Research Statement

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I am a Ph.D. candidate in Economics at New York University with specialization in Macroeconomics and Financial Economics. My research is concerned with the interplay of macroeconomic dynamics and credit market frictions, with a particular focus on heterogeneity at the firm and household level.

Financial constraints play an important role in many parts of the economy: for households, firms, banks and sovereigns alike. In pursuing a disaggregated approach I seek to enhance the understanding of business and financial cycles and to learn about their driving forces. In particular, studying the behavior of heterogeneous agents can help to distinguish the sources of cyclical shocks, and it allows measuring their respective contributions to economic activity during different phases of the cycle. Ultimately, I intend to study the aggregate and distributional effects of policy in the presence of firm-level heterogeneity. As credit policies and other interventions relax constraints of different firms differentially, the design of effective policies needs to take into account the underlying heterogeneity.

Aside from heterogeneity, an objective of my work is to shed light on the interconnection of financial constraints in different sectors of the economy. While the bank-sovereign interdependence and the entanglement of firm and bank balance sheets have been extensively studied, the US housing boom and the ensuing mortage crisis underscored the important connection of household balance sheets with the financial health of firms or banks. Questions arise, for instance, about the role of household debt overhang in the recovery of the nonfinancial business sector and on the redistributional effects of monetary policy.

I explore these issues through the lens of macroeconomic models and I use calibration and estimation techniques to connect model and data. Specifically, dynamic stochastic general equilibrium models (DSGE) allow disciplining the interactions of agents in labor, product, and financial markets. In the context of heterogeneity this means that the behavior of more and less constrained agents is interdependent as they trade on the same markets. Aside from macroeconomic and financial data, I use evidence at the firm-, household-, or bank-level to characterize heterogeneity and to test aggregate and cross-sectional implications of the model.

My research connects with a number of fields in Economics and Finance. The study of business cycle dynamics links my work to topics in Monetary Economics, while employment more broadly relates to issues in Labor Economics, in particular search and matching models. The role of credit frictions is also being examined in International Economics, specifically in the context of trade dynamics. Finally, the Corporate Finance literature has extensively studied the balance sheet structure of firms as well as the connection of financial constraints and firm-level investment.

In the following I provide more context on my current research projects. In my job market

paper, entitled *"Financial constraints, firm heterogeneity, and the cyclicality of employment growth"*, I study the role of financing constraints for cross-sectional employment dynamics. I explicitly take into account differences in the severity of credit frictions across firms and ask: How does a recession affect firms which are more and less constrained to begin with? Which of the many dimensions of firm heterogeneity can help understand heterogeneous employment dynamics in the data? On the empirical side I document that employment growth at more financially constrained firms is more sensitive to macroeconomic conditions. On the technical side I introduce persistent heterogeneity in the debt capacity of firms into an otherwise standard financial accelerator model. I then assess the ability of the model to match the differential employment elasticities estimated from the data, and I show that both the endogenous choice of the capital structure and the default option are essential to replicate the greater cyclicality of more constrained firms. Other dimensions of firm heterogeneity, such as productivity or risk differences, fail to generate cyclical variation that is consistent with the observed employment dynamics.

Disproportional employment losses at more constrained firms may help explain why the cross-sectional dispersion of employment growth is higher in recessions. In future work I would like to assess the importance of my mechanism relative to other channels proposed in the literature. Moreover, the results of this paper are applicable to a variety of settings. For instance, in emerging economies only few firms access foreign debt markets. Insofar as this increases their debt capacity, the model would predict greater employment cyclicality at these firms. I look forward to studying further implications of heterogeneity in this framework.

In a companion project with the preliminary title *"Constrained by default: Precautionary savings and bankruptcy risk"*, I explore a feedback loop between households and firms. Namely, recessions are times of high corporate default risk and also of high unemployment risk. Upon default of their employers workers lose their jobs. Moreover, the unemployed have less income to spend and the still employed increase precautionary savings in light of higher unemployment risk. Thus, firms lose customers which increases their likelihood of default. I expect this feedback loop to connect to the literature on the role of housing net worth for employment losses in the Great Recession. An influential argument posits that the drop in house prices and thus household wealth led to higher unemployment via a fall in consumer demand. A complementary narrative stresses that the fall in demand propagated through corporate balance sheets and led to employment reductions at more leveraged firms. The proposed mechanism captures demand effects but also addresses the role of corporate balance sheets. The framework requires three key ingredients: (i) a corporate sector with default in equilibrium, (ii) a household sector with uninsurable unemployment risk, and (iii) nominal rigidities to allow for demand side effects. I am currently assessing the magnitude of feedback effects in the model and furthermore explore predictions that can be tested in the data. For instance, the feedback from unemployment risk to corporate defaults is expected to be particularly relevant when demand is local, as is the case in non-tradable industries.