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Research Statement

I am a macroeconomist with interests at the intersection between the real and financial sectors of the economy. My research examines the micro- and macroeconomic implications of firm-level financial frictions and precautionary savings behavior across households.

Job Market Paper

In "Long-Term Debt, Default, & Policy Transmission during Severe Recessions", I study how rollover risk affects firm investment and the aggregate responses to recessions. I study a long-termm debt contract that matures probabilistically, such that either none or all of a firm's debt matures in a given period. I embed this contract into a dynamic general equilibrium model with firm heterogeneity and default risk.

When calibrated to firm-level data on investment rates and leverage, the model generates a persistent negative effect of long-term debt maturity on firm-level investment. I show this effect is consistent with data on publicly traded firms. Moreover, I find that my approach to long-term debt generates more debt overhang than the standard model of long-term debt, which counterfactually smoothes out rollover risk. The increased rollover risk and debt overhang in my model make the equilibrium economy more responsive to aggregate financial shocks. My model generates both a larger rise in defaults and a bigger decline of endogenous productivity. Through these two channels, financial recessions in my model are both deeper and longer. I also assess how my model economy responds to a large non-financial recession, and evaluate the firm-targeted stimulus policies implemented in the U.S. over the 2020 recession. My findings suggest that the combined implementation of the Paycheck Protection Program and the expansion in quantitative easing dampened the rise in defaults and accelerated the aggregate recovery.

A novel feature of probabilistic maturity is that it generates a substantive distinction between long-term, risky debt and short-term financial savings. Hence, in the model firms simultaneously borrow and save, in addition to investing in physical capital. Separating financial savings and debt has important implications for the model dynamics. In particular, because firms can hold precautionary savings, my model environment allows a realistic way to hedge against rollover risk. Additionally, at the start of a recession firms with high net worth borrow to hold precautionary savings. These additional savings ensure that if a firm subsequently receives a large negative shock, it will not have to take on new borrowing then, when it would be more expensive. Such precautionary savings are consistent with empirical data, but cannot be captured by the standard long-term debt model.

Precautionary Savings & Business Cycles (with Aubhik Khan)

In "Growth, Risk and Business Cycles in an Overlapping Generations Economy", I study precautionary savings behavior over business cycles in a quantitative model with lifecycle dynamics and uninsurable risk. Households are subject to persistent risk to their labor force participation and to their earnings when employed. This income risk and the need to save for retirement give households have several incentives to save that are absent in the canonical incomplete markets model. Business cycle dynamics strengthen

precautionary savings motives. A brief shock to productivity growth, combined with a fall in labor force participation, allows the model to replicate the large decline in aggregate consumption and the weak recovery observed during the Great Recession.

Firm Financial Frictions & Business Cycles
In "The Propagation Effects of Long-Term Debt Maturity on Business Cycles", a companion paper to my job market paper, I explore how the financial frictions specific to long-term debt alter firm decisions in dynamic stochastic general equilibrium. I compare business cycle dynamics in a model with probabilistically maturing, long-term debt to an otherwise identical model with one-period maturity. When debt is long-term, the economy is smaller on average, but is more volatile as measured by the coefficient of variation on output.

Earnings Risk, Portfolio Heterogeneity, and the Racial Wealth Gap in the US
In work in progress on household savings dynamics, I examine the racial wealth gap in the U.S. Recent empirical studies show that poor households have a lower average return on savings than richer households, due to differences in portfolio composition. These lower returns on savings impede wealth accumulation by less wealthy households. This compounds the challenges facing African American households, as they are less likely to be employed and earn lower wages than white households.

Future Work
I plan to further the research agenda linked to my job market paper in two ways. First, I will expand the setting to include a financial intermediary facing its own frictions, allowing for feedback effects from individual firm risk to aggregate financial conditions. This extension will allow a more robust assessment of quantitative easing. The model will also include nominal frictions, allowing a second, inflationary aspect of debt overhang and an assessment of how conventional monetary policy interacts with probabilistically maturing debt.

Second, beginning again with the model in my job market paper, I plan to endogenize the duration of debt and assess how decisions on duration interact with investment decisions. Separately, I intend to introduce loan covenants into the model, allowing lenders to discipline borrowers' behavior throughout the contract, beyond its origination, and examine how such covenants affect firms' risk-taking and growth.

Additionally, Aubhik Khan and I plan on a follow-up paper to our existing work. We will extend the model by introducing nominal frictions and monetary policy shocks to the environment. While there is growing literature on heterogeneous-agent New Keynesian models, none so far have incorporated overlapping generations, which, as our current work shows, is a key driver of precautionary savings and aggregate dynamics. We will use the extended model to assess how nominal frictions affect price dynamics and household responses over business cycles. We will also use it to study how marginal propensities to consume (MPCs) vary over the business cycle, and across household characteristics such as age. Next, we will consider how the distribution of MPCs responds to fiscal and monetary stimulus, and how this influences aggregate dynamics.