

University of Minnesota - Twin Cities

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Curriculum Vitae
Fall 2019

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Citizenship: India (F-1 Visa)

Major Fields of Concentration

Macroeconomics, Environmental Economics, Public Economics

Education

<i>Degree</i>	<i>Field</i>	<i>Institution</i>	<i>Year</i>
PhD	Economics	University of Minnesota (expected)	2020
MA	Economics	University of Minnesota	2017
MA	Economics	Delhi School of Economics, University of Delhi	2013
Bsc (Honors)	Economics	Presidency College, University of Calcutta	2011

Dissertation

Title: "Essays on Nonlinear Environmental Dynamics and the Social Cost of Carbon"

Dissertation Advisor: Professor V. V. Chari

Expected Completion: Summer 2020

References

Professor V. V. Chari	(612) 626-7151 chari002@umn.edu	Department of Economics University of Minnesota 4-101 Hanson Hall
Professor Larry Jones	(612) 624-4533 lej@umn.edu	1925 Fourth Street South Minneapolis, MN 55455
Professor Christopher Phelan	(612) 626-2533 cphelan@umn.edu	
Dr. Simran Sahi	(612) 625-6353 ssahi@umn.edu	

Honors and Awards

- 2019 - 2020 *Sandor Fellowship*, Department of Economics, University of Minnesota, Minneapolis, Minnesota.
- 2016 - 2019 *Distinguished Instructor Award*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Received the award nine times.
- Summer 2019 *GRPP Fellowship*, University of Minnesota, Minneapolis, Minnesota
- Summer 2018 *Departmental Research Fellowship*, Department of Economics, University of Minnesota, Minneapolis, Minnesota
- 2018 *Campus Energy 2018 Student Video Contest Winner*, International District Energy Association, Westborough, Massachusetts. Collaborated with members of the University of Minnesota Energy Club to produce the first place video. Link to video: <https://www.youtube.com/watch?v=nHuESvskZIk>.
- Summer 2015 *Distinguished Teaching Assistant*, Department of Economics, University of Minnesota, Minneapolis, Minnesota
- 2014 *Mythili V. and Varadarajan V. Chari Fellowship*, Department of Economics, University of Minnesota, Minneapolis, Minnesota
- 2012 *Krishna Raj Fellowship*, Department of Economics, University of Delhi
- 2011, 2012 *Professor K. A. Naqvi Memorial Scholarship*, Department of Economics, University of Delhi

Teaching Experience

- May 23, 2018 “The Benefits of Innovative Teaching,” Heller Hurwicz Economics Institute article written about my teaching. Link to article: <https://cla.umn.edu/heller-hurwicz/news-events/story/benefits-innovative-teaching>.
- 2015 - present *Instructor*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Taught *Principles of Microeconomics*, *Intermediate Macroeconomics*, and *Cost Benefit Analysis*.
- 2014 - 2015 *Teaching Assistant*, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Led recitation sections for *Principles of Microeconomics*.

Research Experience

- 2018 - 2019 *Research Assistant*, Department of Economics, Stanford University, California. Research assistant for Professor Elena Pastorino
- Fall 2018 *Research Assistant*, Department of Economics, University of Minnesota, Minneapolis. Research assistant for Professor V. V. Chari
- 2013 - 2014 *Research Assistant*, Department of Economics, Indian Statistical Institute, New Delhi, India. Research assistant for Professor Tridip Ray
- 2012 - 2013 *Research Assistant*, Department of Economics, Delhi School of Economics, University of Delhi, India. Research assistant for Professor Rohini Somanathan and Professor Parikshit Ghosh.

Working Papers

- “Carbon Taxes to Achieve Paris Agreement Targets,” 2019, job market paper
- “Production Inefficiency and Hidden Trading: A Mechanism Design Approach,” with Brian Albrecht, V. V. Chari, and Keyvan Eslami, 2018
- “Public versus Private Provisioning: Role of Education and Political Participation,” with Mausumi Das, Skand Goel, and Tridip Ray, 2014

Presentations

- “Production Inefficiency and Hidden Trading: A Mechanism Design Approach,” presented at the Midwest Economic Theory and International Trade Meetings, University of Washington at St. Louis, October 2019.
- Carbon Taxes for Paris Agreement Targets,” presented in Economics 3970, Fall 2018 and Fall 2019: Environmental Economics, University of Minnesota. Presented paper as a guest lecturer and led student discussion.
- “Estimating the Social Cost of Carbon,” presented at the Environmental and Resource Economics Seminar, Department of Applied Economics, University of Minnesota, St. Paul, Minnesota, November 2018.
- “Public versus Private Provisioning: Role of Education and Political Participation,” present at the Conference on Growth and Development, Indian Statistical Institute, New Delhi, India, December 2013

