Research Outline (written December 2009)

(This was prepared for my tenure packet at NYU in Dec 2009.)

Themes that run through my research

The basic economic model of a competitive market involves consumers buying goods from producers. It is notable that in this elegant, but simple, framework: (i) Neither consumers nor producers have any market power; (ii) Production and retailing are subsumed into one process conducted by one firm; and (iii) The government does little other than define and enforce property rights.

This is in stark contrast to the markets that characterize most industries in a modern economy. Production, distribution and retailing are processes that involve many different firms: even simple products pass through complex supply chains (referred to as the vertical market structure) before connecting with final consumers. Many firms enjoy some level of market power and even more invest heavily to attain it. Finally, government is a pervasive presence in markets, from being an active participant (e.g. via contracting for road repair), or regulator (e.g. via the Department of Justice's involvement in competition (or antitrust) law enforcement) through to more ubiquitous interventions such as taxation.

My research is aimed at understanding elements of how allocation, production and exchange work in industries characterized by market power, a complex vertical structure and an active government presence. Using a combination of empirical and theoretical tools, I aspire to contribute our understanding of how these factors shape economic policy at the industry level, at both a normative and positive level. Each of my projects involves some combination of the study of market power, regulation, and exchange in vertical market structures.

Antitrust Policy and Government Intervention

Most developed economies have laws that prohibit the abuse of market power. In the US these laws are known collectively as the antitrust law, and comprise several statutes including the Sherman and Clayton Acts. Across jurisdictions these laws tend to prohibit a variety of conduct including collusion between firms, contracting practices between manufacturers, suppliers and retailers that diminish competition, mergers that would dramatically increase the market power of the merged entity, and the abuse of market dominance.

Despite the strong foundations economic theory provides for antitrust enforcement, large areas of the administration of these laws are currently open to debate. Empirically, we know relatively little about how firms collude and the impacts that this has on market efficiency and the damages collusion imposes on market participants. My paper A Study of the Internal Organization of a Bidding Cartel uses a unique data set of information accumulated by a cartel participant to unravel these issues in a particular cartel setting in the North American market for collectable postage stamps. The findings are interesting in that they suggest new avenues through which cartels can inflict economic damages, illustrate some of the practical constraints on forming an effective cartel and illustrate frontier techniques in the econometric assessment of damages. (A summary is also provided in Bidding Rings)

An important aspect of making advances in this area involves bringing new data sets to light. Searching for new data that speaks to important issues in antitrust enforcement is an ongoing focus. Recently I have been examining the Parcel Tanker cartel using court records and data on ship movements (a preliminary sketch of this work is described in Leniency and Post-Cartel Market Conduct: Preliminary Evidence from Parcel Tanker Shipping). I have also examined exclusive contracting practices between brewers and their distributors, the data innovation being the collection of registered distribution relationships and sales territories from the Illinois Liquor regulator (Diagnosing Foreclosure due to Exclusive Dealing). The search for illuminating data sources continues.

All my projects in this area aim to combine keen observation with the best theoretical and empirical tools available to inform both our understanding of the operation of the antitrust laws and the market incentives that they create.

Somewhat related to the focus on antitrust policy is an interest in how taxes and subsidies operate in markets that are imperfectly competitive. To the extent that taxes are the most common way the government affects markets, these papers examine another aspect of the government's intervention in the marketplace. This line of research has tended to be theoretical, focusing on who benefits from industry subsidies in vertical markets (Subsidizing (and taxing) business procurement) and how equilibrium forces identical firms to respond differentially to policies such as R&D subsidies (Subsidies, Entry and the Distribution of R&D Investment).

Vertical Markets

When a good is produced by a manufacturer who sells it to a retailer, the good travels through a vertical market where upstream and downstream firms interact. Vertical markets can have many tiers. Competition in vertical markets is compli-

cated. Concerns about exclusive contracting practices, price fixing between upstream and downstream firms and strategic pricing are central features of the literature. Diagnosing Foreclosure due to Exclusive Dealing, mentioned above, examines exclusive contracting and competition. The propensity for vertical contracts and mergers to foreclosure competitors from parts of the market is also the focus of work in progress on the Peruvian fishing industry.

Particularly in service industries, relationships are a persistent feature of vertical markets. In Competition and the Structure of Vertical Relationships in Capital Markets we investigate the market for underwriting services and argue that information flows make vertical market interactions in services fundamentally different from those in more traditional physical goods industries. It is hoped that recently collected upstream and downstream transaction-level data collected from a vehicle dealership will provide a window into similar issues in durable (physical) goods markets.

Auctions and Procurement

An auction can be viewed as a very structured form of multi-party negotiation in which one party has enough power to dictate the rules of the game. This party (the auctioneer) structures the game so as to exploit competition between the other parties (bidders) to extract profits. That is, auctions are a means to price discriminate and exploit market power. Many of the papers already mentioned study interactions in auction markets (eg. A Study of the Internal Organization of a Bidding Cartel). My most recent line of research in auction design focuses on the design of procurement auctions.

The central question is how can an auction be structured when factors other than price are crucial to the decision to buy? For instance, the government, when buying a contract for road construction services, cares not only about the cost but also about the speed at which work can be done. Properties of scoring auctions investigates the properties of a common mechanism (scoring auctions) used in this setting. Although a theory paper, it was prompted by a deficiency in existing theories' ability to map, in an estimable way, to data. We wrote it to provide a framework for empirical work in this area. Procurement when Price and Quality Matter is a much more theoretical paper investigating optimal and near-optimal mechanisms in this setting.

Why study these questions?

The simplest way to illustrate the importance of the topics I investigate is via quantitative measures. Antitrust enforcement resulted in 31,391 jail days being imposed

for cartel participation in FY2007 in the USA alone, and, since 2001, the Department of Justice has prosecuted over 120 corporations in cartel matters, generating 3.5 billion dollars in fines. Meanwhile, in FY2008, 1,726 mergers were evaluated by US antitrust authorities. The importance of economic analysis in antitrust policy is reflected by the Supreme Court's decision in Leegin in 2007 which overturned the 1911 decision in Dr Miles, which banned manufacturers fixing their retailers' prices, largely on the basis of economic research conducted in the 1980's and 1990's.

Vertical market structure has an impressive impact on the US economy: in 2007 the value of transactions involving intermediate goods comprised 48% of total gross output in the US economy. Auction design can have a similarly important impact on the economy: in the EU public procurement makes up 16% of GDP; while in the private sector, the limited available data suggests that more than 50% of procurement contracts are awarded using competitive bidding.