My theoretical and empirical research is in environmental corporate finance and international finance.

Environmental Corporate Finance

My research in environmental corporate finance focuses on understanding effective strategies for aligning firm interests with the reduction of greenhouse gasses and the ability to econometrically test for the climate impacts of these strategies.

My job market paper is motivated by the question of whether pressuring publicly traded companies to decarbonize is effective when there is trading in assets. Recent sales of high greenhouse gas emitting assets by publicly traded firms to privately held firms raise two concerns. The first is that such pressure will lead to zero or negative climate impacts. The argument is that by shifting ownership to privately held firms that are subject to less public scrutiny, assets will be operated in more emissions-intense ways. The second concern is that the publicly traded firms that sell their assets are being financially rewarded for such sales.

Responding to these concerns, I empirically estimate the environmental and valuation consequences of divestitures by publicly traded firms to privately held firms in the fossil-fuel power plant sector, which accounts for a quarter of US annual emissions.

Using a difference in difference (DD) design, I find that divestitures to privately held firms had near zero impacts on aggregate emissions and that the post-divestment effects of units divested to privately held firms were statistically indistinguishable from those divested to publicly held firms. This finding casts doubt on ESG investor strategies that stress divestment as a way to reduce aggregate emissions. I also reject the null that publicly traded firms that sold assets were systematically financially rewarded when they announced divestments.

I then present a simple model of firm production and emissions in which publicly traded firms, but not privately held firms, experience a shock to their private costs of emitting. I show there exists a “brown-spinning equilibrium” in which publicly traded firms express the shock entirely through ownership decisions: they sell to privately held firms and assets emit just as they would have pre-shock.

I have two ongoing projects in this area. The first is a project extending the theoretical results presented in my job market paper by identifying equilibria under which we can or cannot econometrically test for the climate impacts of these strategies using a DD design. The second is a theoretical and empirical project with another PhD student from the Institute for Data, Systems, and Society Thomas Lee, which studies the conditions under which a popular policy for greening electricity battery arbitrage–compensating batteries for the marginal emissions (ME) they take off the grid–increases, decreases, or has no effect on aggregate emissions from electricity generation.

International Finance

My research in international finance has centered on measuring and understanding the U.S. Treasury convenience yield. In a paper with Wenxin Du and Jesse Schreger, “U.S. Treasury

Premium" (*Journal of International Economics*, 2018), we define the U.S. Treasury convenience yield as the deviation from covered interest parity between government bond yields and document a secular decline in this measure at medium to long maturities. We show that the convenience yield cannot be explained away by differential sovereign credit risk or FX market frictions and that increases in foreign country debt-to-GDP ratios are associated with a higher U.S. Treasury premium. This supports the notion that convenience yields are driven by the relative scarcity of sovereign debt in the U.S. vis-à-vis the other countries in the sample.

I would love to continue research in climate finance investigating how climate change may affect asset prices and effective strategies for aligning corporate behavior with mitigation of climate change and its harms.