Attracting New Maine Residents:

The Effects of Educational Attainment and Age on Interstate Mobility

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APPENDIX

I use a regression model to estimate the economic and statistical significance between educational attainment and interstate mobility. The particular type of regression (probit model) is designed for situations where the outcome variable is binary rather than continuous. In this case, the outcome variable represents whether an individual made an interstate move and the regressions yield the predicted probability of a move. More specifically, the regression model examines the potential relationships between moving and such variables as bachelor's degree holder, age and homeownership. Age and homeownership are included as control variables as they are correlated with both the likelihood of moving and educational attainment. To more accurately model these relationships, I allow for nonlinearities in the relationship between moving and age and include interaction terms.

The regression output of primary importance is the marginal effect of having at least a four-year degree on the propensity to make an interstate move. The marginal effect quantifies the causal relationship between these variables. I focus on the average marginal effect (AME), which is the average of all marginal effects across all observations, (i.e., the average effect of having at least a four-year degree on the probability of an interstate move for all 23- to 55-year-olds in the restricted sample), and the marginal effect for persons of a representative age (e.g., the marginal effect of having at least a four-year degree for the average 25-year-old). From this regression model I am also able to produce the predicted probabilities of an interstate move for an average individual of a representative age.

The Regression Models

$$mover = B_0 + B_1 bachplus + B_2 age + B_3 age * bachplus + B_4 age^2 + B_4 homeowner + B_5 bachplus * homeowner + u$$

$$moverme = B_0 + B_1 bachplus + B_2 age + B_3 age * bachplus + B_4 age^2 + B_4 homeowner + B_5 bachplus * homeowner + u$$

Where,

Mover is a binary variable representing 1 if the individual was an interstate mover and 0 otherwise.

Bachplus is a binary variable representing 1 if the individual had at least a bachelor's degree, and 0 otherwise.

Age represents an individual's age.

Age * bachplus is an interaction term between age and bachplus.

Age^2 represents age squared.

Homeowner is a binary variable representing 1 if the individual owned a home and 0 otherwise.

Bachplus * homeowner is an interaction term between bachplus and homeowner.

Moverme is a binary variable representing 1 if the individual moved to Maine and 0 if the person relocated to a different state.

Appendix Table 1: Regression Results

Variables	(1) mover	(2) moverme
bachplus	0.608*** (0.0391)	0.481* (0.274)
AAP - bachplus = 0	.0253	.0038
p > |z|	0.000	0.000
AAP - bachplus = 1	.0508	.0037
p > |z|	0.000	0.000
AME (bachplus)	.0256	-.0000
p > |z|	0.000	.923
age	-0.0432*** (0.00457)	0.0541 (0.0349)
AME (age)	-.0007	.0000
p > |z|	0.000	.732
bachplus*age	-0.00770*** (0.00107)	-0.0142* (0.00781)
age^2	0.000419*** (5.90e-05)	-0.000663 (0.000454)
homeowner	-0.480*** (0.0127)	0.0393 (0.0948)
AME (homeowner)	-.0253	.0009
p>|z|	0.000	.309
Bachplus*homeowner	-0.171*** (0.0198)	0.0701 (0.139)
Weights	Yes	Yes
Constant	-0.950*** (0.0847)	-3.703*** (0.644)
Observations	728,289	12,623

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

AAP = average adjusted prediction, where the difference between p(bachplus=1) and p(bachplus=0) equals the average marginal effect (AME). The AAP and AME for bachplus is at homeownership = 0. The regressions use probability weights.