

## Research Statement

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As in architecture where “form ever follows function,” the complex questions facing international economists over the last 20 years do not allow the luxury of clinging to one particular methodology. Reflecting this worldview, my research at the nexus of international trade and macroeconomics is diverse in both methodology and the questions that motivate it.

The papers I write push frontiers by eschewing siloes to answer questions about how the macroeconomic setting interacts with market structure and micro-level frictions to drive trade and capital flows.

**Macro meets the Melitz framework.** To understand the impact of [macroeconomic uncertainty on foreign direct investment](#), I embedded the Melitz model of heterogeneous firms into a dynamic open economy macroeconomic setting, illustrating how different sources of macro uncertainty can lead to very different outcomes for investment flows. These modelling techniques proved useful in collaboration [Diego Valderrama](#), as well as with [Ilhyun Cho and Silvio Contessi](#), to understand how different types of financial deepening (through bank or market financing) can interact with trade frictions to affect growth and the real exchange rate. With [Robert Feenstra, Phillip Luck, and Maurice Obstfeld](#), I applied these techniques to gain insight into the longstanding elasticity puzzle, which is important to forecast the responsiveness of trade flows to macroeconomic shocks. Our work revealed that failing to take into account different propensities among buyers to substitute between different foreign varieties (the micro elasticity), versus between a foreign and a domestic variety (the macro elasticity), results in specification errors that can help explain the puzzling dispersion in estimates observed across an array of studies. Macro meets trade in all of these settings.

**Melitz and Ricardian perspectives on international finance.** Is cross-border banking good for an economy, and what are the implications of the prevalence of very large banks? When studying the behavior of global banks, I was dissatisfied with contemporary models either assuming perfect competition or limiting themselves to just two or three banks with perhaps one different than the other(s). Instead, a coauthor and I generalized a canonical Ricardian model of trade with Bertrand competition to understand how strategic behavior by an arbitrary number of competing globally active banks influences credit markets in an open economy. This started as a [numerical project](#), but in a series of papers, eventually yielded closed-form distributions that we used to gain closed-form insights into markup behavior by [exporters of goods](#) in the presence of macro shocks, as well as [multinational firms](#). Combining this strategic pricing model with the Melitz-type framework discussed above, I worked with [Franziska Bremus, Claudia Buch, and Monika Schnitzer](#) to model and measure the degree of dispersion in bank size in a large sample of countries, demonstrating that it appears more fat-tailed than the already fat-tailed distribution of firm size. This result is important for economists and policymakers in macroeconomics and finance, as it means that small shocks to large banks can generate fluctuations in the aggregate credit supply.

**Trade policy and macro thinking.** In July 2015, I began 18 months working as Senior Economist for International Trade and Finance at the White House Council of Economic Advisers. Since that time, my research questions naturally have veered toward trade policy, but organically have manifested this same crossover between trade and macroeconomics. There is very little time for original academic research in this setting, but while there, I worked with Jason Furman, Jay Shambaugh, and a team of junior economists

to investigate whether tariffs fell heaviest on rich or poor households. To do so, I proposed matching the U.S. tariff schedule with data on consumption from the Consumer Expenditure Survey, used to compute measures of inflation for macro policymakers. No one had done this. We showed for the first time using U.S. consumption data that as a fraction of income, [tariffs fall heaviest on the poorest U.S. households](#), like a consumption tax. A number of studies using this technique have followed, some of them using our matching either as their own matching strategy or as a benchmark to refine. Our results have been confirmed in more detailed analysis by the [U.S. International Trade Commission](#). The combination of datasets usually applied separately by trade economists and macroeconomists key, but the result also rests on an understanding of the macro concept of the consumption-savings tradeoff. Tariff exposure per dollar of expenditure is similar across rich and poor households, but as a fraction of income the burden is heaviest on poorer households in the short- to medium-term because they spend a higher fraction of their earnings. The paper was widely covered in the press over the last several years.

Since returning to academia in 2017, I have continued investigating the relationship between trade and macroeconomic outcomes. I co-wrote a [paper](#) measuring how much of U.S. demand for imports from third-country exporters was diverted to South Korean exporters after the Korea-U.S. Free Trade Agreement went into effect in 2012. We show that it was enough to explain the entire increase in the U.S. bilateral deficit with South Korea 2012-2014, a hotspot for opposition to free trade agreements in Asia. Half of this “trade diversion” came at the expense of Chinese exporters. The result garnered interest from Chad Bown and Soumaya Keynes of *Trade Talks*, who featured it in their popular [podcast](#). I am continuing two projects leveraging the models of strategic pricing and markups that I helped pioneer earlier to think harder about how trade, multinational activity, and exchange rate volatility affect advanced versus developing economies. I have two other projects in very early days—so not listed on my CV yet—assessing fiscal and monetary policy under secular stagnation in settings where this kind of imperfect market structure matters.

Finally, I am learning to push frontiers in new ways. I worked with [Katherine Eriksson, Jay Shambaugh, and Minfei Xu](#) to understand the historical roots of local economies’ disparate vulnerability to adverse labor market outcomes from the China shock. A product cycle spanning over a century within the United States helps predict which areas suffered the most severe drop in employment and labor force participation. In a [companion paper](#), Shambaugh and I show that local unemployment rates are growing more persistent in very stratified ways and that education appears to be a key factor in which areas end up less able to grapple with shocks such as import competition and automation. These papers have had a broad impact, with coverage in [The Economist](#) and by [Reuters](#).

Along these lines, I have also begun an agenda on trade policy and public health, which I consider a macro issue. While the world struggles now with a deadly communicable disease, non-communicable diseases like heart disease and diabetes also kill several million people every year. By reducing the relative price and increasing the advertising of unhealthy foods, trade is linked with an uptick in adverse health outcomes. Trade policy also restricts some parameters for domestic public health regulations. Yet the fields of trade and public health have been siloed. Collaborating with two specialists in public health and a team of junior researchers, I am polishing the first paper, “Trade Policy and Public Health: A Case Study of the Political Economy of Breastmilk Substitutes,” for submission to a journal in public health. A second paper is underway now, which will use data gathered for the case study to model tradeoffs between trade policy and public health using more standard economic tools. I presented initial findings to the World Health Organization in March.