

## DO TAXES AFFECT INTERSTATE LOCATION DECISIONS FOR HIGH-INCOME HOUSEHOLDS?

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### INTRODUCTION

STATE POLICY MAKERS FACE NUMEROUS FISCAL uncertainties including changing demographics and uncertain revenue growth. Add to this the current and looming growth in Medicaid costs and delayed expenditures from the recent budget crises, and preserving increasingly mobile tax bases becomes even more vital. We address the issue of whether tax policies play a role in the interstate location decisions of high-income households, those that are likely to contribute large relative portions of revenue and stand to gain the most from relocation. For these households, comparing an array of taxes across states is increasingly simple as a vast array of Web sites and magazines contain tax rate comparisons or cost-of-living calculators that include estimates of tax liabilities. Recent data from the Census Bureau indicates that although people are moving less frequently, those who move are traveling larger distances with 19 percent of all moves in 2003 to a different state and 8.4 percent of people moving between states between 1995 and 2000.

State tax rates are of importance to policy makers around the country, gaining attention from politicians and interest groups. Property tax reform was a central issue in New Jersey's recent gubernatorial election and has remained front-page news for over a year in this state with the nation's highest property tax rates. But destinations for retirees such as Florida and South Carolina are also tackling rising property tax rates. Floridians were asked to email ideas to a statewide commission on property tax reform<sup>1</sup> and South Carolina used sales tax revenue instead of property taxes to fund school operating expenditures.<sup>2</sup> Voters in Washington State adopted a new estate tax in 2005, and then rejected a ballot measure that would have repealed it in the November 7, 2006 election.<sup>3</sup>

With few exceptions, much of the prior literature on the effects of fiscal variables on location decisions has focused on businesses or low-income persons. We extend the current literature by examining households, particularly high-income households, and considering the effects of several state and local taxes and expenditures. We use a 12-year panel (1979-1990) of individual tax returns to estimate a "push" model where the explanatory variables include attributes and tax information from the origin state. Following the migration literature, we include controls for non-fiscal amenities and household characteristics in addition to our tax and expenditure variables. Our tax panel includes data from over 200,000 tax returns and approximately 6,000 filers are present in the panel for all 12 years. Examining 2-year transitions, we observe almost 6,800 interstate moves from 1980-1990.

Although not typical of data used in the migration literature, our tax panel presents several important advantages for answering the question at hand and is consistent with recent research on the locational effects of the estate tax. Our data set represents the most accurate, publicly available panel of tax-related information. We are the first to employ household-level income tax rate calculations. Individual tax return data also have advantages over estate return data as households can be observed over time and actual moves are identifiable. In addition, the time frame of the data set covers a period of significant change in the federal treatment of state taxes with the elimination of the deductibility of state sales taxes paid.

This paper is organized as follows. The second section presents an overview of current tax policy challenges facing both voters and policymakers. Prior studies of fiscal policy and the location of households are reviewed in the third section. The fourth section describes the data and methods used in our empirical analysis. Results are presented and discussed in the fifth section, and conclusions and future work are outlined in the sixth section.

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### POLICY ENVIRONMENT

States already compete for movers through a variety of incentives, but these incentives can be costly and may not increase revenues over time. These incentives can work as a disguised tax break or tax increase for current taxpayers. If changes to the tax rate do not impact a resident's decision to move, then perhaps states should focus on their current fiscal situation and not on attracting or retaining residents.

Central to the issue of whether households migrate in response to fiscal policies is the question of whether people are cognizant of their tax burdens or at least behave as if they are aware of the relative tax advantages across states. Evidence on this issue can be found in at least two different arenas. First, comparative tax information is available with relative ease and frequency on the Internet or in popular publications for persons interested in moving and/or retiring. Internet access allows individuals to use this information in making decisions more quickly and easily than before. For example, the Retirement Living Information Center, a Web-based information source for seniors, synthesizes information on comparative tax burdens from sources such as the Federation of Tax Administrators and Bureau of Economic Analysis into easy-to-understand calculations for potential movers.<sup>4</sup>

Another indication of the importance of fiscal policy in location decisions is the frequency with which the issues arise in political and academic debates. A recent state policy document on the effects of progressive tax policies concludes that "high tax rates don't redistribute income, they redistribute people" and "if the politicians raise taxes on the rich, there will be fewer rich people... fewer jobs and fewer tax revenues" (Moore, 2003, p. 2). Taxes of importance to high-income/wealthy persons include income, estate, property, and sales taxes. Spending that disproportionately (with respect to income) advantages the low-income/wealth residents might also cause out-migration of high-income/wealthy individuals. Such areas of spending include welfare and Medicaid.

