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Ignacio Martinez

Department of Economics
University of Virginia
PO Box 400182
Charlottesville, VA 22904-4182

Mobile: 434.260.1819
ignacio@virginia.edu
http://people.virginia.edu/~im5j

EDUCATION

Ph.D. Economics, University of Virginia — Aug. 2014
M.A. Economics, University of Virginia — 2010
Lic. Economics, Universidad Nacional de Tucumán — 2008

FIELDS OF INTEREST

Economics of Education, Labor Economics, Applied Microeconomics, Big Data Analytics.

WORKING PAPERS

"Never put off till tomorrow?" (job market paper)

This paper identifies the causal effect of procrastination on achievement in a MOOC. I use two approaches: instrumental variables (IV) and a randomized control trial. I show that rain and snow affect when a student takes a quiz, and therefore can be use as an IV for procrastination. I find that taking the course first quiz on the day it is published, rather than procrastinating, increases the probability of course completion by 15.4 percentage points. With the randomized control trial, I show that very low-cost intervention can increase student achievement. I send an email (directive nudge) encouraging a randomly selected group of students to procrastinate less. Students assigned to the treatment group were 16.85% more likely to complete the course. I also find that the effects are heterogeneous across countries, suggesting that it may be advisable to customize nudges to country characteristics. This online experiment may also provide valuable lessons for traditional classrooms.

"The effects of informational nudges on students' effort and performance: Lessons from a MOOC" (submitted)

I evaluate the impact of providing students with information about their performance relative to their classmates. I run a randomized experiment in the context of a Coursera Massive Open Online Course (MOOC), assigning students to either one of two potential treatments. The first, framed positively, describes what fraction of his classmates a student outperformed. The second, framed negatively, describes what fraction of his classmates a student underperformed. I find evidence that students respond to this informational nudge and that framing matters. For a student who were doing relatively poorly, the negatively-framed nudge was more effective (increasing effort, which translates on average into higher achievement). In the third quiz, those who did not have a perfect score on the first quiz before the intervention, ranked on average in the 31.6 percentile if they were in the control group, and in the 40.5 percentile if they were in the treatment group. In contrast, for students who were doing relatively poorly, the positively-framed nudge was more effective.

"MOOCs as a massive research laboratory: Opportunities and Challenges," with P. Diver (submitted)

This paper explores the opportunities and challenges that Massive Open Online Course (MOOCs) are generating for research. A wide variety of topics related to pedagogical methods and student incentives lend themselves to research using MOOCs, and throughout we discuss lessons that can be gained both from observational comparisons and especially from the opportunity to run experiments on randomly chosen groups of students. We start by discussing dropout rates and study how students who decide to drop out are different from those who continue in the course. We then discuss class forums and video lectures and how interacting with this material is correlated with achievement. After that, we explore the strong correlation between procrastination and achievement and the implications for course design. We also examine the role of certification offered by MOOCs and how certification options can affect choices and outcomes. Finally, we examine the potential of linking data across courses and the opportunities and challenges of working with data that originates in surveys of MOOC participants. All of these research opportunities offer Big Data challenges as well which have to be addressed with parallel computing.

"The Productivity of Pell Grant Spending: Missing the Link between Representation and Attainment,"with S. Turner

In this analysis, we use available data to estimate the productivity of the Pell grant program at each four-year degree granting institution. Our measures capture the expected Pell grant expenditures over the course of enrollment relative to the number of BA degree recipients for each entering cohort of Pell grant recipients. In effect, if a college has many Pell grant students enroll as first-time students, but few complete costs per degree will be relatively high. These measures present a useful contrast to representation of Pell grant recipients among initial enrollees because they capture "outcomes" not just inputs of collegiate experiences which are likely to differ across institutions.

Recognizing fully the limitations of available data, this analysis shows that much of the rhetoric that gives meaning to "Pell shares" as an indication of a college's or university's success with low-income students is misguided. Indeed, the link between "Pell shares" and the expected cost per BA for Pell students is positive and, as a result, many of the institutions that enroll the greatest shares of Pell grant recipients have the weakest outcomes.

Given the limitations of the data available, we do not recommend that the measures presented in this report should be used for policy making. However, the results are so striking that there is a strong and immediate case to recognize that continued presentations of metrics based on Pell shares will lead to distortions in public policy making and potential harm to the intended beneficiaries of the Pell grant program.

RESEARCH IN PROGRESS

"Massive Open Online Courses (MOOCs) as a Brick-and-Mortar Complement," with L. Bloomfield & S. Turner
"The Hawthorne Effect in MOOCs"
"A principal agent model of parental transfers and human capital accumulation"

PRESENTATIONS

Bankard Applied Microeconomics workshop	UVa, Sep. 2014
Partners' Conference, organized by Coursera for all university partners, Recent Research Panel	London, Mar. 2014
Huskey Research Exhibition: Reasoning, Logic, and Decision Making	UVa, Mar. 2014
Policy Lab Curry: Lessons from a MOOC	UVa, Dec. 2013
GABFest MOOCs: Opportunities and Challenges	UVa, Nov. 2013

HONORS

Member, University Search Committee for VP of Information Technology	2014
1st place PRO.DI.BUR (stock market simulation)	2004

GRANTS and FELLOWSHIPS

Robert J. Huskey Travel Fellowship, University of Virginia	2014
UVa. Parents Committee Grant	2013
Big Data Initiative Award sponsored by the Jefferson Trust and the VP for Research	2013
Snavely Prize for Outstanding Dissertation Proposal	2012
Bankard Pre-doctoral Fellowship	2012-2013
Department of Economics Graduate Fellowship, University of Virginia	2008-2012

EXPERIENCE

Post-doctoral appointment, University of Virginia Curry School of Education,	2014-Present
Instructor, Principles of Microeconomics,	2012-Present
Teaching Assistant, Introduction to Regression Analysis	2011
Teaching Assistant, Economics of Education	2010
Teaching Assistant, Intermediate Macroeconomics & Microeconomics	2009-2010
Teaching Assistant, Principles of Macroeconomics & Microeconomics	2008-2009

PROGRAMMING

FORTRAN, R, Stata, BASH, MPI, MySQL

LANGUAGES

English (fluent), Spanish (native), French (basic)

References

Prof. Sarah Turner	sturner@virginia.edu	434.982.2383
Prof. Leora Friedberg	lfriedberg@virginia.edu	434.924.3225
Prof. Denis Nekipelov	denis@virginia.edu	434.924.7581