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"Time to Retire? The Effect of State Fiscal Policies on Retirement Decisions"

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Abstract: Research on the determinants of retirement behavior has become increasingly important as larger portions of the population fall into the “over 65” age bracket, life expectancies increase, and retirement savings fell in the recent recession. Retirement trends have implications for a multitude of factors including quality of life, government spending and revenue collections, and size of the labor force. Vital research efforts to determine the effects of a given policy, design a program to improve the well-being of retirees, or assess the economic consequences of retirement trends require a solid understanding of what factors affect retirement decisions and the relative magnitudes of these effects.

Our research addresses the importance of state fiscal policies on the probability of retirement using a panel of individual tax return data. Our results indicate that state fiscal factors play an important role in the timing of retirement decisions. A one percentage point increase in the income or sales tax rate reduces the probability of retirement by about 0.6 percentage points (8.7 percent). State spending also appears to affect retirement decisions but further research is needed to assess the magnitude of these effects and whether different categories of expenditures have different effects. In general, the results suggest that the income effect dominates; that is higher tax rates at the state-level reduce disposable income and decrease the probability of retiring. Results are similar in models examining single and married filers separately.

1. Introduction

State policymakers face numerous fiscal uncertainties including changing demographics and uncertain revenue growth. Retirement behavior is central to these questions of revenue growth and expenditure demand, quality of life, and size of the labor force. Central to effective long-term fiscal planning is establishing whether policymakers can assume that retirement trends will prevail despite changes in revenue or spending policies or whether these policies have a behavioral effect on the timing of retirement decisions. However, to date, the substantial research on retirement behavior has ignored the possible effects of state fiscal policies on retirement decisions.

Determining the behavioral effects of state fiscal policies on retirement decisions is increasingly important as larger portions of the population fall into the "over 65" age bracket (particularly as the baby boom generation ages), life expectancies increase, and recent losses in retirement savings might lead more retirees to rely on public services. Research efforts to determine the effects of a given policy, design a program to improve the well-being of retirees, or assess the economic consequences of retirement trends require a solid understanding of what factors affect retirement decisions and the relative magnitudes of these effects.

Due to recent economic conditions, states are facing revenue shortfalls and increased demand for programs such as unemployment compensation. Pressure on state governments is exacerbated by the current and looming growth in Medicaid costs and underfunded infrastructure. States are likely to address fiscal crises by making changes to their spending and tax policies but these changes might also affect retirement decisions, which in turn affect revenue collections and expenditure demands. We contribute to the literature on retirement decisions by

addressing whether state fiscal factors affect the decision to retire in economically significant ways.

State fiscal policies have been shown to influence the migration decisions of the elderly (Bakija and Slemrod, 2004; Conway and Houtenville, 2001 and 2003; Conway and Rork, 2006) but have not been considered in studies of the retirement decision. The substantial existing literature on retirement decisions provides an excellent foundation for guiding our work and inclusion of control variables. However, this literature provides inconclusive evidence on the magnitude and relative importance of factors affecting retirement.

We use microdata from a panel of individual tax returns (1979 through 1990) to estimate the effects of multiple factors, including state fiscal variables, on transitions into retirement. Fiscal factors include personal income, sales and corporate income tax rates as well as spending on health (including hospitals). Our fiscal data are drawn from publicly available sources including the Census Bureau and TAXSIM at the National Bureau of Economic Research (NBER) as well as the *State Tax Guide* (various years) from the Commerce Clearing House. Our results indicate that state fiscal factors play an important role in the timing of retirement decisions. Our results indicate that a one percentage point increase in the state income tax rate decreases the probability of retirement by between 0.6 and 1.2 percentage points, or between 8.7% and 17.4% of the sample average retirement rate of 6.9%. State spending also appears to affect retirement decisions but further research is needed to assess the magnitude of these effects. In models examining single and married filers separately, the results are similar to the full sample results.

The following section provides background information (section 2). Section 3 includes a description of our data and a discussion of retirement trends and differences in state fiscal

policies. We outline our empirical strategy in Section 4 and results are presented in Section 5. We provide conclusions and directions for future research in Section 6.

