

## Research Statement

My main field of research is **Quantitative Macroeconomics**, especially the decisions of heterogeneous economic agents and their interaction with aggregate outcomes. I am particularly interested in the consequences of frictions in the goods and labor market, and the response of households to individual and aggregate risks. In all of my work, I employ computational heterogeneous agent models which I discipline against evidence obtained from the careful empirical analysis of large-scale micro-data.

The first pillar of my work is centered around the consequences of frictions in the goods market. Goods market frictions are important to explain e.g. dispersion in posted and paid prices for identical varieties or the gradual buildup of firms' customer base, and have implications for the relative inequality in households' consumption and expenditure and how demand-side factors affect the growth of firms and economies.

My **job market paper**, "**Shopping, Demand Composition, and Equilibrium Prices**" ([draft here](#)) adds to the growing literature on frictional goods markets by studying the implications of household heterogeneity for equilibrium prices. I break with the canonical assumptions of homothetic preferences and the law of one price to show how heterogeneity in consumption baskets and search for price bargains affects posted prices. Analytical results from search theory and empirical evidence from big data on households' grocery transactions show that price distributions respond to the composition of buyers. In a quantitative heterogeneous agent model with endogenous price dispersion for multiple varieties, I find that the response of retailers to households' search effort is quantitatively important to differentiate between inequality in expenditure and consumption. It more than doubles the direct effect of paying more or less given posted prices, which has been the focus of previous literature. Furthermore, I find that household heterogeneity helps to account for the empirical cyclicalities of retail prices and markups in response to aggregate shocks, and has implications for the response of prices to redistributive policies.

In follow-up work in progress on "**Estimating the Costs and Benefits of Price Search**", with Max Bres, we focus on a deeper understanding of households' search process. We combine data on households' prices paid and prices posted by supermarkets to provide a new empirical approach to estimating the cost of reducing prices for a basket of goods. We can allow for heterogeneity in cost functions across households and returns to search across goods and plan to explore the implications for aggregate outcomes.

Building on my job market paper, I plan to work further on the implications of household heterogeneity for posted prices. Richer versions of the baseline model can allow for adjustment costs or a spatial component. These extensions address how demand composition affects price stickiness across products or the empirically observed uniform price setting of retailers across space, as well as implications for the transmission of monetary policy and the response of prices to regional vs. national shocks.

In addition, I want to focus on how households' choices in frictional goods markets interact with the growth of firms and the entry of new varieties, to explore the relation between inequality and business dynamism. In work in progress on "**Customer Capital and Corporate Borrowing**", with Luigi Falasconi and Gianmarco Ruzzier, we take a first step and provide evidence on how the growth of firms' customer base affects their financial choices. We find firms that spend more on acquiring customers to borrow disproportionately in unsecured debt and build a model to explore the benefits of unsecured credit for firm growth.

The second pillar of my work aims to go beyond the approach of treating a household as a single agent. Allowing for households with multiple members who can optimize their decisions jointly is important to accurately capture their ability to insure against shocks and to understand how changes in the demographic structure of the economy can affect aggregate outcomes.

In the paper **“Joint Search over the Life Cycle”** ([draft here](#)), with Annika Bacher and Philipp Grübener, we show how households with two members can insure themselves against the job loss of a primary earner through the labor force entry of a non-participating spouse. We document empirically that this margin is predominantly used by young households. In a two-member life cycle model with endogenous arrival rates, human capital accumulation, and extensive-margin labor supply, we explore how differences in labor market opportunities and asset holdings contribute to this pattern. Our findings suggest that the age difference is predominantly explained by better insurance through asset holdings for the old, while differences in arrival rates and human capital play a smaller role. In follow-up work, we plan to analyze the implications for the optimal design of unemployment insurance.

Explicitly accounting for all household members individually has implications beyond the labor market. I plan to link the second pillar of my work to the first and study the goods market choices of multi-member households. Thinking about the increase in female labor force participation over the last decades in a price-search framework with multiple household members could improve our understanding of trends in the product market such as the observed increase in markups.

In two additional papers, I concentrate on the interaction between household heterogeneity and aggregate risk. In **“Distributive Effects of Banking Sector Losses”** ([draft here](#)), with Caterina Mendicino and Marcel Peruffo, we build a two-asset heterogeneous agent model with a financial sector to study the exposure to bank distress along the income distribution. We show that banking sector losses disproportionately harm low-income households while rich households adjust their savings behavior to profit from fluctuations in asset prices. This is why welfare losses from bank distress are considerably more dispersed than consumption responses. We find the model-implied consumption responses to be in line with empirical evidence on the relationship between bank equity returns and consumption across households.

In the paper **“Who Cares about Inflation? - Endogenous Expectation Formation of Heterogeneous Households”** ([draft here](#)), I study how wealth holdings can affect households’ incentives to form precise expectations about future inflation rates. I document empirically how the dispersion of expectations changes along the wealth distribution and develop a consumption-savings model with costly expectation formation to study implications for the effectiveness of forward guidance policies.

Independent of the focus of my projects, I greatly appreciate the opportunity to work in an active research environment. I enjoy collaborating on projects with other researchers, which gives me the chance to learn from their experience and knowledge while complementing their skills with mine. In any of my further work, I would be happy to engage with my future colleagues and students to develop new ideas together.