Research Statement

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My research is in macroeconomics and seeks to understand the drivers and consequences of secular trends in the economy. My current research agenda spans three topics that will permeate the macroeconomic landscape for years to come: (1) the rise in markups, (2) the increase in inequality, and (3) the transformation of the family. In earlier work, I studied issues related with (4) climate change and the threat of natural disasters. My work combines administrative and survey data with general equilibrium models that emphasize the trade-offs different people or firms face. Below is a synopsis of my work.

1. The rise in markups. My job market paper, "**Structural Change and the Rise in Markups**," studies the sources of the rise in markups over the last forty years. I show that this rise has been driven by a reallocation of market share away from goods-producing firms to services-producing firms and a faster increase of services' markups.

I then show that standard models of structural change have all the necessary ingredients to study this phenomenon. In particular, the two drivers of structural change, differential rates of technological progress across sectors and income effects through non-homotheticities, play opposing roles in the model. On one hand, an increase in the relative productivity of manufacturing leads to a decline of the relative price of manufactured goods. The pass-though to consumers is however smaller than one, pushing up the markups of goods-producing firms. On the other hand, increasing incomes trigger the rise of the services sector, leading to higher markups for firms in services. The higher markups result from preferences that imply the price elasticity of demand falls with income.

To disentangle the importance of these forces, I build a quantitative model in which markups are endogenous and a function of prices, consumers' income, and their demand share. Shutting down the change in the prices of goods and services would have led to a meager 5% increase in the aggregate markup between 1980 and 2015. In contrast, keeping incomes as in 1980 would have led markups to be stable over that period. These lower markups would however by accompanied by a decline in the number of entrants in the market for goods and services. The observed rise in markups may therefore not necessarily reflect a decline of competition.

Finally, I provide novel experimental evidence supporting the notion that the price elasticity of demand decreases with income. In particular, I construct an online survey to elicit consumers' price elasticities of demand for broad categories of goods and services. The survey questions are designed as experiments to capture individuals' perception of the impact of changes in prices on their purchase of different goods and services. In line with the theory, I find that wealthier households tend to not adjust their demand when prices increase, while less well-off consumers are more likely to reduce theirs.

2. The increase in inequality. Attending college is one of the most important decisions of an individual's lifetime. It shapes career trajectories and has a significant impact on earnings potential. In "**College Admissions and the (Mis)Allocation of Talent**" (with Coby Wittman), we leverage detailed student-level data from the restricted-use National Center for Education Statistics (NCES) to show that high-achieving, low-income students are less likely to apply to selective colleges despite the generous financial aid typically offered. We estimate an equilibrium model of the U.S. college

market featuring tuition discrimination and a noisy application and admissions system to study the effect of dropping the SAT and increasing need-based financial aid. If colleges stopped using admissions standards, high-ability students—in particular from low-income backgrounds—would be worse off and only high-income, low-ability students would benefit. Despite its fiscal cost, increasing Pell grants would greatly benefit low-income, high-ability students.

3. The transformation of the family. The 20th century witnessed a dramatic transformation of the family in the U.S. and much of the industrialized world. In "**The Great Transition: Kuznets Facts for Family-Economists**" (with Jeremy Greenwood and Nezih Guner), we examine the structural transformation the family goes through as an economy develops. We dug into U.S. and cross-country Census data from 1880 till today to document six Kuznets facts related to (1) the decline in work effort, (2) the drop in fertility, (3) the waning in marriage, (4) the descent in household size, (5) the rise in educational attainment, and (6) the shift from blue- to white-collar jobs.[1] We develop a macroeconomic model to study the drivers behind the great transition within the family over the last 140 years.[2]

4. Climate change and the threat of natural disasters. In "**Building Resilience to Natural Disasters: An Application to Small Developing States**" (with Vladimir Klyuev and Chris Papageorgiou), we document the economic costs posed by cyclone Pam in Vanuatu and build a model to examine its macroeconomic impacts and quantify the financing support needed to rebuild infrastructure over the medium term. In "**The Long-run Decoupling of Emissions and Output: Evidence from the Largest Emitters**" (with Gail Cohen, Joao Jalles, and Prakash Loungani), we address the decoupling of greenhouse gas emissions from economic activity by showing that there is an Environmental Okun's Law—a cyclical relationship between emissions and real GDP—that often obscures the trend between emissions and output.

Going forward. My research will continue to investigate the causes and consequences of structural transformation and inequality, using empirical, theoretical, and quantitative tools. I now highlight a few ongoing projects. In "**Advertising and the Rise of Specialized Varieties**" (with Salomé Baslandze, Jeremy Greenwood, and Sara Moreira), we show that the increase in digital advertising allows firms to specialize and offer more varieties of products. We develop a model of advertising to study the drivers behind the rise in the number of varieties. In "**The Market Power of Cities**," I estimate markups using detailed establishment-level data to study the role of cities in the rise of markups. I develop a model to quantify the forces behind the spatial differences in markups.

I am also interested in numerical methods used by macroeconomists. These have now become part of our everyday toolkit and it is important that young economists become acquainted with them at an early stage. To this end, I am writing a book, "**Numerical Methods for Macroeconomists (with Julia and Matlab codes)**" (with Jeremy Greenwood), that should make these techniques accessible to advanced undergraduates and beginning graduate students.

[1] The Kuznets facts for family-economists are available in the interactive webpage: www.ricardomarto.com/data.

[2] You can simulate your own version of the model in the interactive webpage: Simulate your model.