2. Background Information

The existing literature on retirement effects is fairly large and provides an excellent foundation for guiding our work. Previous research largely addresses several factors, including health and Social Security policy, which provides important insight into factors that affect retirement but leaves open the question of whether state fiscal policies matter. Early studies focused on the effects of Social Security or pension policies on retirement decisions. Theoretical research produced ambiguous results regarding the insurance effects of Social Security and private pensions on retirement behavior (Crawford and Lilien, 1981), highlighting the importance of the empirical analyses. This empirical work indicated that increases in Social Security benefits and pension eligibility increased the likelihood of retirement, but the magnitude of these effects varied widely (See Hurd (1990) for a review of this literature). More recent work finds that Social Security incentives to work at older ages influence workers to delay retirement (Coile and Gruber, 2007).

Recent research has also focused on the effects of health insurance, market conditions and health. State and federal continuation-of-coverage laws, and access to post-retirement health insurance are associated with increases in the likelihood of retirement (Gruber and Madrian, 1995; Rogowski and Karoly, 2000). Declines in economic conditions, measured as unemployment rates, are also associated with increases in retirement rates (Coile and Levine, 2007). Generally, worsening health status or harmful health shocks are thought to lead to earlier retirements[1], but one recent study using Health and Retirement Study (HRS) data highlights the

[1] See Dwyer and Mitchell (1999) and McGarry (2004), for example.

importance of separately controlling for those with chronic health conditions, as these individuals did not generally report worse health or more limitations but did accumulate fewer assets and retired later (Miah and Wilcox-Gok, 2007).

A few studies have addressed the relative importance of multiple factors. Bazzoli (1985) finds that economic variables are more important than health status in determining early retirement but Dwyer and Mitchell (1999) find the opposite result for retirement decisions using more recent data. Coile and Levine (2007) find that the effects of market conditions are of similar magnitude to moderate changes in financial incentives and risks of a health shock.

If state-level fiscal policies are shown to have an effect on retirement decisions, the magnitude of these effects and relative importance of fiscal factors is relevant for state policymakers, who want to determine the unintended consequences of a policy change, such as increasing the sales or personal income tax. Conversely, if these factors do not matter in the decision to retire or if the magnitude of the effect is of little economic consequence, policies and programs should focus on other factors and thus retirement effects could be largely ignored in discussions of fiscal policy. Our research primarily builds upon this literature by exploring the effects of state fiscal policies, which are not only of interest to state policymakers but might also have implications for establishing effective federal policy, as some state-level factors might work to offset incentives provided at the federal level.

3. Econometric Strategy

The primary focus of our research is to examine the impact that state fiscal policies have on individual retirement decisions. We begin by estimating the effects of multiple factors, selected based on the results of previous literature, on transitions into retirement using probit and linear probability models. This allows for maximum comparability with previous research and

serves as a baseline for interpreting any differences caused by including additional factors or using different estimation techniques. Our specifications also include state-level fiscal variables.

Our baseline analysis will have the following form:

$$R_{ij,t} = Z_{i,t-1}\beta + \delta x_{j,t-1} + u_i + \varepsilon_{i,t}$$

where $R_{ij,t}$ represents the decision to retire for each individual *i* in state *j* at time *t*. Discussed in further detail below, we define individuals as entered into retirement if they have wage income in the preceding time period (*t – 1)* and have no wage or unemployment income in the current period (*t)*. $Z_{i,t-1}$ represents individual specific characteristics that are expected to predict retirement decisions and $x_{j,t-1}$ represents the state fiscal variables that may impact retirement decisions. The error term in this equation includes an individual-specific time-invariant random effect (u_i) to capture unobserved individual heterogeneity, and an independently and identically distributed residual component ($\varepsilon_{i,t}$) with zero mean and finite variance. Using the panel nature of the data to account for unobserved individual heterogeneity (u_i) is particularly valuable given that the data set does not contain much in the way of demographic information.[2] We lag our explanatory variables to mitigate concerns of endogeneity.