A recent change in federal policy has also caused a change in the state tax environment for estate and inheritance taxes. Many state estate and inheritance taxes were set equal to the maximum amount of the federal tax credit for liabilities paid to the state in 2000. In the absence of the state tax, the credit amount was paid to the federal government; thus,

states were able to impose estate and inheritance taxes without increasing the total tax liability faced by taxpayers by merely "soaking-up" a portion of the federal tax liability.

Federal legislation passed in 2001 calls for an elimination of the federal estate tax after a phase-out period to be completed by 2010. The tax credit, to which most states tied their estate and inheritance taxes, will be eliminated even more rapidly. To combat revenue losses, seventeen states had taken the action (or inaction) necessary to decouple from the federal estate tax as of January 2004 (McNichol, 2004). Previous to this change, because most states collected taxes equal to the federal credit, relative tax rates were not commonly different across states. With decoupling, which has been accomplished in alternative ways among states, many states now have different relative tax burdens providing a possible motivation for migration to low estate tax states.

Moving across state lines, and perhaps hundreds of miles, to avoid taxes might seem extreme. However, for those with high incomes or levels of wealth, the magnitude of the gains (even though rates may not be high) is quite possibly large enough to offset the costs of relocating, including the psychic costs. For all households, tax and expenditure policies represent one more set of costs and benefits to take into account when deciding between two or more places. The Census Bureau reports that although people are moving less frequently, those who move are moving larger distances with 19 percent of all moves in 2003 to a different state (Bergman, 2004).

It is also possible that high-income/wealthy persons with residences in multiple locations are able to change their tax residence without truly moving. From an economic perspective it is important to distinguish between "real" and residency moves as the latter are presumably associated with less distortion in the economy and lower welfare losses. In addition, for sales taxes (collected as consumer goods are purchased) and property taxes, it is likely that the state a household "exits" does not lose all of the associated revenue as the move was merely one of classification. Conversely, for income and estate taxes, a residency move affects revenues the same as an actual move. For this reason and the difficulties in assessing "real" versus residency moves, the following analysis treats each observed move as "real."

## SUMMARY OF SELECTED LITERATURE

Empirical evidence on fiscal policy and migration is limited in quantity and scope. However, the available evidence is broadly consistent in suggesting that fiscal policies do affect migration patterns. Fox, Herzog, and Schlottman (1989) consider both expenditures and revenues in decisions to move within and between metropolitan areas. Findings from the study indicate that fiscal factors are important in decision making, particularly the decision to leave a metropolitan area, but the significance of different revenue and expenditure factors differs by type of move.<sup>5</sup>

Studies concerning the effects of expenditure policies have largely focused on movements of low-income households in response to differential state welfare policies.<sup>6</sup> Recent work on the effects of taxes has largely been focused on the elderly and generally supports the claim that individuals respond to differences in fiscal policies by “voting with their feet” (Conway and Houtenville, 2001; Duncombe, Robbins, and Wolf, 2003; Farnham and Sevak, 2002; Conway and Rork, 2004). Most previous work has relied on aggregate migration and fiscal data, which potentially mask the migratory effects of the taxes on individual households.

Recent work by Bakija and Slemrod (2004) makes use of 18 years worth of federal estate tax return filings to examine location of wealthy, elderly persons. The major innovation of the work is the use of estate and income tax calculators to arrive at the most disaggregated effective tax measures to date. However, the precision of their calculations is limited by the data. Rates are calculated based on aggregate categories of returns by year, state, and wealth class. The authors were limited to this level of aggregation due to confidentiality concerns. Additionally, moves are not observed in the data as only the state of residence claimed on the estate tax return is available.

Further evidence that migration in response to fiscal policies is relevant comes from studies of tax competition. These studies explore strategic interactions among governments. Empirical results should generally be considered preliminary as researchers have only recently begun to address several difficult econometric issues (Brueckner, 2003). However, the evidence suggests that strategic competition exists in tax (Besley and Case, 1995; Gade and Adkins, 1990; Brueckner and Saavedra, 2001) and welfare policies (Brueckner 2000).

