PROPOSAL: ESTIMATING THE RETURNS TO NONCOGNITIVE SKILL INVESTMENTS

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In typical Mincer-type wage regressions, standard controls of individual characteristics such as years of schooling and experience are able to explain about thirty percent of variations in log wages. Recent labor economics research has suggested that unobserved characteristics such as discipline, personality, motivation, social skills and other cognitive and non-cognitive skills may be important to understand the residual wage variations. Given that non-cognitive skills may be important in determining an individual's wages in the labor market, it is surprising that we have almost no estimates about the returns to non-cognitive skill investment. Labor economists have almost exclusively focused on the returns to formal schooling.

This project attempts to fill in the empirical gap to estimate the returns to non-cognitive skill investment. It also attempts to decompose formal schooling into components that improves cognitive skills and components that improves non-cognitive skills. We propose a dynamic model of cognitive and non-cognitive skill investment in each grade level as well as post-schooling occupational choices with forward-looking agents. The nice feature of the model is that it incorporates rich details of cognitive and non-cognitive skill investments, noisy measurements of these skills, flexible production functions of these skills, yet it is rather tractable from an estimation point of view.

The student will help organize the data from National Longitudinal Survey of Youth 1979 (NLSY 1979) or British National Child Development Study (NCDS) for analysis. If time permits, the student may also help in programming in the estimation of the model. It will be essential that the student have working knowledge of Excel and STATA. Knowledge in other programming languages such as Matlab will be desirable, but not required. The primary benefits to the student of this research experience will be to learn how to organize and use large data sets, to learn to work with statistical software packages, and to learn how to apply a wide array of statistical techniques to an important and socially relevant economic problem.

SUMMARY

Stephen Yu, Class of 2007

This project involved using the statistical software STATA to organize datasets containing survey-gathered information (e.g. education, employment, family background) about several cohorts of students as they finished high school and went on to higher education and/or entered the work force. The goal was to verify the findings presented by Jeffrey Grogger using the same cohort data et al. by running regression models with the organized data.