



THE UNIVERSITY OF BRITISH COLUMBIA

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Dear Faculty Recruitment Committee at Department of Economics in Rutgers University,

I am writing to apply for the position of Assistant Professor of Economics. I am currently a Ph.D. candidate in Economics at the University of British Columbia, expecting to complete my degree in June 2025. My research interests lie broadly in labor economics, with a focus on both macroeconomic and microeconomic perspectives. I am particularly interested in understanding how firms determine labor demand and set wages.

I am especially interested in joining Rutgers University because its strong emphasis on combining theory with empirical approaches closely aligns with my research focus. I am also enthusiastic about the opportunity to collaborate with faculty members like Professors Rosemary Kaiser and Hector Blanco, whose work would greatly enrich my research.

In my job market paper, *National Firms, Local Effects: Spillovers from Multi-Establishment Employers' Expansions*, I examine how expansions by large multi-establishment (national) employers—characterized by intense hiring activity and wage increases—affect the wage and hiring policies of other local employers. Using Brazilian administrative employer-employee data, I develop an empirical strategy to estimate local firms' reactions to idiosyncratic labor demand shifts by large employers. I demonstrate that increased competition for workers places upward pressure on wages across the labor market. This paper was presented at the Annual Meetings of the Canadian Economics Association in June 2024.

Beyond my job market paper, I am pursuing the project *Heterogeneous Firm Sorting and Local Monopsony Power* (joint with Sudipta Ghosh and Xiaojun Guan), which examines the role of local labor market competition on firms' wage-setting behavior. Specifically, using German administrative data, we analyze how heterogeneous productivity firms' location choices impact local labor market concentration and spatial wage inequality. We first document stylized facts regarding the spatial distribution of firms' characteristics and labor market power measures. Motivated by these findings, we develop a spatial general equilibrium model integrating the location choices of heterogeneous (discrete-type) firms within oligopsonistic local labor markets, calibrated to align with our reduced-form estimates. Using this calibrated model, we quantify the relative impact of firm sorting and labor market concentration on spatial wage inequality and conduct policy counterfactual experiments.

I also have an NBER working paper (currently under review), *Spooky Boundaries at a Distance:*

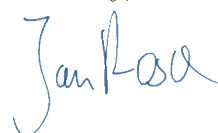
*Exploring Transversality and Stability with Deep Learning.* This project, co-authored with Mahdi Ebrahimi Kahou, Jesús Fernández-Villaverde, Sebastián Gómez-Cardona, and Jesse Perla, analyzes the properties of deep learning approximations in dynamic structural models. Specifically, we show that these approximations can automatically satisfy long-run boundary conditions, potentially simplifying the computation of short-term dynamics in such models.

During my graduate studies at UBC, I served as a teaching assistant for courses in applied econometrics, theoretical econometrics, open macroeconomics, and data science at the advanced undergraduate level. For three years, I was the head TA for UBC's main Applied Econometrics course, conducting 90-minute hands-on sessions each month for over 90 students. Additionally, I served as a TA for the advanced Open Macroeconomics course for two years. These experiences have prepared me to teach a wide range of topics in econometrics and macroeconomics. Although my research focuses on labor economics, I am capable and enthusiastic about teaching undergraduate courses across various areas of economics. Furthermore, my experience with computational methods and large data sets equips me to teach computational macroeconomics and data science at both undergraduate and graduate levels.

I am equally passionate about advising. During my Ph.D., I participated in and organized a labor economics reading group and research workshop. This group brings together about ten Ph.D. students each year who meet weekly to discuss research and receive feedback from peers in an informal setting.

I would be happy to provide more details about my background and experience upon request. Thank you in advance for your consideration.

Sincerely,



Jan Rosa,  
Ph.D. Candidate,  
University of British Columbia