Our panel of income tax data allow for several important contributions to this growing academic literature and increasingly pressing policy concern. We use household level income tax calculations generated from precise tax-related information unparalleled in previously used survey data.<sup>7</sup> In addition, unlike estate tax returns, moves can be identified in the tax panel using the state identifiers.<sup>8</sup>

## DATA AND ESTIMATION

We use a 12-year panel of individual tax returns drawn from the University of Michigan Tax Research Database. In constructing this panel data file, the Office of Tax Policy Research (OTPR) at the University of Michigan acquired the public-use tax return data released by the Internal Revenue Service (IRS) Statistics of Income (SOI) Division and converted them to user-friendly format. The 1979-1990 panel is constructed from annual IRS-SOI Individual Tax Model Files, which contain up to 200 pieces of information for between 80,000 and 250,000 personal income tax returns in each year. Within each Individual Model File is a subset of returns that were randomly selected to be part of a panel of taxpayers whose returns would be drawn year after year. In total, the panel includes data from nearly 300,000 tax returns. Approximately 6,000 filers are present in the panel for all 12 years.

Although the data set is not typical of those used in the migration literature, it presents several important advantages for answering the question at hand. First, the purpose of the research is to investigate the effects of tax and expenditure policies on interstate migration and this data set represents the most accurate, publicly available panel of tax-related information. Individual tax return data also have advantages over estate tax return data as households can be observed over time and actual moves are identifiable. In addition, federal deductibility of state sales taxes paid was eliminated during the time period the data cover. Estimates indicate that the response to the elimination of state and local tax deductibility could be substantial (Herzog and Schlottman, 1986).

The data represent household-level information, the most useful level for conducting migration analyses. This is because benefits to one household member are potentially offset by costs to another. Therefore, households take into account some aggregate, household measure of welfare when deciding on the optimal location (Mincer, 1978).

The main limitation of our data is the lack of demographic information previously shown to be important in determining migration, particularly education levels. However, Figure 1, showing migration rates for high-income households over time by filing status (single and married), provides preliminary evidence that the available controls might be adequate for marital status. As predicted, married filers moved at lower rates (Borjas, 2001).<sup>9</sup> Other proxies for demographic information are discussed below.

We estimate a “push” model to examine the effects of fiscal policy on the migration of high-income households. The explanatory variables include household characteristics as well as attributes and tax information from the origin state. The dependent variable is binary and used to indicate a move from time  $t$  to time  $t + 1$ :

$$M_{i,t+1} = \alpha'A_{i,t} + \beta'P_{i,t} + \gamma'F_{i,t}(T_{i,t}, E_{i,t}) + \mu_i + v_{i,t+1}$$

where  $M$  is a binary variable indicating an interstate move (1 if the state of residence at time  $t$  is not the state of residence observed at  $t + 1$  and zero otherwise),  $A$  is a vector containing a constant and non-fiscal amenities of a location.  $P$  is a vector of household characteristics.  $F$  denotes fiscal structure

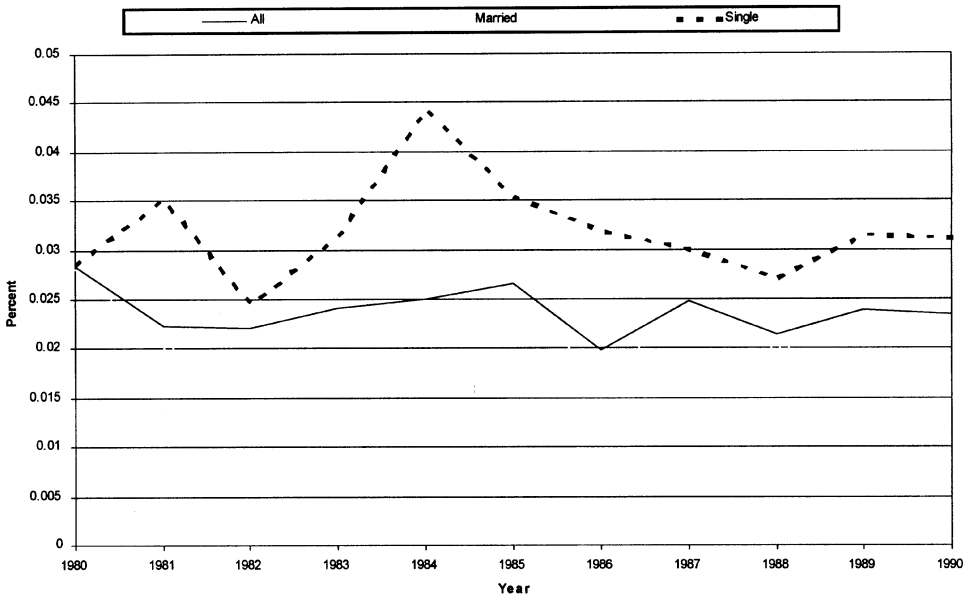
and is a function of taxes ( $T$ ), and expenditures ( $E$ ). A location  $j$  is chosen by household  $i$  if the utility the household receives in that location is greater than or equal to the utility received in any other location.

