Research Statement

My research explores questions in industrial organization and policy, with an emphasis on antitrust and competition. I seek to inform design of an effective competition policy, through enhancing understanding of the creation and maintenance of market power. My dissertation investigates how vertical contracting affects downstream collusion.

Many collusion cases involve downstream firms. While collusion between downstream firms decreases consumer surplus, it can also hurt upstream suppliers. As such, upstream suppliers have incentives to restrict downstream collusion. In my job market paper, The Power of Upstream Contracting over Downstream Collusion, I use a game-theoretic approach to examine the strategic design of supply contracts as one way for upstream suppliers to restrict downstream collusion. I show that a monopolist supplier can use nonlinear pricing contracts to weaken downstream firms’ ability to collude, while simultaneously generating a positive welfare effect. The key finding is that using nonlinear pricing (in particular, a two-part tariff), a monopolist upstream supplier can induce colluding downstream firms to choose a total quantity larger than what they would have chosen under optimal linear pricing. The main reason is that collusion relies on repeated-game punishments, and a fixed fee can influence downstream cartel members’ incentive constraints through its impact on the downstream cartel’s punishment profile.

The model has policy implications for several antitrust and regulatory issues, including but not limited to the following: (1) Upstream price fixing can have a benign motivation, which is to restrict downstream collusion. (2) Although a two-part tariff is a particularly attractive limiting case of nonlinear pricing, the key property of nonlinear pricing to arrive at the main result is discount pricing (decreasing per-unit price for a larger quantity). Therefore, an upstream monopolist facing downstream collusion may price low for large quantities in order to restrict collusion, but such pricing behavior may be misinterpreted as predatory. (3) I show that nonlinear pricing differs in a systematic way with and without downstream collusion. This result provides authorities with a new tool for detecting collusion.

In a related paper in progress, Vertical Contracting and Downstream Collusion with Many Firms, I present a generalization of the key result in my job market paper that upstream nonlinear pricing (two-part tariff) is more limiting to downstream collusion than upstream linear pricing, to allow for an arbitrary number of downstream firms. I also find that when downstream firms collude under a wholesale two-part tariff, the total quantity in equilibrium is decreasing in the number of downstream firms. In addition, this paper provides an extensive analysis of the case where downstream firms collude in an asymmetric fashion: in each period, only a subset of downstream firms participate in trade in order to reduce the total amount of fixed fees paid by the downstream cartel. This method of colluding is motivated by downstream firms’ incentives to resell products to one another, avoiding payment of some fixed fees. I show that the key result is robust to this asymmetric collusive scheme.

Going forward, I will continue to develop projects in industrial organization. I remain particularly interested in addressing issues in antitrust and competition, especially those related
to collusion and cartels. In addition to providing theoretical basis for competition policy design, I also plan to conduct empirical research to investigate firm behavior in various imperfectly competitive markets, and answer new questions pertaining to the exercise of market power. For example, Xuan Ding and I are beginning work on an empirical study of the relation between upstream and downstream competition in the shipping industry. We have obtained extensive data from a global leading provider of shipping services, and will examine how competition in the upstream factor market may be related to competition in the downstream product market. Overall, I am passionate about the field of industrial organization and policy. I anticipate that my future research will be a combination of theory and empirical work continued in this direction.