4. Data

Data for this project are drawn from the University of Michigan Tax Research Database. This panel of data was constructed by the Office of Tax Policy Research (OTPR) at the University of Michigan from the public-use tax return data released by the Internal Revenue Service (IRS) Statistics of Income (SOI) Division and represents the most recent publicly available panel of tax return data. The data contain nearly 300,000 tax returns representing a

[2] Note that a fixed effects specification is used for the linear probability models but the fixed effect option is not available for the probit estimation and we use a random effect model. Results are similar across specifications.

random sample of all filers. Approximately 6,000 households are present in all twelve years of the data.

Tax return data are well-suited to this project for a variety of reasons. First, they represent the information submitted to the federal tax authority and allow for an accurate calculation of household-level income tax rates. The data permit precise definitions of retirement based on income flows from different sources. The panel nature of the data allows us to use lagged values of tax rates and control variables to mitigate endogeneity concerns. Finally, the data include state identifiers, which are used to merge on state-level fiscal information.[3]

Defining Retirement

In the empirical analysis outlined below, we use a relatively strict measure of retirement.[4] First, we identify the households most likely "at risk" for retiring. Age is not included in the dataset and must be inferred from the presence of an age 65 deduction. We identify when a filer (or household in the case of married filers) first claims the age 65 deduction in our panel. If a filer claims the deduction at time *t*, age is coded to 65+ for time *t* and after, 64 for time *t-1*, 63 for time *t-2*, and so forth. Those who always claim the deduction in the dataset are included in the age 65+ category for all years that they are present in the data. Thus, the youngest filers in our dataset first claimed the deduction in 1990 and were age 54 in 1979.

A filer (or household in the case of married filers) is considered retired if they had wage income in the previous period and have no wage or unemployment income in the current period. This restricts our sample a bit as filers must be present in two consecutive years and "at risk" of retiring in the first period. Summary statistics reported in Table 2 indicate that on average, 6.9 percent of those of our sample retires each period, consistent with retirement rates reported by

[3] The state identifier is omitted for households with AGI of $200,000 or more due to confidentiality concerns.
[4] As discussed in footnote 8, we experimented with alternative definitions of retirement.

Coile and Gruber (2007). We examine only the first transition into retirement for each household. Finally, we keep only filers who had the same state of residence in both periods to avoid complications from a simultaneous decision to move and retire.

Figure 1 presents retirement entry rates over the time period 1980 to 1990. It is clear from the Figure that retirement entry rates vary from year to year. Entry rates vary from around 5.5 percent of those "at risk" (not retired in the previous time period) of retiring in 1984 to just above 8 percent in 1981.

Individual Characteristics

As described above, the tax data set does not contain much in the way of demographic information. Education, race, and gender are among the missing variables for which there does not appear to be even a rough proxy. However, the panel of data provides more in terms of additional control variables than might be immediately apparent. In addition to age, marital status, and various controls for income, proxies are included in the estimation for household size, health shocks, and risk attitudes. Specifically, we have indicator variables for age, whether the return was filed jointly, wages (logged), an indicator for receipt of unemployment insurance, business income, interest income, and whether the filer (household) contributed to an IRA or Keogh account. Ex ante, the expected effect of wage income is ambiguous because of income and substitution effects but we expect contributions to retirement accounts and income from other sources to increase the probability of retirement.

We also include the total number of exemptions to proxy for household size and capture the number of children not living away from home, a dummy variable for whether the household claimed an itemized deduction for health expenditures as an indicator of a health shock to the

household, and indicators for payment and receipt of alimony to proxy for family financial obligations or payments from individuals not residing in the household.

Risk attitudes are also thought to be important in self-employment decisions. As in Gurley-Calvez and Bruce (2008), the tax balance due is included in an attempt to capture a household's risk attitude as it seems plausible that more risk-averse households would be more likely to over-withhold their taxes, thereby receiving a refund from the IRS. Relatively risk-loving filers might prefer to under-withhold such that the money is available for alternative uses.