The error term in this equation includes an individual-specific time-invariant random effect ( $\mu_i$ ) to capture unobserved household heterogeneity, and an independently and identically distributed residual component ( $v_{i,t+1}$ ) with zero mean and finite variance. A convenient empirical specification for the above equation is a random-effects probit. This specification, which accounts for unobserved household heterogeneity, is particularly appealing given the lack of demographic control variables including education.

State-level amenity variables were chosen in accordance with the existing migration literature and include heating days<sup>10</sup>, unemployment rates, and population share (state’s share of the U.S. population). Household characteristics ( $P$ ) include filing status and age 65 exemption status as migration has been shown to be lower among married and older individuals (Borjas, 2001).

Other household characteristic variables include balance due and income.<sup>11</sup> The balance due variable is meant to capture risk attitudes as those who significantly over-withhold are more likely to

Figure 1: Percent of High-Income Households Making Moves by Marital Status



## RESULTS

be more risk-averse than those who significantly under-withhold. With any move from one location to another, particularly moves to different states or countries, there are likely to be uncertainties about the quality of the amenities and economic conditions. Risk-averse households would, therefore, be expected to move less frequently than their relatively risk-loving counterparts.

In the “push” model described previously, fiscal characteristics are defined to be those of the origin state at time  $t$  while the move occurs at time  $t + 1$ . In essence, the explanatory variables are lagged, reducing endogeneity concerns. State income tax rates are calculated at the household level using the NBER TAXSIM model. State sales tax rates are included as well as property tax collections per capita. We also include per capita measures of spending on education, welfare, police and fire, and parks and recreation,<sup>12</sup> and hospitals. We estimate our model for all high-income filers as well as by marital status.

Our results suggest that fiscal policies influence household location decisions but results are not consistent across marital categories. As indicated in Table 1, high-income filers are more likely to move from states with higher state and local education expenditures. This result is consistent with the ability of these households to opt out of or supplement public education through private schooling or tutoring. High-income filers are also less likely to exit states with higher income tax rates, a result which holds across marital categories. One possibility is that this result reflects a preference for one tax collection method over another. For instance, people might generally prefer paying income taxes to paying property taxes. Federal tax treatment of state and local taxes paid might also lead to a preference for one tax over another.

Other significant results include lower probabilities of moving out-of-state for elderly households,

Table 1  
Probit Analysis of High Income Filers

Variable	All	Married	Single
Unemployment Rate	-0.0027	0.0001	-0.0209
Population Share	-2.7413***	-2.9246***	-1.8375
Heating Days	0.0000	0.0000*	0.0000
Age 65 Exemption	-0.2035**	-0.1499	-0.5903*
Married	-0.1618***	n.a.	n.a.
Balance Due	-0.0035	-0.0075	0.0089
Kids at Home	-0.0284**	-0.0194	-0.1929***
MID	-0.1305***	-0.1115***	-0.2121***
Wages (Log)	0.1567***	0.1378***	0.2852***
Nonlabor Income	-0.0002	-0.0007	0.0017
Moving Exp. Ded.	0.3824***	0.4431***	0.1619
Schedule C	-0.0613	-0.0449	-0.2184
Income Tax Rate	-0.0011***	-0.0010**	-0.0019*
Sales Tax Rate	-0.0175	-0.0238	0.0172
Property Tax Revenue	-0.1895	-0.0899	-0.5848
Education Exp.	0.6132**	0.7174**	0.0447
Safety Exp.	0.7619	0.7483	1.0156
Hospital Exp.	0.3520	0.2278	1.3499
Welfare Exp.	-0.2706	-0.0601	-1.3598
Park and Library Exp.	5.5132	5.3363	5.6195
Constant	-3.5912***	-3.5968***	-4.7501
Rho	0.2379	0.2288	0.2545
Number of Obs.	58589	49738	8851
Number of Groups	18323	15596	3646

