Are Labor Supply Decisions Neoclassical or Reference Dependent? Evidence from the Alaskan Halibut Fishery

Somenath Bera†

Abstract: Do people work more hours when paid a higher wage? In a setting in which the wage increase is transitory (implying, income effects are trivial), neoclassical theory suggests the answer is, yes. Yet, most classic studies reveal a statistically-weak (or even negative) relationship between wage and labor supply, suggesting the possibility of “backward bending” labor supply. Settings most appropriate to the testing of the neoclassical predictions are ones where (a) people have autonomy over their labor supply, (b) there is exogenous variation in wages, and (c) measured work hours are correct (and do not include breaks or lulls in work). Even though the modern literature using data from taxicab drivers conforms to (a) and somewhat to (b), it remains critically deficient on (c). A competing reference-dependence model of labor supply has also been proposed and tested. This theory relies on variation in gain or loss of utility based off deviations from a reference point – pre-set income targets – that incentivize shorter work hours when wages are high. Testing the latter theory is not without problems because these targets are seldom observed, and hence have to be approximated using measures of expected income which, in turn, introduce endogeneity concerns. In this paper, I directly test both theories using privately collected data from commercial fishing trips in the Alaskan Halibut fishery. This is a setting where fishermen are able to freely adjust their labor supply in response to exogenous, natural variation in catch productivity, my proxy for the wage rate. Moreover, my data set contains explicit information on fishermen-specific, self-reported income targets, expected wage, catch, and revenue for each trip. My results, from a non-linear Poisson regression framework, reveal that fishermen respond negatively to transitory (anticipated and unanticipated) wage changes, a behavior inconsistent with neoclassical predictions. Additionally, the observed negative relationship between hours and wages under large, unanticipated wage shocks cannot be explained by the linear gain-loss formulation of reference-dependent preferences. I find compelling evidence of non-linear income targeting. My results suggest that traditional welfare analyses of wage-taxation policies which rely heavily on the wage elasticity of labor supply may need to be revised.

Keywords: Labor Supply, Income Targeting, Poisson Regression Model, Fishery

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†PhD candidate, Department of Economics, Iowa State University. Email: bera@iastate.edu