

PAUL BAILEY
327 13th St. SE
Washington, DC 20003
Phone: (202) 425-6612
Email: pdbailey@umd.edu
Website: <http://www.econweb.umd.edu/~bailey>

EDUCATION

Ph.D. Economics, University of Maryland at College Park, expected May 2012
M.S. Statistics, University of Chicago, June 2006
Graduate coursework in Applied Mathematics, New York University, 2001-2002
B.A. Chemistry, Grinnell College, May 2000

DISSERTATION

"Essays on College Student Performance"

Committee: Prof. Judith Hellerstein (Co-Chair), Prof. John Wallis (Co-Chair), Prof. John Haltiwanger

FIELDS OF SPECIALIZATION

Primary: Labor Economics, Applied Microeconomics
Secondary: Public Finance

PAPERS AND PUBLICATIONS

"The Role of Class Difficulty in College Grade Point Averages," *Job market paper*.
"External Dosimetry in the Aftermath of a Radiological Terrorist Event," 2006. *Radiation Protection Dosimetry*, proceedings of the 14th International Conference on Solid State Dosimetry. (with G. Klemic, K. Miller and M. Monetti)
Invited presentation: 14th International Conference on Solid State Dosimetry, Yale University, New Haven, CT, July 1, 2004.
"Measurement of the Flux and Energy Spectrum of Cosmic-Ray Induced Neutrons on the Ground," 2004. *IEEE Transactions on Nuclear Science*. 51 (6): 3427-24. (with M. Gordon, P. Goldhagen, K. Rodbell, T. Zabel, H. Tang, and J. Clem)
"A New Tool for Analysis of Cleanup Criteria Decisions," 2003 *Health Physics*, 85: S25-S30. (with G. Klemic and D. Elcock).
"Stereochemistry of Platinum Complexes of the Neutral Amino Acids Allylglycine, -S-methylcysteine, Methionine, and Corresponding Sulfoxides," 2003. *Inorganica Chimica Acta*, 346:169-180. (with L. Erickson, T. Kimball, and B. Morgan)

TEACHING EXPERIENCE

Instructor, Computer Methods in Economics, University of Maryland, Fall 2009, Fall 2010, Spring 2011, Fall 2011
Teaching Assistant, Intermediate Microeconomic Analysis, University of Maryland, Spring 2010

RESEARCH/WORK EXPERIENCE

Research Assistant for Prof. John Haltiwanger, U.S. Census, September 2007—July 2009
Research Assistant for Prof. James Heckman, National Opinion Research Center, May 2006—July 2006
Radiation Physicist, U.S. Environmental Measurements Laboratory, New York, NY, July 2000—May 2006.
Research Assistant for Professor Luther Erickson, Grinnell College, Grinnell, IA
September 1999—June 2000.

AWARDS

University of Maryland Fellowship, 2006-2007
Patent No. 7,420,187 “Citizen's dosimeter,” 2008
Patent No. 7,781,747 “Very thin dosimeter filters and low profile dosimeter incorporating the same,” 2010
IEEE/ANSI Standards Committee Membership (N42), 2002-2006
American Institute for Chemists Award, Grinnell College, 2000
ACS Undergraduate Analytical Chemistry Award, Grinnell College, 1999
Luther Erickson Summer Research Fellow, Grinnell College, 1999

REFERENCES

Judith Hellerstein	University of Maryland	hellerst@econ.umd.edu	(301) 405-3545
John Wallis	University of Maryland	wallis@econ.umd.edu	(301) 405-3552
John Haltiwanger	University of Maryland	haltiwan@econ.umd.edu	(301) 405-3504

THESIS ABSTRACT

Part I: The Role of Class Difficulty in College Grade Point Averages. Job market paper.

Grade Point Averages (GPAs) are widely used as a measure of college students' ability. Low GPAs can remove a student from eligibility for scholarships, and even continued enrollment at a university. However, GPAs are determined not only by student ability but also by the difficulty of the classes the student takes. When class difficulty is correlated with student ability, GPAs are biased estimates of students' abilities. Using a fixed effects model on eight years of transcript data from one university with one fixed effect for student ability and another for class difficulty, I decompose grades at the individual student-class level to find that GPAs are largely not biased. Eighty percent of the variation in GPAs is explained by student ability, while only three percent of the variation in GPAs is explained by class difficulty. This estimation is carried out using an ordered logit estimator to account for the ordered but non-cardinal nature of grades. Performing a fixed effects decomposition with a non-linear estimator and two sets of fixed effects is a difficult task, so I employ a Quasi-Newton estimator that efficiently uses computer resources to find the maximum likelihood estimator.

Part II: Are Low Income Students Diamonds in the Rough?

Consider two students who earn the same SAT score, one from a lower-income household and the other from a higher-income household. Since educational expense is a normal good, the lower income student will, on average, have had a less well-resourced primary and secondary education. The lower income student may therefore be stronger than their higher income counterpart because they have earned an equally high SAT score despite a lower quality pre-collegiate environment. If this is the case, once the two students start attending the same college—and school spending becomes more similar—the lower income student's in college performance should be relatively higher. I test this theory by using eight years of data from the University of Maryland to compare students' college grade point averages from various family income levels. Results show that lower income students are in fact “diamonds in the rough”: lower income students have surprisingly high outcomes, conditional on their SAT scores. This result also gives insight into the production function of human capital. Specifically, a common assumption made in the economics of education literature is that first differenced human capital accumulation rates are independent of ability because ability is already represented in the test used as a base period. This result contradicts that assumption, and shows that SAT is not a perfect measure of underlying ability.

ADDITIONAL INFORMATION

Gender: Male

Citizenship: USA