Note: Entries are coefficients from random-effects probits. All models also include a series of indicators for the year of the observation.

\*\*\* Indicates statistical significance at the 1 percent level.

\*\* Indicates statistical significance at the 5 percent level.

\* Indicates statistical significance at the 10 percent level.

homeowners, households with children living at home, and those located in high population states. Colder climates and work-related moves are associated with higher probabilities of moving out-of-state. High-income married households are significantly less likely to make an interstate move than single filers. This might be due to some degree of “job lock” as higher-income jobs are rarer, especially in a dual-income household where both partners receive high wages.

In summary, we find evidence that fiscal policies influence household location decisions. Higher spending on education leads to increased probabilities of exit for high-income households; this is likely because they can opt out of the public education system or supplement it with additional lessons or tutoring. In addition, our results suggest that the mix of tax instruments used might be important as higher-income tax rates are associated with lower probabilities of out-migration.

### CONCLUSIONS AND FUTURE EXTENSIONS

Recent state budget crises caused policymakers to reconsider both taxation and spending policies. These debates are further complicated by the possibility that fiscal policies might be used to attract or retain residents, particularly those that pay a large portion of taxes (high-income households) or generate growth (entrepreneurs); or, in some cases, to prevent an influx of residents with high demand for services but little capacity to pay taxes (welfare recipients). In some instances, policy decisions on taxes may be linked directly to spending decisions as seen in the Washington state’s use of estate tax revenue for education.

More research is needed to better identify some of the policy implications of these results. First, our analysis suggests that households might have a preference for some tax collection methods over others and a useful extension would be to more explicitly test for these preferences. Second, we have not addressed the issue of state estate taxes, which is increasingly relevant given that many states have decoupled from the federal tax system and there is greater variance in estate taxes at the state level. Third, wealth may be a more accurate measure than income of a household’s ability to pay taxes or decrease expenditure demand by opting out of publicly provided services. Using income as a proxy for wealth may misclassify households, particularly those with business losses in a given year.

Fourth, an analysis of retirees or the “near elderly” would allow more comparisons with the previous literature. Recent studies have given particular attention to whether elderly households migrate in response to estate tax policies (Bakija and Slemrod, 2004; Conway and Rork, 2004, 2006). Finally, the length of our panel would make it possible to use several early years to construct a recent move history variable as evidence suggests that a previous move increases the likelihood of a future move (Borjas, 2001).

### Notes

- <sup>1</sup> <http://www.propertytaxreform.state.fl.us/enterSolution.aspx>.
- <sup>2</sup> O’Connor (2006).
- <sup>3</sup> Cornwall (2006).
- <sup>4</sup> <http://www.retirementliving.com>.
- <sup>5</sup> Binary choice models were estimated separately for the decision to move, entry into a metropolitan area, and departure from a metropolitan area.
- <sup>6</sup> See Brueckner (2000) for a survey of the literature.
- <sup>7</sup> Bakija and Slemrod (2004) and Conway and Rork (2004) use state-level panel data.
- <sup>8</sup> A limitation of the data is that households with adjusted gross incomes of more than \$200,000 are missing state identifiers.
- <sup>9</sup> Married filers are expected to move less frequently as there is the potential for offsetting costs and benefits among spouses. Married filers are defined as those married filing jointly or separately; all other returns are classified as single.
- <sup>10</sup> Cooling days was not included in the final specification due to its very high correlation with heating days.
- <sup>11</sup> The effects of the income variable will be interpreted carefully as this variable will likely capture some of the effects of the omitted and unavailable educational variables.
- <sup>12</sup> We primarily follow Fox, Herzog, and Schlottman (1989) in selecting expenditure variables.

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