

# BISHMAY BARIK

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in Bishmay Kumar Barik    🌐 bishmaybarik    🐦 bishmayy

## Education

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### Shiv Nadar University, Delhi-NCR - M.Sc. Economics

2023-2025

#### *Dean's List, 2025*

- CGPA: 8.97/10
- **Subjects:**  
Macroeconomics (I & II) (*Distinction*), Econometrics (I & II), Microeconomics (I & II)  
Economics of Discrimination, Development Economics, Behavioural Economics
- **Postgraduate Dissertation:** *Caste in Stone? Cultural Distance and the Education Game*

### XIM University, Bhubaneswar - B.Sc. Economics (Hons.)

*with Three consecutive years of Merit Scholarship | Second Ranker*

2020-2023

- CGPA: 9.47/10
- **Subjects:**  
Macroeconomics, Microeconomics, Development Economics, International Economics,  
Game Theory and Behavioural Economics
- **Undergraduate Dissertation:** *Economics of Discrimination: Review of Gary Becker's work and its application on India*

## Research Experience

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### 1. [Employment] Research Associate - CAFRAL, Reserve Bank of India

July 2025 - Present

- Currently working as a full-time Research Associate at the Centre for Advanced Financial Research and Learning (CAFRAL), at the Reserve Bank of India, Mumbai, Maharashtra, India.

### 2. Research Intern - Development Data Lab

Mar 2025 - July 2025

PI: Dr. Paul Novosad

- Cleaning and writing the codes to incorporate the Annual Status of Education Report (ASER, 2007-2022) for India into the Socioeconomic High-resolution Rural-Urban Geographic Platform for India (SHRUG) Dataset by Development Data Lab.

### 3. Research Assistant - QuantEcon

May 2025 - July 2025

PI: Dr. Matthew McKay

- Design and develop an open, accessible undergraduate economics course using Pyodides and WebAssembly for real-time simulation and code execution, teaching scientific computing to tackle issues like inequality, resource scarcity, and climate change.

### 4. Research Assistant - A Research Project on Culture and Debt in India

Aug 2024 - July 2025

PIs: Dr. Satyajit Chatterjee, Dr. Ashwini Deshpande & Dr. Nirupama Kulkarni

- Analyzing emigration patterns and debt holdings across different castes, religions, and social strata using the CMIE-CPHS dataset, with a focus on state-wise and district-wise variations in India.
- Investigating loan-taking behavior among various castes and religions, exploring the influence of cultural norms and traditions on these financial decisions.

### 5. Research Assistant - Ashoka University

Apr 2025 - May 2025

PI: Dr. Bhaskar Dutta

- Replicating the methodologies of a Journal of Development Economics paper using the Annual Status of Education Reports Data (ASER) at the state level.

### 6. Research Assistant

**"Punishment and Crime: Impact of Death Penalty on Local Crime Rates in India"**

Dec 2024 - Jan 2025

PIs: Dr. Ashwini Deshpande & Dr. Anisha Sharma

### 7. Research Intern - Center for Advanced Financial Research and Learning (CAFRAL), RBI

2024

PIs: Dr. Gautham Udupa & Dr. Vidhya Soundararajan

- Converting several Stata codes and writing MATLAB equivalents for a project.
- Reviewing RBI circulars and identifying important notifications related to Priority Sector Lending in India.
- Reviewing literature on developmental factors that affect stock market participation and presenting them during the internship at CAFRAL.

## Dissertation and Research Projects

**Caste in Stone? Cultural Distance and the Education Game** 2024 - 25

**Master's Thesis** | **Supervisors:** Dr. Partha Chatterjee (Internal) & Dr. Pubali Chakraborty (External)

- Developed a three-period macroeconomic model to analyze intergenerational human capital and income disparities across caste and religious groups in India, using CPHS and Samaj Survey data.
- Quantified the role of cultural distance in perpetuating intergroup disparities, linking variation in cultural norms to differences in human capital accumulation and income outcomes across social groups.

