of state personal income tax on the number of federal estate tax returns.

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

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

Alternatively, Moretti and Wilson (2017) find large, stable, and precisely estimated effects of personal and corporate taxes on “star” scientists’ migration patterns. They track star scientists, defined as scientist – in the private sector as well as academia and government – with patent counts in the top 5% of the distribution. Their finding is that the long-run elasticity of mobility relative to taxes is 1.8 for personal income taxes. When they look at the dynamics of the effects, they find that the effect is smaller in the year after a tax change, and tends to grow over time, presumably because it takes time for firms and workers to relocate. Thus, the formal and informal research to date, have conflicting conclusions.

This paper follows the lead of Thompson (2011) and Cohen, Lai, and Steindel (2014). We use IRS data on state migration from 2012 to 2016. This paper by focusing only on middle-age high-income earners differs from those earlier papers and our paper uses a wider array of alternative possible explanatory variables including state property tax rankings, changes in a state’s payroll employment and weather.

The reason to focus on this middle group of taxpayers stem from two sources: Mazerov (2014) shows pretty conclusively what common sense would suggest for cohorts with ages above 65 (i.e., retirees) – that Florida is the states of choice and that weather consideration trump tax considerations. So this paper does not consider the actions of retirees nor millionaires. On the other end of the age spectrum is evidence from the 2017 National Movers Study that the age cohort from 18-34 tend to move because of education. For these two reasons, we focus on three age cohorts ranging from 25-64 and stratified by two income buckets.

### **3. The larger picture**

An economy grows through an expansion of the number of people in the economy and each member’s productivity. The more productive members attract higher wages. A net outmigration of high income earners over a long enough period of time creates a downward spiral: tax revenues decline; the synergies from high productivity workers decrease; the ratio of low productivity to high productivity workers increases; more resources are required from the state government; there is often a need to raise taxes or cutback on essential services; property prices often fall.

Decision by the state authorities to raise marginal tax rates on high income earners could exasperate this downward spiral.

The disagreement about the impact of high marginal tax rates on net migration spills into two additional and related arguments: 1) are low state income tax rates associated with higher state economic growth as the more talented people move into those state and 2) do higher marginal income tax rates cause home prices to rise more slowly (or even decline).

### **4. Data and theoretical model**

Our data on migration comes from the IRS net migration data. We look at the years 2012 to 2016. The IRS subsets their data by income and age class. We have restricted our work to three age cohorts for the \$100K to \$200K income bracket and also for the \$200K+ income bracket. This gives us six distinct cohorts. Descriptive statistics for the 50 states and the District of Columbia are in Table 1 in the Appendix. Employment data for the two year change in payroll employment come from the Bureau of Labor Statistics. Marginal state income tax rates are from state tax data. The marginal income tax rates were collected for all five years for all 51 markets. Thus state marginal income tax rates vary across state and time.

State and local property taxes vary considerable in how they are assessed. The ranking of state property taxes in this paper come from the Tax Foundation. We decided that the Tax Foundation has a more working knowledge of this complexity so we took their 2016 ranking (our values are not property tax rates, but a ranking of the 51 states (plus DC)) which essentially function as 51 separate dummy variables which are constant across time. Median home prices are from Trulia.com which vary by state and time. Anecdotal evidence has suggested that individuals move to states with lower home prices. Average state temperatures are from NOAA. We run six separate regressions. Our single model for the two income groups by three age groups can be specified as

$$\text{Netmig}_{aity} = \alpha_{it} + \beta_1 \text{Payroll}_{aity} + \beta_2 \text{Inc Tax Rate}_{aity} + \beta_3 \text{Home Price}_{it} + \beta_4 \text{Property Tax Rank}_i + \beta_5 \text{Temp}_i + \varepsilon_{ay} \quad a = 1 \text{ to } 3, j = 1 \text{ to } 51, t = 2012 \text{ to } 2016, y = 1 \text{ to } 2 \quad (1)$$

where netmig, payroll, inc tax rate, home price, property tax rank and temp denote respectively, the net migration for the three age cohorts by state, year and income, two year payroll changes by the three age cohorts by state, year and income, the state's marginal income tax rate for the three age cohorts by state and year, the median state home price by state and year, the state's property tax rank as of 2016 and the state's average temperature across all time. The term  $\varepsilon_{ay}$  is the error term for the six age by income cohorts.

## 5. Results

Cohen et al. (2011) find that a one percentage point rise in New Jersey's marginal average income tax rate relative to other states would be associated with an annual net outmigration of approximately 4,000 high income taxpayers. Our results indicate that higher tax rates cause net outmigration, but our results are more tepid.

