

Michael Irwin

Office Address

Department of Economics
The Ohio State University
1945 N High St., 410 Arps Hall
Columbus, OH 43210

<https://sites.google.com/view/michael-irwin/home>
irwin.313@osu.edu
1-(513)-300-1399

Citizenship and Visa Status

U.S. Citizen

Education

Ph.D. Economics, The Ohio State University, 2021 (expected)
Dissertation: "The Macroeconomic Implications of Unsecured Consumer Credit and Default"
Committee: Kyle Dempsey (co-chair), Aubhik Khan (co-chair), Julia Thomas
M.A. Economics, The Ohio State University, 2016
B.A. Economics, The University of Cincinnati, Summa Cum Laude, 2015

Teaching and Research Fields

Primary fields: Macroeconomics
Secondary fields: International Economics

Research Papers

"The Interaction of Unemployment Insurance with Credit and Bankruptcy Over the Business Cycle" (Job Market Paper)

How does the interaction between unemployment insurance (UI) policies and unsecured consumer credit impact consumption and welfare over the business cycle? Improvement in the terms of credit can significantly amplify the gains in consumption coming from increases in UI benefits. However, the relationship is theoretically ambiguous because UI can also substitute for credit use if households use the improved benefits to delever. I measure the effects of this relationship using a quantitative equilibrium model of labor markets and credit markets calibrated to reflect the employment risk, credit use and bankruptcy behavior of US households. I first show that the majority of the volatility in credit and bankruptcy over the business cycle can be explained by aggregate fluctuations in extensive margin employment risk. I then find that the extension in the duration of UI benefits during the Great Recession prevented over a 29 percentage point further drop in consumer credit use and a 2.0 percentage point further drop in aggregate consumption. I show that the complementary relationship between UI and consumer credit accounted for over 10% of the gains in welfare for new working-age households and over 60% of the gains in aggregate consumption from extensions in the duration of benefits.

"Competitive Financial Intermediaries in the Market for Student Loans"

What are the implications of replacing the federal student loan program with competitive intermediaries that price loans based on the probability of default? I study this question using a quantitative, overlapping generations equilibrium model wherein households make a costly education decision with access to student loans. To measure the effectiveness of federal student loans, I remove the federal program and allow a competitive intermediary to replace it. The intermediary offers long-term loans where the price depends on the probability of default throughout the entire duration of the loan. I show there are significant losses to welfare and over a 24% decrease in the college educated population with competitive intermediaries. However, the intermediaries facilitate an increase in aggregate production. This increase is largely driven by a more efficient sorting of highly productive individuals to college education.

“A Method of Overlapping Endogenous Grids to Solve Problems with Non-Concavities”

I develop a new method of solving problems where discrete choices create non-concavities in a continuous decision. The first-order condition does not guarantee a unique solution when there are non-concavities in the expected future value function. To alleviate this problem, I break the first-order condition into numerous concave regions. Each concave region will have a unique proxy solution. The algorithm yields a global solution by choosing the proxy solution with the highest utility. This method improves upon a previous modification of the endogenous grid method developed in Fella (2014). I generate significant gains in speed by avoiding a discrete grid-search method to check each point within the non-concave region. The method generates gains in accuracy by avoiding interpolation across a discrete jump in the decision rules. Finally, I apply the method of overlapping endogenous grids to a model with consumer default in equilibrium. I show that methods with a higher degree of accuracy will yield less default in equilibrium. As a solution method becomes more accurate it generates more utility from the savings decision associated with repaying debts, but it does not have a significant effect on the value of default where no continuous decision is made.

Research in Progress

“The Implications of Secular Trends in Student Loans and Credit Card Debt” with Heejeong Kim

We study the implications of the secular growth in student loan debt and credit card debt for consumption smoothing and default behavior. An essential preliminary step is to better understand the relationship between student loan debt and credit card borrowing. Using the Survey of Consumer Finances (SCF), we show that among similar college graduates those with student loans are more likely to have positive credit card balances. Households with student loans also carry on average over \$2,000 higher balances on their credit cards. We then build a quantitative model that can replicate the levels of education, student borrowing, credit card debt and bankruptcy in the data. Future work will focus on matching the positive relationship between student loans and credit card debt, and we will use the model to measure the implications of the secular trends in unsecured consumer debt seen in the data.

Conference and Seminar Presentations

Winter 2020	Concordia University
Winter 2020	Focusing on the first-year teaching conference

Professional Activities

2018-2020	Graduate Studies Committee, Student Representative
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Honors, Scholarships, and Fellowships

2019, 2020	Graduate Associate Teaching Award
2018	Departmental Citation in Teaching Excellence
2015-2016	University Fellowship, Graduate School, Ohio State University
2015	Outstanding Undergraduate in Economics, The University of Cincinnati

Teaching Experience

Autumn 2017	Econ 2001, Ohio State, Independent Instructor
Spring 2019, 2020	Econ 8723, teaching assistant for Professor Kyle Dempsey
Autumn 2018, 2020	Econ 2002, teaching assistant
Autumn 2016, 2019	Econ 2001, teaching assistant

Programming Languages

Fortran, Matlab, STATA, R, LaTeX

References

Professor Aubhik Khan
Economics Department
The Ohio State University
khan.247@osu.edu

Professor Kyle Dempsey
Economics Department
The Ohio State University
dempsey.164@osu.edu

Professor Julia Thomas
Economics Department
The Ohio State University
thomas.2108@osu.edu