

PRAJYNA BARUA

barua.prajyna@gmail.com • Visa status: H4 EAD ¹ • [Website](#) • [LinkedIn](#)

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| Education | University of Texas Dallas, Richardson, TX | Ph.D. in Economics | 2020- December 2025 |
| | Jawaharlal Nehru University, Delhi, India | M.Phil in Economics | 2013 |
| | Delhi University, Delhi, India | B.A. Economics (Hons) | 2006 |

Research Interests Empirical Macroeconomics Labor Economics Business Cycle

Dissertation Title *An Understanding of the US Labor Market from a Macroeconomic Perspective*

Publication [Das, A., Barua, P. and Philip, D. \(2018\). "TPP and market access for goods." In Das, A. and Singh, S. \(Ed.\), Trans-Pacific partnership agreement: a framework for future trade rules? \(pp. 38-75\). Sage Publications.](#)

Working Papers [Estimating time-variation in matching efficiency and match elasticity for the US labor market \(JMP\)](#)

Abstract: The paper estimates time-varying matching efficiency and match elasticity within a Cobb-Douglas matching function for the U.S. non-farm sector, using a state-space model. It evaluates two specifications: (i) no constant returns to scale (CRS) with time variation (my baseline model) and (ii) CRS with time variation. I compare these two models with the standard model without time variability, and results show significant time variation in both parameters, even under stochastic volatility. Counterfactual vacancy estimates reveal that the non-CRS baseline model fits the data best. This model suggests a gradual decline in matching efficiency, indicating growing labor market inefficiencies. Matching efficiency and match elasticity with respect to unemployment are found to be procyclical. The procyclicality in efficiency can be attributed to reduced sectoral reallocation, as seen in IPUMS-CPS data, driven by structural economic shifts. Procyclical match elasticity points to the nonlinear effect of labor market tightness on the job-finding rate. The paper also finds a rise in the efficient unemployment rate after COVID-19, as estimated by the baseline model.

[Mexico's Formal Labor Market through the Lens of the Beveridge Curve](#) (with Luis F. Colunga-Ramos, Irina Panovska, Miroslava Quiroga-Trevino, B. Elam Rodriguez-Alcaraz)

[Estimated Output Gap in a Wage-Inflation Expectations Model](#) (with Azharul Islam, Irina Panovska and Srikanth Ramamurthy)

[Understanding unemployment dynamics](#)

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| Seminar and Conferences | Southern Economic Association, 95th Annual Meeting, Graduate students session, Presenter, Tampa, Florida | November 2025 |
| | North Texas Economics Conference, Presenter, University of Texas at Arlington | November 2025 |
| | The Society for Nonlinear Dynamics and Econometrics, 32nd Annual Symposium, Presenter, University of Texas at San Antonio | March 2025 |
| | Southern Economic Association, 94th Annual Meeting, Presenter, Washington D.C. | November 2024 |
| | North Texas Economics Conference, Presenter, University of North Texas, Denton, Texas | November 2024 |

¹Authorized to work in the United States

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| | Midwest Econometric Group Conference 2024, Presenter, Lexington, Kentucky Western Economic Association International, 99th Annual Conference, Presenter, Seattle, Washington | November 2024 July 2024 |
| Awards and Fellow- ships | Charles C. McKinney Scholarship, University of Texas Dallas Irving J. Hoch Scholarship award, University of Texas Dallas. Ph.D. Fellowship, University of Texas Dallas Junior Research Fellowship, University Grant Commission, India | 2025, 2024 2022 2020-2024 2012-2014 |
| Teaching Experi- ence | <i>Instructor</i> , ECON 2301 Principles of Macroeconomics, University of Texas Dallas. <i>Instructor</i> , EPPS Math and Coding Boot Camp , University of Texas Dallas: I served as one of the primary instructors for the Math Boot Camp designed for Master's and incoming Ph.D. students. My responsibilities included developing course materials, delivering lectures, engaging with students through discussions and problem-solving sessions, and providing individualized feedback to support their academic preparation. <i>Teaching Assistant</i> , ECON 4386 Contemporary Macroeconomic Policy, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 6303 Macroeconomics Theory I, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 4385 Business and Econ Forecasting, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 5397 Special Topics in Economics, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 6306 Applied Econometrics, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 4320 Public Sector Economics, University of Texas at Dallas <i>Teaching Assistant</i> , ECON 4302 Urban and Regional Economics, University of Texas at Dallas | Fall 2025, Sp. 2025, 2024, Su. 2023 2025, 2024 Fall 2023 Fall 2023 Spring 2023 Spring 2023 Fall 2022 Spring 2022 Fall 2021 |
| Research Experi- ence | <i>Research Assistant</i> , University of Texas Dallas, Dr. Irina B. Panovska <i>Research Assistant</i> , University of Texas Dallas, Dr. Denise P. Boots <i>Research Fellow</i> , Centre for WTO Studies, New Delhi, India: I extensively worked on market access provided by Trans-Pacific Partnership Agreement to its members and the extent of India's comparative disadvantage by being part of it. This required analyzing detailed tariff schedules both at country and for specific sectors and, evaluating a comprehensive unit value analysis for all members. <i>Programme Executive</i> , United Nations Development Programme, India: I was involved in preparation of the Bid document for hosting New Delhi as the NDB's (New Development Bank) Headquarters and provided brief reports on areas such as lending, governance, infrastructure financing, capital structure, and costing among others, with respect to the functioning of the NDB which were used as inputs for negotiations for the Articles of Agreement. I also provided regular updates on the macroeconomic situation in BRICS economies, analyzing their economic trends, and policies. | Summer 2022 Summer 2021 2015 – 2016 2013 – 2015 |
| Software | R, Matlab, Stata and Python | |
| Academic Service | Barua, P. (Chair), Macroeconomics 3, SNDE'25, San Antonio, Texas Discussant, WEAI'24 Session: "Trade Policies and the Relative Size of the Informal Sector in Developing Economies" by Mohammed Mohsin. | |

References**Dr. Irina B. Panovska**

Dissertation Chair

Associate Professor of Economics

The School of Economic, Political and Policy Sciences

University of Texas at Dallas

Richardson, TX 75080

972-883-6247

Irina.Panovska@utdallas.edu

Dr. Camilo Granados

Assistant Professor of Economics

The School of Economic, Political and Policy Sciences

University of Texas at Dallas

Richardson, TX 75080

camilo.granados@utdallas.edu

Dr. Victor Valcarcel

Professor of Economics

The School of Economic, Political and Policy Sciences

University of Texas at Dallas

Richardson, TX 75080

972-883-6213

victor.valcarcel@utdallas.edu