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Academic Placement

Assistant Professor, Ashoka University, Sonipat 2019-Present

Education

PhD. In Economics, New York University 2013-2019
Thesis Title: *Essays on Imperfect Learning*
M.S. in Quantitative Economics, Indian Statistical Institute, New Delhi (India) 2011-2013
B.Sc. in Economics, Presidency College, Kolkata (India) 2008-2011

Research Interest

Primary fields: Microeconomics, Behavioral Economics, Experimental Economics
Secondary field: Information Economics, Development Economics

Research Papers

Communication Policy in Presence of Negative Externality

We study the optimal disclosure policy of a planner under negative externality. We model the strategic communication between the planner and the agent following the information design a la Kamenica and Gentzkow (2011). Additionally, we assume that relevant information is scientific, thus both the planner and the agent have access to the information subject to a cost function following Rational Inattention, a la Caplin, Dean, and Leahy (2018). We show the planner cannot truthfully recommend in the worst state where the cost of making mistakes are the highest. The strategic learning problem can lead to lower welfare generation compared to a non-strategic environment.

Multidimensional and Selective Learning: a case study of Bt cotton farmers in India (Job Market Paper)

Most production technologies require using an optimal combination of multiple inputs. Farmers need to choose the best combination of seeds, fertilizers, pesticides etc. to maximize yield. They can learn about the production function by observing the conditional productivity of combinations of inputs *cell* or by the marginal productivity of each input across cells *average*, where both types of learning are costly. I characterize the optimal learning strategy: observing an average is optimal for higher uncertainty and observing a cell is optimal for lower uncertainty. In a *sequential* learning problem with an optimal stopping time, the optimal learning strategy is to start with observing averages and then switch permanently to observing cells. Depending on the uncertainty of averages, learning about averages only can be optimal, at the cost of a higher probability of error ("*selective learning*"). Selective learning describes the behavior of Indian cotton farmers when they switched to pest-resistant Bt seeds, as they did

not reduce their pesticide use sufficiently. This informs about optimal extension policies (what *type* of information) for various types of production function. I also show that the learning mechanism in a laboratory setting predicts the behavior of subjects in the lab.

Costly Social Learning and Rational Inattention

This paper analyzes the impact of the interaction between social and private learning on the precision of learning and welfare. I consider an infinite horizon economy with N agents, where in each period the agents make a one-time binary choice, the payoff of which depends on an unknown type of the agent. Each agent wants to learn about his private type by either observing the action of other agents from the previous generation and/or by learning privately, where both types of learning are costly. The cost of private learning is a linear function of the Shannon entropy a la *rational inattention* literature. The cost of social learning is a non-concave function increasing in the number of observations. In contrast to herding literature, I find that social and private learning are substitutes for a sufficiently low cost of private learning. For an intermediate range of cost of private learning, the two types of learning become compliments. For very high costs of private learning, both types of learning are uninformative. In the extreme case, this result implies if observing up to c agents from the earlier period is free the agent can optimally choose strictly less than c observations. As an implication, only the reduction of the cost of private learning unambiguously increases welfare and learning.

Scope insensitivity - behavioral elucidation or mental accounting? (joint work with Kavita Sardana)

The scope sensitivity test is used to validate value estimates of non-market environmental goods and services derived from the contingent valuation method. The absence of economic scope points to the invalid value estimates. Recent studies have attributed scope insensitivity to affective, cognitive, and behavioral factors. In this study, we extend the behavioral insights in explaining scope insensitivity by incorporating insights from the theory of mental accounting. Our empirical results indicate that if subjects consider the environmental good as part of their recreational budget within a mental accounting framework, we can explain the scope insensitivity with otherwise standard preference.

Culture and Female Labor Force Participation in India

The female labor force participation (FLFP) rate in India has been declining steadily since 1987 despite an average growth rate of 7% for the economy. The lack of *feminization* of labor force is puzzling given the increase in female education and drop in fertility over the same period. In this paper I focus on culture as a supply side factor affecting the labor market decision of women. Culture is narrowly defined as stigma against women working outside home. I consider an infinite horizon economy where the stigma affects the payoff from joining the labor force. If learning is costly and women learn about the payoff from joining labor force by observing labor market decision of women from previous generation, a higher level of stigma can lead to both lower LFP and lower learning, i.e., more reliance on prior belief. A small negative shock of stigma can generate steady decline in FLFP through decreased learning. Finally, I consider two proxies for stigma, namely actual practices and attitudes towards women and show that higher level of stigma lead to lower FLFP and a larger decline in FLFP.

