

Research Statement

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My interests are in financial economics and macroeconomics with an emphasis on asset pricing. The primary focus is the intersection between macroeconomics and asset pricing, where I explore the extent to which asset prices can be used to inform macroeconomic dynamics and vice versa. Currently, my research is focused on two themes:

- understanding the informativeness of the recent empirical evidence regarding the term structure of equity
- and using asset prices to understand the macroeconomic importance of various sources of uncertainty. Here, I have a particular focus on macroeconomic networks and their implications for the propagation of shocks and the shocks' associated risk prices.

Beyond the Risk-Premium Puzzle with the Term Structure of Equity: A considerable portion of the asset pricing literature over the last two decades has focused on reconciling the large excess returns observed on the market portfolio with plausible models of investor preferences. The recent literature on the term structure of equity breaks the equity premium up into the contributions of cash flows paid over future horizons. A large portion of my proposed research agenda is to better understand the information content made available by decomposing the aggregate risk premium in this way.

- The term structure of equity informs the dynamics of cash flow growth: A theme that I explore in my research is that the term structure of equity informs the econometrician of the asset's underlying cash flow dynamics. In contrast, the risk-premium on the market portfolio is informative only of the magnitude of the sources of risk and the investor's aversion to that risk. In my research, I seek to formalize the nature of this additional information.
- In my work-in-progress entitled "**Dividend Growth Dynamics and the Term Structure of Equity**," I seek to understand the implications of the term structure of equity on the dynamics of dividend growth. I explore the consequences of adding a small, transitory, mean-reverting component to consumption or dividend dynamics within several classic asset pricing models, such as the consumption CAPM, long-run risk, and external habits. Recent evidence that suggests that the term structure of equity as characterized by holding period returns on dividend strips is downward sloping is at odds with the traditional specification of many of these asset pricing models. I show that these models can have limited success in matching this stylized fact by adjusting cash flow growth dynamics in this way. To understand the principal mechanism, I demonstrate within a class of log-linear, affine models that a tight link exists between the risk exposures associated with these holding period returns and the impulse responses of cash flow growth.
- Macroeconomics and the Term Structure of Equity: Within the macroeconomics literature, the risk premium puzzle has been used to put discipline on the equilibrium relationship between variables, such as labor, consumption, and investment. Again, however, the risk premium puzzle is one primarily of magnitudes which often has little or no implications for quantity dynamics in a macroeconomic model. This separation is emphasized by Tallarini (2000) and expounded by Cochrane (2017). In contrast, I show in my research that the observed risk premia can, in fact, put restrictions of the dynamics of real quantities via the term structure of equity.
- In my job market paper, "**Sectoral Shifts, Production Networks, and the Term Structure of Equity**," I use some of the lessons learned from the previous project. In particular, I explore the information content of the term structure of equity on a fully-fledged dynamic stochastic general

equilibrium model. I show that the term structure of equity puts restrictions on the impulse response functions of output with respect to the models underlying shocks. This ties the term structure of equity to intersectoral trade, the observed shape of the network, and the covariance structure of sectoral shocks. I show that, in order to satisfy the stylized fact that the term structure of equity is downward sloping, a large portion of sectoral variation must come from the risk of sectoral shifts---shocks that shift TFP between sectors without necessarily increasing or decreasing long-run output. I then show how to use the term structure of equity to evaluate the fit of the data to the model.

Using Asset Prices to Evaluate Sources of Uncertainty

- The origins of aggregate fluctuations: Currently, there is a growing literature that seeks to evaluate the importance of idiosyncratic, sector-specific shocks in explaining aggregate fluctuations. This has produced several empirical approaches to evaluate the importance of these shocks. I seek to add to this literature by using asset pricing data to inform this question.
- In my work-in-progress entitled “**Asset Pricing and the Importance of Sectoral Shocks,**” I begin by asking, how important are idiosyncratic, industry-specific shocks in accounting for aggregate uncertainty and risk? This mirrors the question in macroeconomics that asks, to what degree do these sectoral shocks account for aggregate fluctuations. I show that risk prices, which define the compensations that an investor takes on in exchange for taking on an additional unit of risk from a particular source, capture a measure of this importance. I show that the risk prices associated with these idiosyncratic shocks is not zero, even at high levels of disaggregation. Furthermore, I demonstrate a method that can be used to infer these risk prices from the cross section of stock returns. I use this to measure the degree to which idiosyncratic, sectoral shocks can explain aggregate fluctuations and aggregate risk. This serves as an alternative to other measures, such as Domar weights or measures of network centrality, such as the influence vector Acemoglu et al (2012). I demonstrate conditions under which these are the same and conditions under which they differ.