Neha Deopa

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Current Position

Aix-Marseille School Of Economics
Postdoctoral researcher
Funded by the *Swiss National Science Foundation*
October 2021 -

Education

The Graduate Institute of International and Development Studies
Ph.D. International Economics, *summa cum laude*
Committee: Ugo Panizza (Supervisor), Rahul Mukherjee & Jérémy Lucchetti
September 2015 - March 2021.

Study Center Gerzensee and Swiss Finance Institute
Advanced Courses in Economics for Doctoral Students - Frictions and Incomplete Markets
August 2018

The Graduate Institute of International and Development Studies
M.A. International Economics
September 2012 - September 2014

University of Delhi
B.A.(Honours) Economics
June 2009 - June 2012

Research Interests

Primary: Environmental and resource economics

Secondary: Industrial organisation, Development economics, Applied stochastic processes

Publications

Coronagraben in Switzerland: culture and social distancing in times of COVID-19, with Piergiuseppe Fortunato (2021), *Journal of Population Economics*, 34(4), 1355-1383. [1]

Working Papers

Scenes from a Monopoly: Quickest Detection of Ecological Regimes; with Daniele Rinaldo
Latest version

Firm Decisions under Jump-Diffusive Dynamics; with Daniele Rinaldo
Latest Version

[1] This paper was previously circulated under the title "Coronagraben. Culture and social distancing in times of COVID-19"

Work in Progress

Congo Soundscapes - The Impact of Logging on Elephant Population

Religiously-Inspired Baby Boom. A Case Study of Georgia; with Kritika Saxena and Lyman Stone

Policy

"World Intellectual Property Indicators" - WIPO Economics & Statistics Series (2014 & 2015) with Mosahid Khan, Ryan Lamb, Bruno Le Feuvre and Hao Zhou.

"Hague Yearly Review" - WIPO Economics & Statistics Series (2015) with Mosahid Khan, Ryan Lamb, Bruno Le Feuvre and Hao Zhou.

"Patent Cooperation Treaty Yearly Review " - WIPO Economics & Statistics Series (2015) with Mosahid Khan, Ryan Lamb, Bruno Le Feuvre and Hao Zhou.

"Madrid Yearly Review" - WIPO Economics & Statistics Series (2015) with Mosahid Khan, Ryan Lamb, Bruno Le Feuvre and Hao Zhou.

Work Experience

United Nations Conference on Trade and Development, April 2019 – Present
Trade & Development Policy Consultant

The Geneva Challenge. Advancing Development Goals (IHEID), August 2015 – August 2016
Project Manager

World Intellectual Property Organization, Novemebr 2014 – July 2015
Researcher - Economics and Statistics Division

Sidley Austin, September 2013 – October 2014
Researcher - International Trade and Economic Dispute

Teaching Experience

The Graduate Institute of International and Development Studies :

International Development, Spring, 2016–2017

International Finance, Autumn, 2016–2017

International Trade, Spring, 2017–2019

Statistical Methods for Social Sciences, Autumn, 2017–2018

Macroeconomics, Autumn, 2018–19

Skills & Languages

Programming: R, STATA, Mathematica, MATLAB

GIS Software: ArcGIS, QGIS, Geoda

English, Hindi, French (B1 and actively learning)

Conferences (scheduled *)

2021: Royal Economic Society (RES); European Association of Environmental and Resource Economists (EAERE); European Association for Research in Industrial Economics (EARIE); Association of Southern-European Economic Theorists (ASSET)*

2020: European Winter Meeting of the Econometric Society; Spanish Economic Association; Southern Economic Association; French Association of Environmental and Resource Economists; Annual conference of the Italian Economic Association; Bolivian Conference on Development Economics; Monash Business School & Warwick University - Applied Young Economist Webinar; Johannes Kepler University Linz - Brown Bag Seminar; University of Geneva & IHEID - PhD Day

References

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Rahul Mukherjee
Associate Professor of Economics
School of Economics
University of Nottingham
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Piergiuseppe Fortunato
Economic Affairs Officer
United Nations Conference on Trade and Development (UNCTAD)
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Paper Abstracts

Scenes from a Monopoly: Quickest Detection of Ecological Regimes[2]
with Daniele Rinaldo

We study the stochastic dynamics of a renewable resource harvested by a monopolist facing a downward sloping demand curve. We introduce a framework where harvesting affects the resource's potential to regenerate, resulting in sequential endogenous regime shifts. In a multi-regime setting, the firm faces uncertainty in both the environmental fluctuations and the timing of the shift, and has to find the profit-maximizing extraction policy while simultaneously detecting in the quickest time possible the change in regime. Quickest detection methods allow our model to encapsulate the idea of environmental surveillance of ecological dynamics. Our key finding is that post-detection of a negative regime shift, at higher stock levels, the firm pursues an aggressive extraction due to an elastic market demand allowing the monopolist to charge higher markups. Pre-detection, we find that intensification of extraction is possible as a consequence of a sense of urgency caused by the possibility of collapse due to the regime shift. For lower stocks, a precautionary behaviour can result due to increasing resource rent. We study the probability of resource extinction and show the emergence of catastrophe risk which can be both reversible and irreversible based on the extinction's expected hitting time.

Firm Decisions under Jump-Diffusive Dynamics
with Daniele Rinaldo

We present a model of firm investment under uncertainty and partial irreversibility in which uncertainty is represented by a jump diffusion. This allows to represent both the continuous Gaussian volatility and the discontinuous uncertainty related to information arrival, sudden changes and large shocks. The model shows how both sources of uncertainty negatively impact the optimal investment and disinvestment policies, and how the presence of large negative jumps can drastically affect the firm's ability to recover.

[2] An earlier version of this paper has been circulated under the title "Scenes from a Monopoly: Renewable Resources and Quickest Detection of Regime Shifts".

Our results show that the standard Gaussian framework consistently underestimates the negative effect of uncertainty on firm investment decisions. We test these predictions on a panel of UK firms: we first structurally estimate the uncertainty parameters using multinomial maximum likelihood and differential evolution techniques and subsequently study their impact on firm investment rates, validating our model predictions.

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