Research Statement

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My research focuses on the consequences of international trade for the labor market, with emphasis on quantifying the heterogeneous costs and benefits experienced by different segments of the population. The uneven distribution of the gains from trade and the associated economic insecurity are at the heart of the public debate regarding increased globalization. My findings highlight the considerable diversity in labor market outcomes (such as in wages, variability of income, the probability and cost of displacement) for workers with different levels of human capital, and who are employed in industries and firms with varying degrees of exposure to international trade. Understanding these aspects of globalization is important in terms of designing policy tools that decrease the costs for adversely impacted groups.

Specifically, my work has focused on analyzing empirically the implications of trade openness along four broad dimensions: (a) the association between trade and variability (risk) of worker incomes, (b) differential effects of trade on the wages of workers employed in heterogeneous firms, (c) the role of human capital in determining the wage impact of increased openness and (d) the interplay between globalization and the size and role of local governments. This document provides a summary of my papers and a brief description of ongoing projects.

My research has variously explored the empirical validity of the broadly expressed public concern that international trade exposes workers to riskier (more volatile) economic environments. In providing strong evidence for the trade-volatility link in the United States, this line of research fills an important gap in the empirical literature which, for the most part, have studied the “mean” effects of trade on labor markets. “The Effects of Offshoring on the Elasticity of Labor Demand” (Journal of International Economics 2010) documents an increase in the responsiveness (elasticity) of employment decisions of firms to changes in wages as a result of increased offshoring. This finding has important implications, because the increased responsiveness of labor demand to wages suggests greater instability in the labor market, implying a decline in the bargaining power of labor and a decline in labor’s share of industry rents. Another paper, “International Trade and Labor Income Risk in the United States” (with P. Krishna, Review of Economic Studies 2014), empirically documents a positive association between international trade and the variability of worker incomes. Quantitative analysis using a dynamic stochastic general equilibrium model of consumption-savings choices with risky labor income assesses this link between trade and income risk to be economically significant as well. These findings suggest that the trade-volatility link should be taken into account in evaluating the welfare gains from trade, and simultaneously

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1 Electronic copies of all of my published papers, and papers in progress are available at http://www.sais-jhu.edu/mine-senses.
highlight the need for a suitable social safety net to insure workers against the riskier economic environment resulting from increased openness.

Several ongoing projects further investigate the association between trade and income volatility by focusing on spillovers to the non-manufacturing sector within local labor markets, and studying the association between trade and higher moments of the wage distribution (higher-order income risk). Preliminary results indicate that the positive association between income risk and industry level import competition is mainly due to the widening of the lower tail of the wage distribution, suggestive of an increase in downside risk (“Higher-Order Income Risk and Trade”, with P. Krishna). Moreover, greater import competition may also have implications beyond the manufacturing sector, resulting in increased economic insecurity in trade-exposed local labor markets ("Income Risk and Trade in Local Labor Markets", with P. Krishna). The findings in another paper, “Importing, Exporting and Firm-Level Employment Volatility” (with C. Kurz, *Journal of International Economics* 2010) complement these findings by studying the differential levels of employment volatility experienced by workers employed in globally engaged firms compared to those employed in purely domestic firms. “All Shook Up: International Trade and Firm-level Volatility” (with C. Kurz and A. Zlate) rationalizes some of these empirical regularities concerning firm’s trading patterns and volatility of its employment, by introducing a dynamic, stochastic, general equilibrium model with heterogeneous firms and endogenous exporting and international input sourcing.

In a separate line of research, I examine the question of whether the impact of trade on wage outcomes of workers depends on the type of firm the worker is initially employed in. For instance, do workers at larger, exporting firms do better than workers in smaller firms, which sell solely to the domestic market? Answering this question requires econometric engagement with the issue of the non-random selection of workers into firms. “Wage Effects of Trade Reform with Endogenous Worker Mobility” (with P. Krishna and J. Poole, *Journal of International Economics* 2014) develops a novel empirical methodology that allows for non-random worker placement and implements it using matched employer-employee dataset from Brazil. The findings suggest that the wage effects of liberalization are independent of the export orientation of the firm the worker is employed at. Moreover, after allowing for endogenous mobility due to worker-firm specific matches, the premium paid to workers at exporting firms is economically and statistically insignificant. These findings point to a quite different picture of the links between trade liberalization and wages than those obtained previously in the literature and underscore the important methodological contribution of this paper, while also highlighting some of the methodological deficiencies of earlier work on this topic. A different paper, “Trade, Labor Market Frictions, and Residual Wage Inequality across Worker Groups” (with P. Krishna and J. Poole, *American Economic Review: Papers and Proceedings* 2012) highlights the importance of allowing for heterogeneity in the effect of liberalization on residual inequality across workers with different levels of skill (measured in terms of education level and occupation). The results suggest that while the wage effect of liberalization on low-skill workers is independent of the export status of the firm, high-skill workers fare better in exporting firms.
The role of human capital in mitigating the effects of trade-related displacements has been commented upon widely, but has received scant empirical attention. “Globalization, Human Capital and Labor Income” (with P. Krishna and G. Sethupathy) explores the importance of various forms of human capital in determining the cost of trade related displacements by distinguishing empirically the level of firm-, industry-, occupation- and task specific human capital that a worker might possess. Wage changes following job switches are determined by the extent of the transferability of human capital across jobs, which is a function of both the characteristics of the jobs that workers move across, and the nature and extent of human capital that the workers have acquired over their labor market experience. The matched employer-employee dataset for Germany, which contains very detailed information on the full labor market experience of workers over a long time period, is essential for this sort of analysis. Preliminary results suggest that trade related displacements are associated with more frequent occupation switches, and that occupation switches are more costly for trade-displaced workers. One empirically supported explanation for this finding is that such switches tend to result in greater mismatch (‘distance’) between the task requirements of the new occupation and the skills the worker brings into this job (measured by using the information on the past experience of workers in performing these tasks in previous jobs). There is also some evidence that over time the mismatch between jobs and workers are increasing, particularly in industries that are more exposed to international trade.

