

## **Research Statement**

**Sofia Fernandez Guerrico**

I am an applied microeconomist with research interests in development, labor, health and international economics. My work investigates individual- and firm-level responses to trade and local labor market shocks using applied econometric methods. I aim to address questions that are policy-relevant and shed light on the relationship between trade liberalization, employment, health, and family structure in both developed and developing countries.

In my job market paper titled “The Effects of Trade-Induced Worker Displacement on Health and Mortality in Mexico”, I analyze the effect of a trade-induced negative manufacturing employment shock on leading causes of mortality –diabetes, ischemic heart disease, and alcohol related liver disease– in Mexican municipalities between 1998 and 2013. I exploit cross-municipality variation in trade exposure based on differences in industry specialization before China's accession to the WTO in 2001 to instrument for changes in local manufacturing employment. I find that trade-induced job loss is associated with a 13 percent increase in age-adjusted mortality from type 2 diabetes, the leading cause of mortality in Mexico. These deaths were offset by declines in mortality from alcohol-related liver disease and ischemic heart disease. Moreover, I investigate the mechanisms through which trade exposure affects health and mortality. First, I present additional supporting evidence on income effects by showing that increased international competition is associated with lower wages and less formal employment at the local level. Second, I find that more-exposed regions exhibit higher obesity rates and less self-reported physical activity, which are risk factors for type 2 diabetes, and less access to health care, which may delay diagnosis. Declines in alcohol and tobacco consumption are possible mechanisms explaining the declines in mortality from ischemic heart disease and alcohol-related disease. These findings highlight that negative employment shocks have heterogeneous impacts on mortality in developing countries, where falling incomes lead to less access to health care and nutritious food, but also reduce alcohol and tobacco use.

In other work, I study firm-level responses to economic shocks in Argentina, providing an insight into the relationship between firms' quality-upgrading decisions, product differentiation and export performance. Through tax identification numbers, I match firm-level survey data to administrative customs records containing information about firms' total value of exports by 8-digit level product and country of destination. I classify products into differentiated and non-differentiated, and I use ISO 9001 certification as a proxy for firms' ability to produce high quality products. First, I show descriptively that firm-product-destination-year unit values are higher for high-quality firms on average. Second, using the 2002 Argentine exchange rate devaluation as a source of variation in export demand, I find that initially high-quality firms increased total export value, export value of differentiated goods, and investments in R&D more than low-quality firms after the devaluation. My paper builds on the literature studying differences in quality valuation across destinations by showing that high-quality firms increase exports of differentiated products to high-income destinations compared to low-quality firms. However, I do not find statistically significant differences in non-differentiated exports. From a policy perspective, facilitating quality adoption can make firms more competitive in the export market and help develop a comparative advantage in differentiated products that are less sensitive to relative price changes.

Beyond the work above, I also am currently collaborating on two projects still in early stages. In joint work with Elizabeth Powers and Eunhye Kwak, I investigate the effect of job displacement on the different dimensions of parent-child interactions. To assess parenting behavior, we use the Survey of Income and Program Participation (SIPP), which provides extensive demographic, parenting and employment history information on a nationally representative sample of U.S. households. As a source of plausibly exogenous variation to a parent's career, we use the Pierce and Schott (2016) measure of exposure to trade with China resulting from the US granting China Permanent Normal Trade Relations (PNTR). We are focusing on four major domains of parent-child interactions: affection, behavioral control, practices, and stress. We are also exploring whether the results are heterogeneous by the gender of the parent being displaced.

In another project, together with Rebecca Thornton and Mark Borgschulte, I examine the effect of infant formula availability on women labor force participation decisions in developing countries. We use data from Demographic Health Surveys, World Fertility Surveys, and the Multiple Indicator Survey, which have detailed information on breastfeeding and mothers' working decisions. We exploit temporal and geographic variation in access to infant formula using country specific data on formula import flows to address the potential endogeneity of within-country changes in demand for formula. We aim to present new evidence on the relationship between parental investments in healthy child nutrition and work-related decisions.

Regarding future work, as a follow up to my job market paper, there are two immediate research questions that I will explore. First, I will further study the interaction between supply-side factors driving diet-related chronic disease (i.e., food prices and availability) and demand-side factors (i.e., employment, income, education, and information). My job market paper contributes to prior literature exploring the demand-side determinants of chronic disease. In order to ultimately minimize the negative distributional impact of trade liberalization, understanding the relative contributions of demand- and supply-side factors to the prevalence of chronic disease is crucial to design appropriate incentives and provide social safety nets. Therefore, I will combine my data with expenditures surveys, which also have households' income information to be able to examine the effect of the negative economic shock on food, alcohol, and tobacco consumption along the income distribution.

Second, as I show in my job market paper, municipalities more exposed to international competition have increased shares of informal employment. I am interested in further exploring employment trajectories of displaced workers. In countries with a large informal sector, a negative employment shock is unlikely to translate into higher unemployment rates because the informal sector often serves as a buffer by absorbing displaced workers. However, informal workers are not covered by labor regulations (i.e., formal employees have more rights in terms of severance payments, social security contributions, health insurance, minimum salary and unionizing). Therefore, studying employment transitions between the formal and informal sector is crucial to design social safety nets and policies to promote labor formalization at firm- and individual-level.

In summary, both my independent research and joint projects address questions that are policy relevant in both developed and developing countries. My near-term project agenda and future research will continue to investigate these important topics.