In Table 1, the parameters of interest are in the fifth row down. They show the average impact of a one percentage point rise in all states' marginal income tax rate by six age and income cohorts. This report was specifically not interested in the migration patterns of millionaires nor retirees. The goal is to understand the migration patterns of the nation's highest income earners. We want to understand if higher state marginal income tax rates would motive the nation's brightest people to move to other geographies. The IRS data unfortunately is not granular enough to extract

millionaires so they are present in our dataset. Do higher income tax rates cause a brain drain? The answer is a weak yes.

Before we review those parameters (the impact of higher state marginal income tax rates) let's look at the impact of a stronger economy on net migration percentages ((immigration - outmigration)/filers, row 3) since this variable significantly impacts all cohorts. The coefficients on the two year payroll change (highlighted by the single-lined box) are significant for all six cohorts. We can interpret the first parameter value (.2999) for the 100K – 200K, age 25-34 cohort as that independent of tax rates and the other right-hand side variables, a one percent improvement in the two year payroll growth increases the percentage change in net migration by

Dep Var: (Immigration minus outmigration)/filers	Table 1. Income And Age Ranges					
	100K - 200K			200K+		
Variable	25-34	35-44	45-54	35-44	45-54	55-64
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
<b>Constant</b>	0.0030	-0.0004	-0.0070	-0.0002	-0.0130	-0.0224
P-value	0.5977	0.8992	0.0003	0.9632	0.0001	0.0002
<b>Two Year Payroll Change</b>	0.2999	0.1881	0.1176	0.1504	0.0949	0.1338
P-value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
<b>Marginal Inc Tax Rate</b>	0.0707	0.0034	-0.0099	0.0122	-0.0419	-0.1008
P-value	0.0234	0.8468	0.3476	0.6483	0.0191	0.0018
<b>Sales Tax Rank</b>	-0.0001	-0.0001	0.0000	-0.0001	-0.0001	-0.0001
P-value	0.1394	0.0026	0.0190	0.0074	0.0521	0.0284
<b>Avg Yearly Temperature</b>	-0.0001	0.0001	0.0002	0.0001	0.0003	0.0006
P-value	0.4454	0.0918	<.0001	0.2252	<.0001	<.0001
<b>Median Home Price</b>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
P-value	<.0001	<.0001	<.0001	0.0001	0.7972	0.7690
<b>Sample</b>	255	255	255	255	255	255
<b>Adjusted R<sup>2</sup></b>	0.20	0.30	0.34	0.16	0.20	0.19

30 basis points. Also note that every group is attracted to a stronger economy, but as we move from left to right, the coefficients for the two year payroll change tend to decrease – younger individuals with lower incomes tend to be more attracted to those areas which have better economies, everything else held constant and this pull of a stronger economy tends to decline as individual make more money and get older.

The next row of parameters (the fifth row) shows the impact of the marginal tax rate on net migration. The parameter of the marginal income tax rate is significant in only two cases: individuals with incomes over \$200K ages 45-54 and ages 55-64 (highlighted by the double-lined box). A one percent increase in the marginal tax rates causes the percentage change in net migration to decrease by 4 basis points for those individuals ages 45-54 and by 10 bps for individual ages 55-64. In New Jersey, in 2016, 98,661 individuals making incomes \$100K-\$200K ages 45-54 filed state income taxes and 76,244 individuals ages 55-64 with incomes of over \$200K filed. The marginal tax rate for New Jersey at this income band is 8.97%. A one percent higher marginal tax rate than other states would cause net immigration to decline by .04% and .10% respectively, or about 115 taxpayers. In other words, a one percent higher marginal tax rate than other states would increase net outmigration by 115 taxpayers per year.

One has to say that 115 taxpayers is not that large a number. The loss of the taxpayer revenue from 115 taxpayers would be a dent to a state's budget, but only a small dent. The state of New Jersey had 307,663 filers (all ages) with incomes over \$200K in 2016. The average income for that cohort was about \$700K. If the state would raise its highest marginal income tax rate another 1% to 9.97%, it would garner an additional \$2 billion dollars in tax revenue. So by our estimates, it would lose roughly \$7 million and raise \$2 billion. So does the impact of raising marginal income taxes cause net outmigration? Answer: Yes. Is it worth it for the state to raise its top marginal tax rate another percentage point? Answer: It still seems not.<sup>1</sup> There are two larger points here: First, New Jersey's net outmigration for the past five years for these two age cohorts in the highest income earning cohort has already totaled about 7,000 citizen. These higher income earners often generate synergies which attracts/feeds other high income earners. States which rank high in the list of net outmigration are being labelled as non-innovative and dissolute. Second, the Federal tax law has changed. It has already become more expensive to live in the high SALT states.