A related paper focuses on the changes in shares of total labor income paid to workers engaged in different tasks (e.g. routine and non-routine) and the respective roles that trade and technology play in explaining these trends (“Trade, Technology and Elasticity of Substitution between Routine and Non-Routine Labor”, with P. Morrow).  

I am also interested in whether the effects of trade on the labor market alter the role and size of government. On the one hand, governments may play an important role in this context both by mitigating risk through welfare spending and by investing in public services to ensure the competitiveness of workers and firms. At the same time, globalization may restrain a government’s ability to adjust spending due to budgetary pressures and increased factor mobility. “Trade Shocks and the Provision of Local Public Goods” (with L. Feler, under revision for the American Economic Journal: Economic Policy) studies the impact of globalization on the size of government by analyzing the effect of trade-induced income shocks on local government finances and the provision of local public services. There is evidence that the trade and income shocks constrain local resources, mainly due to a relative decline in housing prices and business activity, and in the absence of sufficient intergovernmental transfers, lead to a relative deterioration in the quality of local public services (such as education, public safety, public transportation, public housing and public

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2 A different paper, “Having A Car and Having A Job: Evidence from Subprime Auto Loans” (with L. Geng, C. Kurz and D. Vine), explores the role of availability of sub-prime auto loans in matching workers with firms, by giving them access to a car. In a context of spatially dispersed job opportunities, for many workers, a private car may be necessary for both finding a job and getting to that job, as public transportation might be too infrequent or too distantly available from the exact location of the job. Preliminary findings suggest that greater subprime auto loan originations in a locality are associated with greater employment growth, with larger effects in counties with more abundant job openings.
A related paper, “Public Education and Local Labor Market Conditions” (with A. Greenland and J. Lopresti), focuses specifically on public education, and studies the implications of local income shocks on education expenditures, demand for education, and quality of public schools. The additional emphasis on education stems from its importance in determining economic opportunities for large segments of the population, its heavy reliance on the public sector with complimentary roles played by the federal, state and local governments, and vast differences in quality across school districts even within the same jurisdiction. This avenue of research is important as the response of the local governments, and their ability to provide local services and local amenities will help mitigate or further amplify the effects of the initial negative economic shock on the locality.

In addition, the effect of government policies can be different on domestic and foreign-owned firms. While jobs in U.S.-based foreign-owned companies are highly desirable and economically important, foreign multinationals, compared to their domestic counterparts tend to be rather footloose as they are able to shift production more easily to locations with less restrictive labor regulations. “The Effects of Wrongful-Discharge Protection on Foreign Multinationals: Evidence from Transaction-Level Data” (with I. Kandilov, *Canadian Journal of Economics* 2016), explores how entry and investment decisions of foreign-owned firms are affected by the adoption of employment protection legislation across U.S. states. The findings suggest that when states adopt regulations that increase employer’s firing costs, FDI transactions by foreign multinational companies become less frequent and decrease in value, with stronger negative impacts in more labor-intensive industries.

While I have categorized my research efforts into four broad themes, I should note that there is extensive interplay among these categories. Income risk at the worker level is very much related to employment volatility at the firm level as well as to the cost of displacement, since displacement risk is an important component of income risk. The analysis of heterogeneity in wage levels and employment volatility in firms with different trade orientation complement each other in providing a more complete picture of outcomes for workers employed in these firms. My findings on the effect of trade on volatility and income risk have forced me to think more about the returns to various forms of specific worker human capital and the broad trends in societies and their human capital stock in the more uncertain and risky economic environments that may follow from greater globalization. The low level of observed spatial mobility in response to trade shocks and its implications on local labor markets, and the importance of specific human capital in wage determination, have motivated my work on the mismatch between workers and firms, and the possible spillovers of trade shocks on future generations through the effect on education finance. These important and interrelated policy-relevant questions have been a source of inspiration for much of my past research and will continue to be so in the future.3

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3 The policy relevance of these research findings have been elaborated upon in columns in VoxEU, IZA World of Labor and a chapter in a book titled “Trade Adjustment Costs in Developing Countries: Impacts, Determinants and Policy Responses” (published by the World Bank in 2010).
References


Ongoing Work


Morrow, P and M. Z. Senses, “Trade, Technology and Elasticity of Substitution between Routine and Non-Routine Labor”


Krishna, P and M. Z. Senses, “Higher-Order Income Risk and Trade”

Krishna, P and M. Z. Senses, “Trade and Risk in Local Labor Markets”