My primary research interests are in industrial organization and applied econometrics. In particular, I enjoy combining economic theory and modeling with frontier econometric methods to study policy-relevant topics. My dissertation research studies the implementation and impact of various discriminatory pricing strategies, like combining dynamic pricing with auctions and personalized pricing in the form of targeted discounting. The data for this research comes from an ongoing and expanding partnership with a North American airline.

My job market paper, "Revenue Management with Reallocation," studies the tradeoffs associated with integrating reallocative mechanisms into the revenue-management systems used by airlines to dynamically adjust prices prior to departure to allocate seats in vertically-differentiated cabins. In my empirical application, consumers buying an economy seat can bid for an upgrade to a premium seat in an auction run at a fixed date before departure, while any remaining premium seats are offered at a fixed price at check-in. The challenge with integration is that strategic consumers can respond to the possibility of upgrades to undermine the screening intention of the dynamic pricing. Specifically, bid-acceptance policies optimize revenue given the circumstances for each flight at the time of the auction, i.e., seats remaining and expectations regarding future demand. Given this, if consumers opt for the possibility of being awarded an upgrade through the auction or at check-in, rather than purchasing premium outright, they create the circumstances associated with a greater possibility of an upgrade. To examine the impact these mechanisms have on profits and consumer welfare, and study ways to improve integration into environments with dynamic pricing, I estimate a structural model of a profit-maximizing airline and equilibrium purchasing and bidding by strategic consumers. I find that, as implemented, the introduction of the upgrade mechanisms results in a modest transfer from the airline to consumers. In further counterfactual exercises, I measure the implications of adapting the auction to counter strategic consumers by allowing the airline to commit to less accommodative bid-acceptance policies and include bid information in pricing policies.

In other ongoing research, I use different data sources from the collaboration with the airline to study a variety of related topics. In a paper that closely complements my job market paper, "Allocating Upgrades: Challenges and Opportunities in the Airline Industry", I provide a detailed reduced-form analysis of consumer responses to the introduction of the upgrade procedures and the effect on the airline's revenues. In another paper that is R&R at the Economics of Transportation, "What Can Web Traffic Reveal about Demand for Air Travel?", I analyze novel data on visits to the airline's website to provide unique insight into demand for air travel, like the extent to which consumers search for different destinations and dates and how competition changes those behaviors. Finally, in "Personalized Pricing in the Airline Industry", I study the effectiveness of real-time personalized pricing based on observed attributes of consumers using data from large-scale experiments that offered randomized discounts to consumers through the airline's website.

In the near future, I plan to continue to collaborate with the airline to examine exciting topics of mutual interest. In particular, we're expanding our work on personalized pricing to include pricing of ancillary revenue sources like carry-on bags and choice of seats that represent an increasing share of overall revenue in the industry. I'm also starting a new project that is preliminary titled "Consideration Sets with Intertemporally Related Goods: Evidence from the Airline Industry." Most modeling of consumer's consideration sets ignores intertemporal considerations, which are acutely important in the airline industry. Consumers not only weigh different itineraries and airlines for a particular date of travel, but also different dates altogether. The data from this airline's website permits insight into this aspect of consumer decision making, which can have important consequences for estimates of demand elasticities and market power. Collectively, while I'm very excited about this research agenda going forward, I'm equally excited about taking the skills and knowledge that I've developed to research other questions and industries.