The regressions also show that other factors are at work besides the marginal income tax rate in causing people to migrate. A state like NJ cannot control the weather and higher home prices have been a function of the state's past higher income earners (dotted-lined box in Table 1). Nonetheless, if the state continues to lose its highest income earners it begins to lose control of its budget.

Dalio (2017) makes another important point: "As state and local tax rates and debts rise because there are shortfalls that can't be narrowed, it is financially smart for high income taxpayers to escape these taxes and debt burdens by moving to lower tax and less indebted locations, so they do. As they do, property values decline, further raising the costs of staying in the high SALT location. In other words, the financial cost of being in one of those high tax locations equals the tax rate difference plus the property value decline, which can be substantial."

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<sup>1</sup> The author is cognizant of the fact that if the state used all the additional tax revenues to attract the most talented entrepreneurs, that this would change the answer to the second question.

To test this hypothesis, we switch the dependent variable in Equation 1 to a five year state home price change.<sup>2</sup> We have also added the variable inventory-to-sales (I/S) as a measure of supply and demand, but dropped temperature, housing prices and sales tax rank because they were repeatedly insignificant.

Our second equation is

$$HPA_{it} = \alpha_{it} + \beta_1 \text{Payroll}_{it} + \beta_2 \text{Inc Tax Rate}_{it} + \beta_3 \text{I/S}_{it} + \varepsilon$$

$j = 1, \dots, 51$  and  $t = 2016$  (2)

The results of Equation 2 are in Table 2.<sup>3</sup> The sign on the marginal income tax rate (row 5 again) is negative and significant. A 1% increase in the marginal tax rate decreases the five year home price appreciation rate by 93 bps. Thus, Equation 2 corroborate Equation's 1 conclusion that states' marginal income tax rates matter.

<b>Table 2</b>	
<b>Dep Var: 5 YR Home Price Δ</b>	
Variable	Estimate
Constant	0.2655
P-value	<.0001
Two Year Payroll Change	3.0681
P-value	<.0001
Marginal Inc Tax Rate	-0.9315
P-value	0.0027
Inventory-to-sales	-0.0264
P-value	<.0001
Sample	153
Adjusted R <sup>2</sup>	60%

## 6. Conclusions

<sup>2</sup> The five year home price growth rate comes from FHFA.

<sup>3</sup> Since the dependent variable – the five year home price appreciation by state from 2011 to 2016 – is the same for the two income groups there is only one regression with 153 observation for the 200K+ income cohort. The time period is one year lagged from the migration data to reduce correlation.

This paper has shown that higher state marginal income tax rates hastens outmigration of middle-age upper-income earners from that state. We have been able to quantify the age cohort where this effect takes place and how many tax payers might leave a state in a given year. We can further estimated the amount of revenues a state like New Jersey might lose from this exodus. Focusing on New Jersey, its higher 2016 marginal tax rates will have likely caused an additional outflow of 115 high-income taxpayers from the state in 2017. The IRS data shows that the average income for the two cohorts ages 45-64 cohort was \$700K per year. The state of New Jersey will have forfeited about \$7 million in state tax revenues in the 2017 fiscal year which just ended when this paper was being written. Given this, it must either raise taxes, or reduce essential services. The total anticipated tax revenues for the state of New Jersey in 2017 was \$33,801 million.<sup>4</sup> So the loss attributable to its higher marginal tax rate would represent a loss of 2 bps of tax revenues for 2017.

The impetus for this paper was the recognition that the 2018 Tax Cuts and Jobs Act would raise the tax bill for residence of high SALT states and could hasten outmigration.<sup>5</sup> It would also reduce the number of people that would itemize their taxes and perhaps reduce the number and size of mortgages. This could further negatively impact home prices. A cycle of outmigration and weak state economic growth would present high SALT states with a significant financial challenge going forward. This paper corroborates other research that finds that very high marginal tax rates on the highest income earners in a state currently cause a net outmigration. Since this net outmigration was occurring during the periods when state and local taxes were deductible, it is reasonable to posit that this downward spiral would intensified in 2018 and the years following.