State Fiscal Characteristics

To determine if state fiscal policies influence retirement decisions, we examine state personal income, corporate income, and sales taxes in addition to per capita spending on health (including hospitals). Results for these variables will be used to determine if retirement effects should be included in policy decisions. For instance, policymakers might increase income tax rates to offset expected budget deficits but that same policy could change the timing of the retirement decision for households currently in the labor force, affecting the number of retirees in the current year and altering income tax collections. This change in the number of retirements would then have implications for the size and experience of the state's labor force as well as revenue collections.

We include household-specific income tax rates. Our baseline specification includes the bracket rate produced by the NBER TAXSIM model based on income and dependent information from the tax return. We begin with the bracket rate as it is the rate that filers are most likely to be familiar with and it is likely to approximate the marginal and average tax rates given that state income tax structures are relatively flat. We get almost identical results using the

TAXSIM effective marginal tax rate and qualitatively similar results using the TAXSIM effective average tax rates although the average tax rate is not significant in all specifications.

Table 1 includes a description of all of our analysis variables and summary statistics are included in Table 2. More than two-thirds of our sample (69.89 percent) files taxes jointly, 87 percent of our sample earns some interest income while only 5.3 percent earn income from unemployment insurance. Over one-fifth (20.4 percent) of our sample claims medical expenses as an itemized deduction and 37.88 percent have a balance due on their tax returns. The average state income tax rate for our sample is 3.32 percent with a maximum of 17 percent. Our estimation sample consists of 20,858 observations representing 4,386 households.

5. Results

Results from our baseline models (random effects panel probit analysis and fixed effects panel linear probability) are presented in Table 3.[5] Before discussing specific results, several general results are worth noting. First, as expected, as households grow older, the probability of retirement increases. Second, married individuals (as indicated by joint filers) are more likely to retire. Third, state fiscal policies impact retirement probabilities.

In general, individual state income tax rates are negatively associated with probabilities of retirement.[6] This result suggests that individuals in higher income tax rate situations may be less likely to retire. Higher levels of health spending per capita lead to lower probabilities of retirement. Because we are not controlling for quality or accessibility of health services or the health of the individuals, the negative sign on the health spending variable may be the result of worsening health status. In the probit model, we find that higher sales tax rates lead to lower

[5] In addition to coefficient estimates, marginal effects are also included in Table 3.
[6] In separate specifications, we include the individual's federal bracket rate in the models and the results are robust to the inclusion of the federal bracket rate.

probabilities of retirement, possibly because higher sales tax rates reduce disposable income, increasing the amount of savings needed to retire. [7]

Outside of the fiscal variables, we find that older tax filers and joint tax filers are more likely to retire. We also consistently find that filers that pay alimony are less likely to retire, while those who are riskier (as indicated by the presence of a balance due on the tax return) are more likely to retire.

Marginal effects from a probit model indicate that a one percentage point increase in the sales or personal income tax rate decreases the probability of retirement by 0.6 percentage points. Given that the overall probability of retirement is 6.9 percent, this represents an 8.7 percent reduction in the probability. This is a significant behavioral effect in terms of identifying revenue and labor supply effects of fiscal policy but we note that age is the dominant factor in predicting retirement. Being age 65 at time *t* (age 64 in the lagged period) is associated with a 16 percentage point increase in the probability (232 percent) over those who are 54 at time *t*. In the fixed effects linear probability model, the personal income tax coefficient is twice as large while the sales tax effect is smaller and we no longer reject the null of a zero coefficient.

Because the decision to retire is impacted by the marital status of the individuals, we separately estimate the models for single filers and joint filers. These results are provided in Table 4. Most of the primary results remain for both single and joint filers. As the age increases, the probability of retirement increases for both single and joint filers. Households who take on

[7] We used other definitions of retirement to test the sensitivity of our results and found the state tax effects, particularly the income tax, to be robust across alternative definitions. The alternative definitions we considered were defining entry into retirement in the period when pension income (or pension plus taxable social security benefits in 1983 and later) exceeded wage income (measure 2), the period when wages fell to zero (no unemployment insurance income) and were at least $5,000 in the preceding tax year (measure 3), and the period *t* when wages fell to zero provided that period *t-1* wages were at least 80% of period *t*-2 wages (measure 4) This last measure was chosen to mitigate concerns of individuals moving from partial retirement in period *t-1* to full retirement in time *t* (measure 4).

more risk are more likely to retire and state fiscal variables continue to matter. For single and joint filers, both individual state income tax and sales tax rates are negatively associated with probabilities of retirement. These results suggest that lower tax rates that increase disposable income may increase the probability of retirement.

