ERIC DONALD

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EDUCATION

Ph.D. in Economics, Boston University, May 2024 (expected)
Dissertation Title: *Essays on the Guidance of the Direction of Innovation*
Dissertation Committee: Pascual Restrepo, David Lagakos, and Yuhei Miyauchi

M.A. in Economics, Boston University, 2018

B.S. in Economics *(Summa Cum Laude)*, Texas Christian University, 2017

FIELDS OF INTEREST

Macroeconomics, Public Economics, Energy & Environmental Economics

WORKING PAPERS

"Spillovers and the Direction of Innovation: An Application to the Clean Energy Transition," September 2023. Job Market Paper.

"Optimal Dynamic Spatial Policy," (with Masao Fukui and Yuhei Miyauchi), June 2023.

"Efficiency and Welfare in a Spatial Economy," (with Masao Fukui and Yuhei Miyauchi), September 2023.

"Optimal Taxation with Automation: Navigating Capital and Labor's Complicated Relationship," April 2021.

WORK IN PROGRESS

"The Social Cost of Carbon with Extinction Risk Discounting"

PRESENTATIONS

2023: Bank of Canada GSPA Workshop (Scheduled), Oxford Global Priorities Fellowship Programme, BC/BU Green Line Macro Meeting

2022: NBER Innovation Research Boot Camp

2021: BC/BU Green Line Macro Meeting

FELLOWSHIPS & AWARDS

Graduate Student Paper Award (Finalist), Bank of Canada, 2023
Oxford Global Priorities Fellowship, Global Priorities Institute, University of Oxford, 2023
Global Priorities Fellowship, Forethought Foundation, 2022
Best Second Year Paper Prize, Boston University, 2020/2021
Special Summer Stipend for MA Graduates in the PhD Program, Boston University, 2018 (Top of Class)
Alumni Excellence in Economics Scholarship, Texas Christian University, 2017 (Top of Class)

WORK EXPERIENCE

Research Assistant for Masao Fukui, Boston University, Fall 2022 - Spring 2023; Fall 2023
Research Assistant for Pascual Restrepo, Boston University, Summer 2020 - Spring 2021; Spring 2022; Summer 2023
Research Assistant for Yuhei Miyauchi, Boston University, Summer 2022
Risk Management Intern, Massachusetts Office of the Comptroller, Summer 2018
Research Assistant for W. Charles Sawyer, Texas Christian University, Spring 2016 - Summer 2016

REFEREE EXPERIENCE

Review of Economic Dynamics

TEACHING EXPERIENCE

Teaching Fellow, MA Development Policy, Boston University, Fall 2023
Lumiere Mentor, Fall 2021 - Summer 2022
Teaching Fellow, Introductory Macroeconomics, Boston University, Spring 2020
Teaching Fellow, MA Topics in Economic History, Boston University, Fall 2019
Teaching Fellow, Topics in Economic History, Boston University, Fall 2019

COMPUTER SKILLS: Python, Stata, LaTeX

CITIZENSHIP STATUS: USA, Canada

REFERENCES

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Spillovers and the Direction of Innovation: An Application to the Clean Energy Transition
(Job Market Paper)

This paper argues that cross-technology knowledge spillovers are critical for understanding policy's role in the transition to clean technology. I develop an endogenous growth model with clean and dirty technologies and a network of cross-technology spillovers. I show that greater spillovers across clean and dirty technologies induce a faster transition but at the expense of a smaller long-run impact of policy on emissions. Such spillovers also prevent the economy from becoming locked in an inefficient dirty equilibrium. The economy's spillover structure can be summarized by a sufficient statistic matrix, which I estimate using patent citation data. Applying my model to US transportation and electricity generation, I find that cross-technology spillovers are mid-sized: they prevent lock-in but imply a slow transition with a high long-run impact of policy. I conclude by examining how cross-technology spillovers affect optimal clean innovation subsidies. Contrary to conventional wisdom, I find that optimal clean innovation subsidies are small, and this holds quantitatively even in the absence of optimal prices on carbon. This is because innovation policy should reflect technologies' centrality in the spillover network: i.e. the extent to which they enable future innovation. In my calibration, clean technologies have low centrality, resulting in small innovation subsidies.

Optimal Dynamic Spatial Policy
(with Masao Fukui and Yuhei Miyauchi)

We study optimal transfer policy in dynamic spatial equilibrium models with frictional migration and incomplete financial markets. A key policy trade-off is to provide consumption insurance while minimizing the distortion of migration flows. We derive a recursive formula for optimal spatial transfers that strikes this balance. We calibrate our model to U.S. states and find that the U.S. economy would benefit from increased transfers to low-income-growth states. Welfare gains from optimal transfers are substantial but smaller than in a framework abstracting from slow migration adjustment.

Optimal Taxation with Automation: Navigating Capital and Labor's Complicated Relationship

Automation is viewed as a prime suspect for the decades of stagnation felt by American workers. The reaction to this problem, by both lay people and the economics literature, follows a Pigouvian intuition: robots harm workers, so they should be taxed. This paper argues that this Pigouvian intuition is misguided, or at least oversimplified. As shown by the recent literature modeling automation within the task framework, capital only exerts a negative pecuniary externality on labor at the extensive margin of automation. At the intensive margin, more capital producing a task that has already been automated raises wages for everyone via capital deepening. To formalize this point, I present a model with heterogeneous agents where the Planner can tax income from capital and labor as well as target the extensive margin of automation by stipulating how much more expensive labor must be than capital before automation can occur. I show, via an envelope argument, that capital taxation should ignore automation when the extensive margin tool is set optimally. In a quantitative application to the US economy, I find that labor should be 3.4% more expensive than capital before automation can occur.