Above we noted that when a state's marginal tax rate for the \$200k+ income band is 1 percentage point higher than other states it causes outmigration to be higher for ages 45-54 and 55-64 by .04% and .10% respectively. Another way to think about this is that if the effective tax rate would increase by 1% then net outmigration would increase by those percentages. An analysis of the 2018 Tax Cuts and Jobs Act suggests that the implementation of the new bill will increase the effective tax rate at the \$700K+ level by about 4.0%. If that is the case then we are saying that high income earners in a high SALT state like New Jersey could end up paying an addition 4.0% in taxes relative to high income earners in low SALT states, unless they migrate. If taxpayers migrate at the rate they have in the past, this would results in the state of New Jersey losing an additional \$28 million per year each year on top of earlier years' losses.

This paper is making two somewhat conflicting policy prescriptions for state and local governments. We conclude: 1) A "millionaire tax" in the short run is tax revenue positive. The elasticity of taxpayers to state income tax rates is weakly negatively inelastic – on net, some taxpayers leave but most don't. 2) The second point is that elasticity of taxpayers to state income tax rates is weakly negatively inelastic – on net, some taxpayers leave and this has major negative long-term repercussions for a state.

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<sup>4</sup> See New Jersey 2017 official state budget.

<sup>5</sup> This paper recognizes that many taxpayers were subject to an AMT in the past. Those who pay an AMT would not see much impact by the new tax law.

Every state in the nation, every nation, has a limited ability to bring talented people into their market. States that have high marginal income tax rates, are slowly but emphatically pushing some of their best people to other marketplaces. In the light of the implications of 2018 Tax Cuts and Jobs Act, the state governments of high SALT states have to re-evaluate their revenue sources and how that money is being spent.

It has to be emphasized it is not just state governments that need to think hard about this secular trend. The powerful force of being able to conduct business anywhere and the mobility of those who are highly educated will impact the nation.

**Appendix: Table 1 Descriptive Statistics (1 of 2)**

State	Variable	Min	Max	Mean	State	Min	Max	Mean	State	Min	Max	Mean
AL	netmig	-62	82	15	FL	380	4526	1814	LA	-65	0	-37
	Payroll Chg	0%	4%	2%		2%	11%	7%		1%	4%	3%
	Inc_Tax	5%	5%	5%		0%	0%	0%		6%	6%	6%
	hpi	276	298	284		271	385	324		241	272	254
	Sales_Tax	49	49	49		29	29	29		50	50	50
AK	netmig	-106	-6	-50	GA	-145	305	10	ME	-9	110	34
	Payroll Chg	-1%	5%	2%		1%	9%	6%		0%	3%	2%
	Inc_Tax	0%	0%	0%		6%	6%	6%		7%	9%	8%
	hpi	282	315	299		251	318	282		449	493	465
	Sales_Tax	5	5	5		28	28	28		8	8	8
AZ	netmig	-5	847	260	HI	9	69	43	MD	-588	6	-263
	Payroll Chg	1%	7%	6%		3%	6%	5%		2%	4%	3%
	Inc_Tax	5%	5%	5%		8%	9%	9%		6%	6%	6%
	hpi	245	346	299		447	576	508		403	446	423
	Sales_Tax	47	47	47		23	23	23		18	18	18
AR	netmig	-40	60	8	ID	27	189	78	MA	-299	-46	-162
	Payroll Chg	1%	4%	2%		2%	9%	6%		3%	6%	5%
	Inc_Tax	7%	7%	7%		7%	7%	7%		5%	5%	5%
	hpi	242	264	251		258	330	291		601	709	649
	Sales_Tax	44	44	44		26	26	26		12	12	12
CA	netmig	-1522	151	-417	IL	-1163	-428	-719	MI	-186	10	-75
	Payroll Chg	2%	9%	7%		2%	4%	3%		4%	6%	5%
	Inc_Tax	9%	9%	9%		4%	5%	5%		4%	4%	4%
	hpi	388	565	482		296	329	309		231	294	262
	Sales_Tax	41	41	41		35	35	35		11	11	11
CO	netmig	110	410	237	IN	-166	49	-59	MN	-338	-74	-182
	Payroll Chg	3%	10%	8%		4%	5%	5%		3%	5%	4%
	Inc_Tax	5%	5%	5%		3%	3%	3%		8%	10%	9%
	hpi	335	476	397		240	267	251		294	353	322
	Sales_Tax	39	39	39		9	9	9		25	25	25
CT	netmig	-482	76	-201	IA	-144	42	-45	MS	-51	23	-12
	Payroll Chg	1%	3%	2%		2%	4%	3%		0%	3%	2%
	Inc_Tax	6%	7%	6%		9%	9%	9%		4%	5%	5%
	hpi	384	395	388		247	275	259		238	257	245
	Sales_Tax	27	27	27		19	19	19		38	38	38
DE	netmig	-116	160	10	KS	-122	43	-50	MO	-138	-10	-51
	Payroll Chg	1%	7%	4%		1%	4%	3%		0%	5%	3%
	Inc_Tax	7%	7%	7%		5%	6%	5%		6%	6%	6%
	hpi	404	438	418		233	261	244		268	299	280
	Sales_Tax	1	1	1		31	31	31		24	24	24
DC	netmig	-353	-181	-252	KY	-79	9	-33	MT	24	113	51
	Payroll Chg	4%	5%	5%		3%	5%	4%		3%	5%	4%
	Inc_Tax	9%	9%	9%		6%	6%	6%		7%	7%	7%
	hpi	585	794	690		284	314	295		349	411	378
	Sales_Tax	34	34	34		14	14	14		3	3	3

