



# Estimating the Factors That Explain Economists' Time Preferences

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## I. Abstract

Theory suggests that individuals' characteristics, such as age and gender, may affect their rates of time preference. This paper empirically explores this "characteristic-time preference relationship." Our sample is drawn from survey responses of economists belonging to the Association of Environmental and Resource Economics. We find that ideology, age, field of study, and the size of the institution where economists are employed are significant factors explaining economists' time preferences.

## II. Model

- Statement: "I just don't have the time to worry about how all of my actions affect the environment"
- Level of Agreement with Statement =  $f(\text{Ideology}_i, \text{Age}_i, Z_i)$ 
  - Ideology: The individual's political views ordered from very conservative to very liberal.
  - Age: The age of the individual ordered from younger to older.
  - $Z_i$ : Additional control variables such as the Size of the institution where the person is employed.

\*  $i$  indexes individuals

## III. Hypotheses

- Ideology: We expect that the more liberal is a person, the less likely he or she is to agree with the Statement.
  - This implies that the more liberal is a person, the more future oriented he or she is.
- Age: We hypothesize that the older is an individual, the more likely he or she is to agree with the Statement.
  - This implies that the older is the individual, the more present oriented he or she is.

## IV. Data

- Cross sectional data from the Survey of AERE Economists.
- Data Sample includes 269 economists.

### Data Source:

John Whitehead

Professor of Economics

Appalachian State University

<mailto:whiteheadjc@appstate.edu>

## V. Empirical Results

Dependent Variable: Statement – "I just don't have the time to worry about how all of my actions affect the environment."

Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)  
Date: 04/01/16 Time: 10:15  
Sample: 1 269  
Included observations: 247  
Convergence achieved after 2 iterations  
Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
AGE	-0.162075	0.065719	-2.466187	0.0137
IDEOLOGY	-0.100759	0.050315	-2.002551	0.0452
SIZE	0.247719	0.072213	3.430401	0.0006

Mean dependent var	0.368421	S.D. dependent var	0.483356
S.E. of regression	0.470947	Akaike info criterion	1.282890
Sum squared resid	54.11696	Schwarz criterion	1.325514
Log likelihood	-155.4369	Hannan-Quinn criter.	1.300051
Deviance	310.8739	Restr. deviance	325.1063
Avg. log likelihood	-0.629299		

Obs with Dep=0	156	Total obs	247
Obs with Dep=1	91		

Expectation-Prediction Evaluation for Binary Specification  
Equation: UNTITLED  
Date: 04/01/16 Time: 10:16  
Success cutoff: C = 0.5

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<C	129	66	195	156	91	247
P(Dep=1)>C	27	25	52	0	0	0
Total	156	91	247	156	91	247
Correct	129	25	154	156	0	156
% Correct	82.69	27.47	62.35	100.00	0.00	63.16
% Incorrect	17.31	72.53	37.65	0.00	100.00	36.84
Total Gain*	-17.31	27.47	-0.81			
Percent Gain**	NA	27.47	-2.20			

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
E(# of Dep=0)	101.22	53.68	154.90	98.53	57.47	156.00
E(# of Dep=1)	54.78	37.32	92.10	57.47	33.53	91.00
Total	156.00	91.00	247.00	156.00	91.00	247.00
Correct	101.22	37.32	138.54	98.53	33.53	132.05
% Correct	64.89	41.01	56.09	63.16	36.84	53.46
% Incorrect	35.11	58.99	43.91	36.84	63.16	46.54
Total Gain*	1.73	4.17	2.63			
Percent Gain**	4.69	6.60	5.65			

## VI. Conclusion

- The coefficients of ideology, age, and size of the academic institution by enrollment are significant at a 5% level of confidence.
- The regression predicts 62.35% of responses correctly.
  - For responses of disagreement to the Statement, 82.69% were correctly predicted.
  - For responses of agreement to the Statement, 27.47% were correctly predicted.
- The coefficient of Ideology = -0.100
  - Implies that the more liberal is a person, the less likely he or she is to agree with the Statement. This indicates that, consistent with our hypothesis, more liberal people are more future oriented.
- The coefficient of Age = -0.162
  - Implies that the older is a person, the less likely he or she is to agree with the statement. Counter to our hypothesis, this indicates that as people age they become more future oriented.