6. Conclusions

Our analysis suggests that state fiscal factors play a significant role in the timing of retirement. Quantifying these effects is vital for designing and implementing sound policies to address changing demographics and for understanding the labor market implications of policy changes in response to budget shortfalls. A promising area to expand the current analysis is in the use of spatial regression techniques. A common concern with state-level panel regressions is the degree to which observations in the data from one state are related to observations from another state or group of states. While policies in a state may be expected to have a direct effect on retirement within that state, it has also been shown that state policies have interjurisdictional spillovers (Brueckner, 2003). These spillover effects may then impact retirement in other states. For example, policymakers' decisions regarding whether to exempt pension income from personal income tax liability in one state (state *k*) may impact policymakers decisions on that same issue in another state (state *j*). If so, state *k*'s treatment of pension income may affect the retirement decision for individuals in state *j*.

Duration analysis could also be used to examine the effects of various factors on the length of time to retirement instead of merely focusing on a point-in-time decision. Duration analysis is well-established in other literatures, and some researchers have argued that it is the more appropriate framework for examining retirement decisions (Diamond and Hausman, 1984 and Hausman and Wise 1985).

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Figure 1: Percent of Data that Enter Retirement (%)

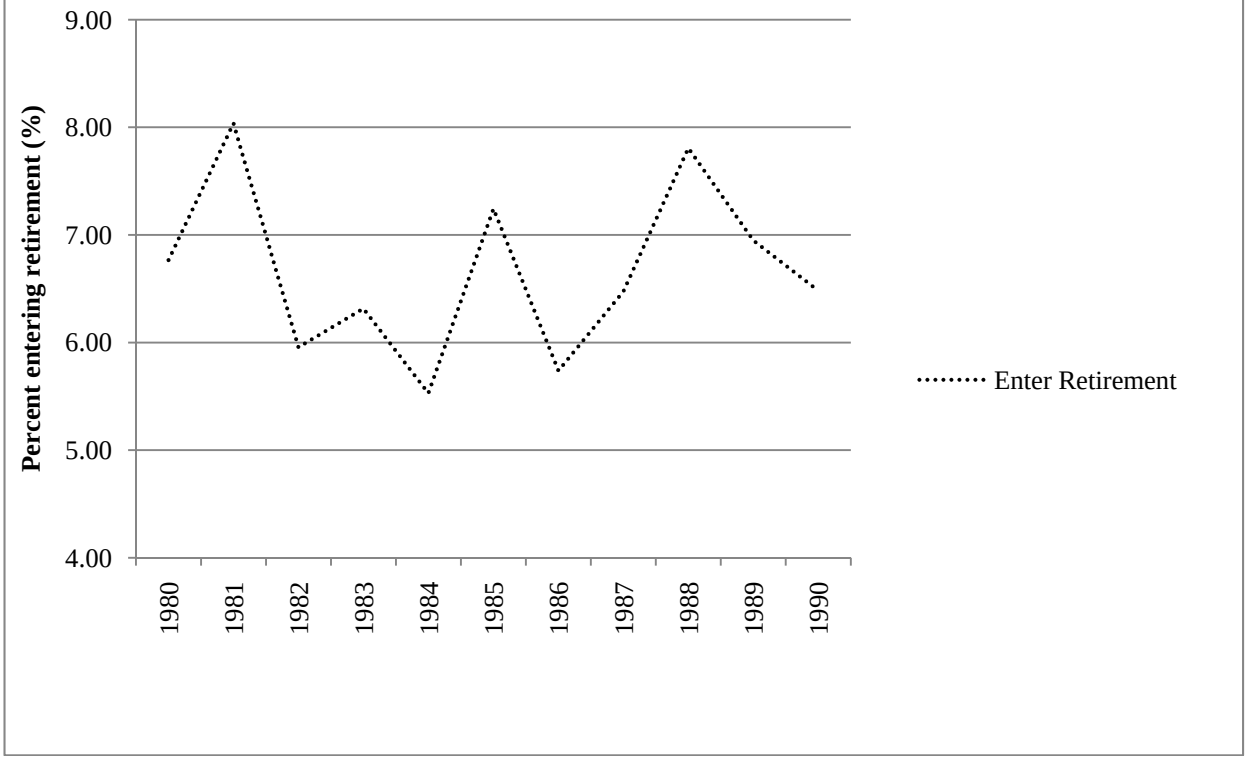

Table 1: Variable Definitions

Variable Name	Definition