**Appendix: Table 1 Descriptive Statistics (2 of 2)**

State	Variable	Min	Max	Mean	State	Min	Max	Mean	State	Min	Max	Mean
MT	netmig	24	113	51	OH	-506	-21	-244	UT	48	131	82
	Payroll Chg	3%	5%	4%		3%	5%	4%		5%	11%	9%
	Inc_Tax	7%	7%	7%		5%	5%	5%		5%	5%	5%
	hpi	349	411	378		235	263	245		308	396	350
	Sales_Tax	3	3	3		30	30	30		17	17	17
NE	netmig	-74	9	-33	OK	-61	21	-12	VT	-3	19	8
	Payroll Chg	2%	4%	3%		1%	5%	3%		2%	3%	3%
	Inc_Tax	7%	7%	7%		5%	5%	5%		9%	9%	9%
	hpi	251	291	269		203	229	215		439	456	444
	Sales_Tax	13	13	13		36	36	36		16	16	16
NV	netmig	-17	419	165	OR	-4	370	111	VA	-786	-73	-320
	Payroll Chg	0%	11%	7%		2%	10%	6%		2%	4%	3%
	Inc_Tax	0%	0%	0%		10%	10%	10%		6%	6%	6%
	hpi	185	303	246		345	486	407		392	433	410
	Sales_Tax	42	42	42		4	4	4		10	10	10
NH	netmig	-6	107	43	PA	-590	-97	-232	WA	10	570	168
	Payroll Chg	1%	5%	3%		2%	3%	2%		2%	9%	6%
	Inc_Tax	5%	5%	5%		3%	3%	3%		0%	0%	0%
	hpi	373	421	392		362	395	376		381	514	438
	Sales_Tax	2	2	2		21	21	21		48	48	48
NJ	netmig	-1174	63	-492	RI	-38	30	-10	WV	-47	0	-25
	Payroll Chg	0%	4%	2%		1%	4%	3%		-2%	3%	0%
	Inc_Tax	6%	6%	6%		6%	6%	6%		7%	7%	7%
	hpi	453	494	470		439	494	459		210	229	219
	Sales_Tax	46	46	46		22	22	22		15	15	15
NM	netmig	-54	93	-10	SC	23	803	349	WI	-165	-3	-68
	Payroll Chg	-1%	3%	2%		3%	8%	6%		1%	4%	3%
	Inc_Tax	5%	5%	5%		7%	7%	7%		6%	7%	6%
	hpi	280	301	288		301	347	318		292	319	301
	Sales_Tax	40	40	40		32	32	32		7	7	7
NY	netmig	-2563	-466	-1134	SD	-8	70	24	WY	-19	26	7
	Payroll Chg	3%	5%	5%		3%	4%	3%		-3%	3%	1%
	Inc_Tax	7%	7%	7%		0%	0%	0%		0%	0%	0%
	hpi	557	619	582		296	346	319		269	303	286
	Sales_Tax	43	43	43		33	33	33				
NC	netmig	181	744	376	TN	48	318	173	Var: Units: Source:			
	Payroll Chg	2%	7%	5%		4%	8%	6%	netmig	counts	IRS	
	Inc_Tax	6%	8%	6%		6%	6%	6%	payroll	%Δ	BLS	
	hpi	297	340	313		279	330	300	Inc tax	%	Taxfoundation	
	Sales_Tax	20	20	20		45	45	45	hpi	\$1000	Trulia	
ND	netmig	-31	25	-5	TX	102	1359	641	sale tax	rank	Taxfoundation	
	Payroll Chg	-2%	18%	11%		6%	9%	8%				
	Inc_Tax	3%	4%	3%		0%	0%	0%				
	hpi	279	357	323		223	290	253				
	Sales_Tax	34	34	34		37	37	37				

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