Research In Progress

Communicating Bias (joint work with Suraj Shekhar and Swagata Bhattacharya)

We study a static cheap talk model with uncertain expert bias. Before the expert learns the state, the expert sends a cheap talk message about her bias. We ask two questions - One, is there an equilibrium where the expert's bias is fully revealed? Two, is the bias revealing equilibrium welfare improving for the decision

maker? We find that when there is only one expert, there is no bias revealing equilibrium. However, if there are two experts and the decision maker can consult only one, there is a bias-revealing equilibrium, and this equilibrium gives the decision maker more utility than any equilibrium which is possible under no bias revelation.

Optimal Obfuscation (joint work with Eric Spurlino)

In many strategic communication problem, the sender (or seller) can choose to obfuscate, i.e., make it harder to learn for the receiver (or buyer). However, if the buyer is fully rational and faces no cognitive cost then unravelling of truth will happen in equilibrium. However, recent literature (Jin et al, 2021, de Clippel, 2021) have found evidence of persistence of obfuscation strategy even after repeated interaction. In this paper, we assume the buyer faces a cognitive cost of processing information and show that an intermediate level of obfuscation would be chosen in equilibrium by the seller. We also show that as the incentives of the seller and the buyer become more aligned, the level of obfuscation increases. Furthermore, the relationship between optimal obfuscation and level of cognitive sophistication of the buyer is not necessarily monotone.

Age-Related and Individual Differences in Decision Making (joint work with Alexandra Freund and Sebastian Horn)

In this project we want to examine the impact of age on risk preference and conduct a cross-country comparison across India and Switzerland. Our demographics of interest are farmers in both countries. Since farming is a risky activity (more so in the Indian context) we want to understand how older people with years of experience making risky decisions fare in standard risk measurement surveys. We are also designing a novel survey to measure risk in a non-monetary reward framework. We choose agricultural decision-making tasks that mimic the standard lotteries to understand the impact of monetary reward on risky behavior. Based on the results of a pilot we conducted during June 2022, we find no statistically significant difference in risk attitude by age or gender. However, level of education plays a crucial role. We also found significant difference in risk taking behavior across agricultural seasons as measured by our non-monetary task. We plan to investigate this further, using a larger sample.

Impact of Advertisement on Food Preferences and Healthy Choices (joint work with Aparajita Dasgupta and Prabirendra Chatterjee)

In this project we experimentally explore the role of two important features of advertisement on food preference and healthy choices. The two aspects of ads under consideration are information content and aesthetics. By systematically varying the aesthetics of the ad we want to investigate whether consumers are more likely to believe the content of the ad if it's also aesthetically pleasing. Moreover, we plan to investigate this for different level of information provided by the ad content. In a recent pilot survey (December, 2022), we have used one of the popular instant noodle brand to test our hypothesis in an undergraduate population in Indian context. Based on the results from the pilot we plan to launch our study to a broader population and validate the same.

Seminar and Conference Presentation

2022	BREW-ESA (IIM, Bangalore)
2021	DSE Winter School (online), Indian Society of Ecological Economics conference (online)
2020	SERI conference (online)

2019	EEA conference (University of Manchester), ACEGD ISI Delhi
2018	North East Universities Development Consortium (Cornell University), ACEGD ISI Delhi (New Delhi)
2017	DSE Winter school (New Delhi), ACEGD ISI Delhi (New Delhi)
2016	ATMW IIT Bombay, Summer School on Socioeconomic Inequality(Chicago), DSE Winter School (New Delhi), ACEGD ISI Delhi (New Delhi)

Teaching Experience

Microeconomics 1 (Ashoka University): Monsoon 2019, 2020, 2021, 2022

Behavioral Economics (Ashoka University): Spring 2020, 2021, 2022

Behavioral Economics (Ashoka University, Master's program): Spring 2020, 2021, 2022

Intermediate Microeconomics (NYU): Summer 2017, 2018

Intermediate Macroeconomics (NYU): Summer 2016