Enter Into Retirement Dummy Variable	Equals 1 if enter retirement; 0 otherwise
Log of Wages	Log (claimed wages)
Unemployment Insurance Dummy Variable	Equals 1 if claimed unemployment insurance; 0 otherwise
Interest Income Dummy Variable	Equals 1 if earned interest income; 0 otherwise
Business Income Dummy Variable	Equals 1 if earned business income; 0 otherwise
IRA/Keogh Income Dummy Variable	Equals 1 if earned retirement income from IRA or Keogh lan; 0 otherwise
Medical Deduction Exemption Dummy Variable	Equals 1 if itemized deduction for medical expenses was claimed; 0 otherwise
Total Number of Exemptions	Total number of exemptions claimed
Joint Filer Dummy Variable	Equals 1 if tax return filed jointly; 0 otherwise
Receive Alimony Dummy Variable	Equals 1 if claimed any alimony income; 0 otherwise
Pay Alimony Dummy Variable	Equals 1 if paid any alimony income; 0 otherwise
Age 55 Dummy Variable	Equals 1 if age 55; 0 otherwise
Age 56 Dummy Variable	Equals 1 if age 56; 0 otherwise
Age 57 Dummy Variable	Equals 1 if age 57; 0 otherwise
Age 58 Dummy Variable	Equals 1 if age 58; 0 otherwise
Age 59 Dummy Variable	Equals 1 if age 59; 0 otherwise
Age 60 Dummy Variable	Equals 1 if age 60; 0 otherwise
Age 61 Dummy Variable	Equals 1 if age 61; 0 otherwise
Age 62 Dummy Variable	Equals 1 if age 62; 0 otherwise
Age 63 Dummy Variable	Equals 1 if age 63; 0 otherwise
Age 64 Dummy Variable	Equals 1 if age 64; 0 otherwise
Age 65 Dummy Variable	Equals 1 if age 65 or over; 0 otherwise
Balance Due Dummy Variable	Equals 1 if had balance due on tax return; 0 otherwise
PIT Bracket Rate	State personal income tax rate for household's tax bracket
Log of Per Capita State and Local Health/Hospital Expenditures	Log (total state and local expenditures on health and hospitals/population)
Sales Tax Rate	State statutory sales tax rate
CIT Rate	Top marginal state corporate income tax rate