Service

- 2015 - present *President*, Bengali Student Society of Minnesota, University of Minnesota, Minneapolis, Minnesota. The Bengali Student Society of Minnesota is a cultural group dedicated to educating about Bengali culture through various events with the University.
- 2018 *Co-Organizer*, Sustainability and Energy Expo, University of Minnesota, Minneapolis, Minnesota. Conference website: <https://umnsee.wixsite.com/landing>.

- 2017 - 2018 *Co-President*, University of Minnesota Energy Club, University of Minnesota, Minneapolis, Minnesota. The UMN Energy club is a student group promoting interdisciplinary approaches to developing to build a cleaner and safer energy system.
- 2007 - 2011 *Class Representative*, Presidency College, University of Calcutta, Kolkata, West Bengal, India.
Organized, with others, academic and non-academic activities including seminars and conferences.

Computer Skills

Basic: Python, C++, Visual Basic
Proficient: Matlab, Stata, R Studio

Languages

English (fluent), Bengali (native), Hindi (Fluent)

Abstracts

“Carbon Taxes to Achieve Paris Agreement Targets,” job market paper

After signing the Paris climate agreement, which seeks to limit the rise in global temperature within 2 degree Celsius of their preindustrial levels, countries are coming up with fiscal policies to limit their carbon emissions. Nordhaus 2016 claims that with the inertia of the carbon cycle and feedback effects, it would not be possible to achieve the Paris agreement target. This paper addresses the question by incorporating a state of the art climate model into a neoclassical growth model, and shows that it is possible to achieve the Paris target if we significantly reduce emissions over the next few decades. Standard models do not capture the full benefits of rapid mitigation policies. Instead of calibrating parameters of the carbon cycle on the basis of historical data, I calculate the non linear dynamics using equations derived from physical laws and show the effect of misspecification in standard linear models. I solve the model’s nonlinear feedback effects by employing a new numerical solution technique which optimizes over a finite horizon. I estimate that the carbon tax should be \$298 in 2020 and should grow at 2.04% per year till 2042, after which it declines at an average annual rate of 0.5% per year. I also show that we would need capital taxes along with carbon taxes to implement the optimal allocation. Given the state of policies around the world, most countries have much lower carbon taxes and there is a need to drastically increase the level and base of taxes to achieve these targets.

“Production Inefficiency and Hidden Trading: A Mechanism Design Approach”

We revisit the optimality of production efficiency and uniform commodity taxation within a full Mirrleesian framework with multiple goods. Instead of restricting the planner to particular taxes—linear or non-linear—as has been the focus of the multi-sector optimal taxation literature, we derive the optimal structure of tax instruments directly from primitive, informational constraints on a planner. If workers can execute hidden trades with firms but trades between workers are publicly observable, production efficiency is generically sub-optimal and implementation requires non-uniform commodity taxation. If there is also hidden trading between workers or if production of both goods can occur within a single firm, production efficiency is always optimal. However, even if utility functions are weakly-separable, the marginal rate of transformation does not equal the marginal rate of substitution. Contrary to Atkinson and Stiglitz (1976), implementation is not possible with a non-linear income tax but requires two instruments.

“Public versus Private Provisioning: Role of Education and Political Participation”

This paper studies the role played by education in the public provision of private ‘merit goods’, such as healthcare, schooling, security and so on. Corruption is endemic in public provision. Better educated individuals are more effective at exerting political pressure, which reduces corruption and improves quality of the merit goods delivered. At the same time, educated elite have higher income which allow them to opt out of public provisioning and form a private club that delivers the merit good/service to its members. This may lead to deterioration of public provisioning. Depending on parametric conditions, several equilibrium configurations exist, some exhibiting multiple equilibria – with different degrees of corruption and concomitant variation in the quality of public provision and welfare of people. Under a stochastic adaptive dynamic process, almost surely a unique equilibrium will be selected, which need not be the one which is least corrupt or most efficient. This brings in the scope for effective policy intervention. We also analyze the long run wealth dynamics and its implication for the public vis-a-vis private provisioning.