Research Statement

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I am a quantitative macroeconomist with interests in monetary economics and firm dynamics. My research uses quantitative general equilibrium models and microdata to study how the behavior of businesses affects our understanding of business cycles and monetary policy.

Current Working Papers

In my job market paper, "*Entry, Variable Markups, and Business Cycles*," I study how fluctuations in the creation of new businesses, often called "entrants," amplify recessions. My paper focuses on the Great Recession, in which the number of entrants fell by one third. I study how this dramatic change affected employment and output in the economy at large.

I show in the paper that a key aspect of the propagation of the decrease in business formation to the rest of the economy is the response of large incumbent businesses to the reduction in competition that they face from entrants. As entry decreases, the market shares of large incumbents increase, and in response, they increase their markups and reduce their employment. I show in a panel dataset on firm behavior that this mechanism is quantitatively salient: large firms that experience increases in their market shares increase their markups significantly. I then develop a quantitative general equilibrium model that is consistent with this fact. I show that a decrease in entry leads average markups to increase, the labor share of income to decrease, and output to be reallocated away from productive businesses and to unproductive ones. These changes lead to large contractions in employment, and I show that a model that ignores the relationship between market shares and markups implies effects of entry that are only half as large.

I then use the model to study two quantitative applications. In the first, I show that a decline in entry that matches the size and duration of that during the Great Recession generates a large and persistent contraction in both employment and output. Half of this contraction is due to the increase in markups among large incumbent establishments. I then ask whether the increase in market concentration over the past 30 years affected the impact of entry on the aggregate economy. I show in data that large firms now increase their markups

more in response to changes in their market shares than they used to. When I incorporate this fact into the model, it implies that fluctuations in entry affect macroeconomic dynamics today more than they did 30 years ago.

In a recent working paper, "*Customer Search, Competition, and Monetary Non-Neutrality*," I study how the ability of households to compare prices across stores affects price stickiness and the ability of monetary policy to stimulate output. I begin with a simple observation that is at odds with standard models of monopolistic competition: identical goods are often sold at different prices by many suppliers. I confirm this fact in a large dataset on prices at grocery stores across the US; there is significant dispersion in the price of the same good at different stores, even within the same city. I account for this fact in a quantitative model of imperfect information; in the model, households cannot observe prices at all stores. I show that introducing this mechanism into an otherwise standard model of sticky prices helps account for the dispersion in prices that I document in micro-data. It also increases price stickiness and so amplifies the effects of monetary policy on output.

Works in Progress

In closely related work, "*Monopoly Power, Sectoral shocks, and Monetary Non-Neutrality*," co-authored with Simon Gilchrist and Adam Guren, we study the propagation of aggregate and sectoral shocks in a model that parsimoniously incorporates the effects of market power on dynamic pricing decisions. We begin by documenting in a dataset on prices at grocery stores in the US that large producers adjust their prices more frequently and by less on average than small producers. We then develop a novel shift-share instrument for producer-level demand by interacting their exposure to local markets with local house-price growth. We show large producers increase their prices by more in response to demand shocks than do small producers. These facts are consistent with a model in which (1) large producers have market power to set markups over marginal costs and (2) large producers face lower nominal rigidities than do small producers. We study both sectoral shocks and monetary policy in a New Keynesian model that incorporates both of these mechanisms, and show the market power of the monopolist amplifies both.

Future Research

Exciting avenues remain for research at the intersection of firm dynamics and macroeconomics. A recent empirical literature documents that in recessions, small firms' revenues decrease by more than large firms'. These changes imply the market shares of large firms and market concentration increase in recessions. Two natural questions arise: What is the role of the increase in market concentration for the propagation and amplification of shocks?

And what drives these changes in the distribution of market shares over the business cycle? I plan to study these questions using quantitative macroeconomic models that match the distribution of sales, markups, and employment over the business cycle.