Chandler Lester

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Education

University of Oregon, Eugene OR
Ph.D., Economics — Sept. 2016-June 2021 *(expected)*
M.S., Economics — Sept. 2016-Dec. 2017

Florida State University, Tallahassee FL
B.S., Economics & Statistics — Aug. 2012-Apr. 2016
B.S., Applied & Computational Mathematics — Aug. 2012-Apr. 2016

Fields of Expertise

Macroeconomics, Adaptive Learning, Bounded Rationality, Continuous-Time Modeling

Working Papers (Abstracts Below)

"Bounded Rationality in Macroeconomic Models: A Continuous-Time Approach"

"Boundedly Rational Decision Making in Continuous-Time"

"Adaptive Learning in a Continuous-Time Setting: Representative Agent Exercises"

Professional Experience

Summer Associate
Congressional Budget Office—*Financial Analysis Division* — Summer 2020

- Banking failures project: used FDIC call-sheet data and machine learning techniques
- Winner of the July Non-Farm Payroll employment forecast competition

Departmental Service
Webmaster, University of Oregon Macro Group — 2017-2019
Economics Ph.D. Program Representative — 2017-2018

University Service
Panelist, First-Generation Student Panel — Spring 2020
Volunteer, Undergraduate Research Symposium — Spring 2019
Mentor, Promising Scholars Mentorship Program — Spring 2019

Grants, Honors & Awards

University of Oregon Dissertation Research Fellowship — Fall 2020-Spring 2021
Kleinsorge Summer Research Award — Summer 2019
Graduate Teaching Fellowship — Fall 2016-Spring 2020
Promising Scholar (Diversity & Recruitment) Award — Fall 2016-Spring 2018

Teaching Experience

Independent Instructor

EC 313: Intermediate Macroeconomics — Summer 2018, Fall 2018, Spring 2020
EC 202: Principles of Macroeconomics — Fall 2019

Teaching Assistant

EC 201: Principles of Microeconomics — Spring 2018, Fall 2016
EC 202: Principles of Macroeconomics — Winter 2017
EC 423/523: Econometrics (First Year Ph.D. course) — Fall 2017

Presentations

University of Oregon Macro Group — Fall 2020, Fall 2019, Winter 2019 (x2)
Congressional Budget Office—*Financial Analysis Division* — Summer 2020
Congressional Budget Office—*Data Science Workshop* — Summer 2020

Software

Expert: Julia, R, MATLAB, Stata, Git(hub), LaTeX
Proficient: Fortran, C++, Bash, SAS (certified)

References

Dissertation Committee (Letter Writers)

Bruce McGough (Chair)
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John B. Hamacher Professor of Economics
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Additional References

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Placement

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Graduate Placement Coordinator
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Abstracts

Bounded Rationality in Macroeconomic Models: A Continuous-Time Approach (Job Market Paper)
We reconsider optimal decision making in a continuous-time framework using adaptive learning, specifically shadow-price learning. These dynamics are explored in a real business cycle framework. The agent in our shadow-price learning model takes in information and updates their forecasts of future states and their decisions regarding choice variables. In our setting, the agent makes decisions at high frequencies, which alters the volatility of the agent's parameter estimates and leads to smoother real-time convergence to the rational expectations equilibrium. The less volatile convergence is attributed to the agent's ability to alter their forecasts more often as new information becomes available. Alternative sampling methods where the data generating process is a higher frequency than the agent's observations and other extensions are also explored in this paper. We show that these sampling methods yield similar results to the case where the agent takes in all data points and are less computationally burdensome.

Boundedly Rational Decision Making in Continuous-Time
Continuous-time macroeconomic literature has grown remarkably in recent years. As work on continuous-time models becomes, more prevalent macroeconomists need to adapt essential discrete-time methods to continuous-time. This paper modifies adaptive learning techniques to continuous-time. One approach to accomplish this task is shadow-price learning (SP-learning), a framework in which agents forecast their expected shadow prices. To use this framework efficiently, we first need a tractable continuous-time linear-quadratic (LQ) environment. While discrete-time LQ problems are common in the literature, there is very little work on continuous-time LQ problems. Thus, our contributions are two-fold. We build a continuous-time LQ framework for solving Hamilton-Jacobi-Bellman (HJB) equations using iterative methods and implement adaptive learning techniques in this new setting.

Adaptive Learning in a Continuous-Time Setting: Representative Agent Exercises
We accomplish two distinct, but closely connected, tasks in this paper. First, We look to create a connection between discrete and continuous-time models. This is done by recasting traditional discrete Ramsey models so they are dependent on the increment of time, Δt, and then taking the limit of these models as the size of this increment goes to zero. The resulting models are equivalent to continuous-time Ramsey models. Second, We examine these models in a basic adaptive learning framework. We accomplish this by applying exogenous updating rules to models with a specified stochastic process. After seeing that the misspecified models converge, We then implement a real-time updating rule where agents update their parameter estimates—for a stochastic process—after observing output of the process.