Table 2: Summary Statistics

Variable	Mean	Std. Dev	Minimum	Maximum
Enter Into Retirement Dummy Variable	0.069	0.254	0	1
Log of Wages	1.613	1.532	-6.908	7.324
Unemployment Insurance Dummy Variable	0.053	0.224	0	1
Interest Income Dummy Variable	0.870	0.337	0	1
Business Income Dummy Variable	0.198	0.399	0	1
IRA/Keogh Income Dummy Variable	0.135	0.341	0	1
Medical Deduction Exemption Dummy Variable	0.204	0.403	0	1
Total Number of Exemptions	2.689	1.084	0	15
Joint Filer Dummy Variable	0.6989	0.45874	0	1
Receive Alimony Dummy Variable	0.0032	0.05683	0	1
Pay Alimony Dummy Variable	0.0161	0.12588	0	1
Age 55 Dummy Variable	0.018	0.132	0	1
Age 56 Dummy Variable	0.023	0.150	0	1
Age 57 Dummy Variable	0.032	0.175	0	1
Age 58 Dummy Variable	0.032	0.175	0	1
Age 59 Dummy Variable	0.034	0.182	0	1
Age 60 Dummy Variable	0.039	0.194	0	1
Age 61 Dummy Variable	0.043	0.203	0	1
Age 62 Dummy Variable	0.051	0.220	0	1
Age 63 Dummy Variable	0.066	0.249	0	1
Age 64 Dummy Variable	0.0907	0.28715	0	1
Age 65 Dummy Variable	0.5624	0.4961	0	1
Balance Due Dummy Variable	0.3788	0.48511	0	1
PIT Bracket Rate	3.3194	3.05102	0	17
Log of Per Capita State and Local Health/Hospital Expenditures	2.838	0.386	1.753	4.090
Sales Tax Rate	4.382	1.175	0	7.5
CIT Rate	6.703	3.268	0	12

Table 3: Dependent Variable: Dummy Variable for Whether Individual Enters into Retirement

	Probit	Marginal Effects	Linear Probability
Log of Wages	**-0.1167*** **	-0.0134	-0.00246
	[0.0010]		[0.0036]
Unemployment Insurance Dummy Variable	0.0099	0.0016	**0.02621** **
	[0.0667]		[0.01084]
Interest Income Dummy Variable	**0.1052** **	0.0113	**-0.03264*** **
	[0.0465]		[0.01044]
Business Income Dummy Variable	0.0360	0.0043	0.00507
	[0.0347]		[0.00904]
IRA/Keogh Income Dummy Variable	0.0716	0.0091	**0.02338*** **
	[0.0459]		[0.00860]
Medical Deduction Exemption Dummy Variable	**0.0804** **	0.0098	0.00481
	[0.0351]		[0.00711]
Total Number of Exemptions	**-0.0480** **	-0.0055	-0.00188
	[0.0210]		[0.00366]
Joint Filer Dummy Variable	**0.0816** *	0.0092	**0.03125** *
	[0.0427]		[0.01704]
Receive Alimony Dummy Variable	0.0383	0.0058	-0.00648
	[0.2319]		[0.05261]
Pay Alimony Dummy Variable	**-0.2207** *	-0.0216	**-0.04274*** **
	[0.1311]		[0.01596]
Age 55 Dummy Variable	0.2781	0.0396	0.01818
	[0.3193]		[0.01369]
Age 56 Dummy Variable	0.1962	0.0262	0.01783
	[0.3156]		[0.01502]
Age 57 Dummy Variable	0.2340	0.0323	0.02083
	[0.3049]		[0.015278]
Age 58 Dummy Variable	0.4854	0.0797	**0.04367*** **
	[0.2981]		[0.01594]
Age 59 Dummy Variable	0.3193	0.0470	**0.03728** **
	[0.3013]		[0.01590]
Age 60 Dummy Variable	**0.5265** *	0.0888	**0.05521*** **
	[0.2952]		[0.01661]
Age 61 Dummy Variable	**0.5110** *	0.0852	**0.05964*** **
	[0.2940]		[0.01669]
Age 62 Dummy Variable	**0.7094** **	0.1323	**0.08048*** **
	[0.2902]		[0.01702]
Age 63 Dummy Variable	**0.7276** **	0.1350	**0.08651*** **
	[0.2884]		[0.01732]
Age 64 Dummy Variable	**0.8270*** **	0.1578	**0.09905*** **
	[0.2866]		[0.01820]
Age 65 Dummy Variable	**0.7985*** **	0.0889	**0.11023*** **
	[0.2842]		[0.01901]
Balance Due Dummy Variable	**0.1146*** **	0.0136	**0.01148** **
	[0.0284]		[0.00514]
PIT Bracket Rate	**-0.0513*** **	-0.0060	**-0.0121*** **
	[0.0061]		[0.00138]
Log of Per Capita State and Local Health/Hospital Expenditures	**-0.1368*** **	-0.0159	**-0.05505*** **
	[0.0371]		[0.0129]
Sales Tax Rate	**-0.0523*** **	-0.0061	-0.00390
	[0.0120]		[0.00452]
CIT Rate	**0.0118*** **	0.0014	0.00402
	[0.0045]		[0.00252]
Constant	**-1.4616*** **		
	[0.3077]		
Number of observations	20858		20858
Number of groups	4386		4386

Entries are estimated coefficients with standard errors in brackets.