**[Public Resource]: State-wise Jati Distributions Dashboard** (hosted on Streamlit via Github) 2025

**Software(s):** Python | **Modules:** concurrent.futures (parallelism), multiprocessing

- This Streamlit dashboard visualizes caste (*jati*) distribution across India using CPHS data (2014-2024). It allows users to filter by state, district, year, or month, or view the entire panel, highlighting dominant *jatis* and providing detailed breakdowns to offer demographic insights.
- The app uses Streamlit for its interface. DuckDB queries a remote Parquet file directly from Google Cloud Storage, performing all data aggregation without loading the full dataset into memory. Pandas handles result display, and @st.cache\_data significantly improves performance by caching operations.

**Shedding Light on Consumption: Assessing Night-Time Luminosity as a Predictor of Consumption Expenditure in India** 2025

**Software(s) Using:** Python | **Libraries:** Streamlit, Plotly, Tensorflow, Pillow

- Exploring how night-time light intensity correlates with consumption expenditure across Indian regions using SECC and DMSP Nightlights data.
- Using a neural network with TensorFlow & Keras for predictive analysis, with SHAP analysis for model interpretability (collected from SHRUG).

**Tracing Disparities: Educational Spending Before and After Covid-19 Among Social Groups in India** 2024

**Supervisor:** Dr. Gitanjali Sen | **Co-author:** Manya Pahwa

**Software(s) Using:** Python & STATA

- Created a Difference-in-Differences model to estimate pre- and post- Covid 19 educational expenditure trends across different religion and caste groups in India using CMIE-CPHS dataset.
- Explored possible reasons to understand why every social group was affected differently during a pandemic.

**Review on 'Does Immigration Affect the Long-Term Educational Outcomes of Natives? Quasi-Experimental Evidence'** by Eric Gould, Victor Lavy, and Daniele Paserman 2024

**Supervisor:** Dr. Gitanjali Sen

- Criticizing the original paper, and identifying potential research gaps, and extending the paper.
- Introducing heterogeneity among the students on the basis of ranks achieved in the class, and analyzing the causal effect of increased concentration of migrants on the heterogeneous Israeli students.

**Does Overconfidence Lead to Procrastination?: A Cognitive Reflection Test Experiment** 2024

**Supervisor:** Dr. Punarjit Roychowdhury

- Tried to build a bridge between overconfidence and procrastination.
- Use of Cognitive Reflection Test to identify overconfident people and studied procrastination behaviour among them.

**An Environmental Kuznet's Curve (EKC) Analysis: A Case Study on Ganga and Yamuna** 2024

**Software(s) Used:** STATA, R & Excel

**Supervisor:** Dr. Ram Ranjan | **Co-author:** Manya Pahwa, Shiv Nadar University, India

- Created Econometric Model to test for EKC in river Ganga and Yamuna.
- Analysed pollution patterns and tried to identify the cause of pollution in these rivers.

**Economics of Discrimination: Review of Gary Becker's work and its application on India** 2022 - 2023

**Dissertation, B.Sc. Economics, XIM University** | **Supervisors:** Dr. Bharatee Bhusana Dash & Dr. Pintu Parui

## Teaching

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**Shiv Nadar University, India**

2023-2024

**Graduate Teaching Assistant | Semester - IV (Postgraduate Course)**

- ECO512: Macroeconomics II (Dr. Kurt Horner & Dr. Trishita Ray Barman)

**Graduate Teaching Assistant | Semester - III**

- ECO302: Intermediate Macroeconomics (Dr. Aditi Singh & Dr. Trishita Ray Barman)

**Graduate Teaching Assistant | Semester - II**

- ECO461: International Economics (Dr. Trishita Ray Barman)

**Graduate Teaching Assistant | Semester - I**

- MAT101: Calculus - I (Dr. Niteesh Sahni)

## Software

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STATA | Python | L<sup>A</sup>T<sub>E</sub>X | Markdown | Jupyter Notebook | MATLAB | R | Dynare

## References

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Available on request.