*, **, *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

All independent variables are lagged by one year.

Table 4: Dependent Variable: Dummy Variable for Whether Individual Enters into Retirement

	Probit			
	Single Filer	**Marginal Effects**	**Joint Filer**	**Marginal Effects**
Log of Wages	**-0.1009*** **	-0.0125	**-0.1211*** **	-0.0136
	[0.0191]		[0.0117]	
Unemployment Insurance Dummy Variable	0.0946	0.0125	-0.0228	-0.0025
	[0.1344]		[0.0773]	
Interest Income Dummy Variable	**0.2151*** **	0.0238	0.0503	0.0055
	[0.0826]		[0.0563]	
Business Income Dummy Variable	0.0597	0.0077	0.0334	0.0038
	[0.0695]		[0.0403]	
IRA/Keogh Income Dummy Variable	0.1333	0.0180	0.0580	0.0067
	[0.0966]		[0.0523]	
Medical Deduction Exemption Dummy Variable	0.0930	0.0121	**0.0782***	0.0091
	[0.0686]		[0.0410]	
Total Number of Exemptions	0.0501	0.0062	**-0.0641*** **	-0.0072
	[0.0426]		[0.0235]	
Receive Alimony Dummy Variable	0.0695	0.0091	-6.8442	-0.0560
	[0.2370]		[3180495]	
Pay Alimony Dummy Variable	**-0.5751***	-0.0461	-0.0982	-0.0102
	[0.2987]		[0.1483]	
Age 55 Dummy Variable[a]	**0.3420*** **	0.0478	0.0166	0.0019
	[0.1009]		[0.3501]	
Age 56 Dummy Variable[b]	**0.3229*** **	0.0384	0.0392	0.0045
	[0.1011]		[0.3384]	
Age 57 Dummy Variable			0.1064	0.0129
			[0.3233]	
Age 58 Dummy Variable			0.3197	0.0452
			[0.3155]	
Age 59 Dummy Variable			0.0633	0.0074
			[0.3235]	
Age 60 Dummy Variable			0.2910	0.0402
			[0.3131]	
Age 61 Dummy Variable			0.2841	0.0390
			[0.3114]	
Age 62 Dummy Variable			**0.5928***	0.0989
			[0.3039]	
Age 63 Dummy Variable			**0.5933** **	0.0978
			[0.3015]	
Age 64 Dummy Variable			**0.6624** **	0.1115
			[0.2994]	
Age 65 Dummy Variable			**0.6744** **	0.0736
			[0.2958]	
Balance Due Dummy Variable	**0.1442*** **	0.0184	**0.1064*** **	0.0122
	[0.0505]		[0.0345]	
PIT Bracket Rate	**-0.0523*** **	-0.0065	**-0.0507*** **	-0.0057
	[0.0110]		[0.0074]	
Log of Per Capita State and Local Health/Hospital Expenditures	-0.0560	-0.0069	**-0.1676*** **	-0.0188
	[0.0642]		[0.0456]	
Sales Tax Rate	**-0.0536** **	-0.0066	**-0.0492*** **	-0.0055
	[0.0216]		[0.0144]	
CIT Rate	0.0081	0.0010	**0.0133** **	0.0015
	[0.0080]		[0.0054]	
Constant	**-1.5279*** **		**-1.0707*** **	
	[0.2339]		[0.3326]	
Number of observations	6391		14467	
Number of groups	1515		3097	

Superscipts a and b indicate that dummy variables are equal to 1 if individual is between ages 60-65 or age 65 and above, respectively

Entries are estimated coefficients with standard errors in brackets.

*, **, *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

All independent variables are lagged by one year.