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Research Statement

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My research interests lie within the fields of industrial organization ('IO') and labor economics. My agenda focuses on questions related to market power in vertically related industries and on labor and other input markets. There are increasing concerns about abuse of dominance by firms in their input markets. The goal of my research agenda is to increase the understanding of the *drivers*, *consequences*, and *measurement* of 'monopsony power'. Below, I discuss the different papers I have written within this research agenda, and outline future research directions.

Drivers of Monopsony Power

Firm consolidation is an important potential driver of monopsony power. However, corporate consolidation events, such as mergers and acquisitions, are the result of choices, which are endogenous to (potentially unobserved) market conditions. In my paper Market Structure, Oligopsony Power, and Productivity ([1], solo-authored) , I make use of a unique natural experiment to input market structure in the Chinese tobacco industry to examine the competitive effects of monopsony power. Prior work on vertical relations has generally viewed buyer power as procompetitive, as it can reduce double marginalization. However, buyer power can be anti-competitive if buyers push down prices by rationing input demand. Combining a structural model with the natural experiment in market structure, I find that industry consolidation led to both lower output and a decrease in aggregate productivity through input misallocation. This paper was published in the ***American Economic Review*** in 2023.

Collusion is another way in which firms can achieve the same anti-competitive effects without having to merge. Although there are many, and increasing, signals that employer collusion on labor markets is potentially pervasive–even though it is illegal–there has been little academic research on this topic. In the paper Colluding Against Workers ([2], joint with Vincent Delabastita) we examine the detection and effects of collusive wage-setting by employers. We develop a general method to detect such wage collusion, test our method using Belgian data that features observed cartel behavior, and find that wage collusion leads to important wage and employment losses. This paper was published in the ***Journal of Political Economy*** in 2025.

Consequences of Monopsony Power

Current research on the distributional and efficiency effects of monopsony power usually keeps technology choices of buyers/employers fixed. However, the degree of labor market power held by firms likely affects optimal technology choices. In Labor-Market Power, Deadweight Loss, and Technology Adoption ([3], solo-authored) I show that labor market power has two countervailing welfare. On one hand, increasing monopsony power leads to deadweight loss, but on the other hand, it can increase technology adoption by reducing investment holdup. I specify and estimate a model that contains both these forces in the context of late-19th-century Illinois coal operators. I find that the deadweight-loss channel dominates the holdup effect, but that the welfare effects of monopsony power are, nevertheless, substantially lower than one would find when holding investments fixed. I argue that this is an important but commonly overlooked channel when examining the welfare effects of labor market power. This paper is currently in a first round of revisions at the ***Review of Economic Studies***.

Another potential upside of 'buyer power' is that it could countervail the market power of suppliers in concentrated vertical chains. In Welfare Effects of Buyer and Seller Power ([4], joint with Mert Demirer)

we develop a model to analyze how market power in vertical relationships—by buyers (monopsony) and sellers (monopoly)—affects welfare. We show that whether buyer power is harmful or beneficial to total surplus depends on supply and demand elasticities, and on the bargaining power of buyers and suppliers. This is useful for studying, for instance, whether labor unions countervail monopsony power or induce double marginalization. Applying the model to Texas's coal procurement market, we find that 75% of market power distortions are due to seller (coal supplier) power and 25% due to buyer (power plant) power. The study highlights the need to consider both sides of market power in policy and antitrust decisions. This paper is currently under review.

In a more preliminary project, together with my colleague Bernardo Silveira, we study labor market power in the U.S. Certified Public Accountants industry. We provide new evidence on the career profile of wage markdowns for U.S. professional service workers. Using novel and uniquely rich internal firm data for 569 U.S. public accounting firms, we estimate a team production model to recover the ratio of wages over marginal revenue products for employees of various seniority levels. Although we find substantial wage markdowns for junior employees, we find that these turn into wage mark*ups* for employees with 10+ years of experience. This finding violates prior monopsony models with spot market contracts, but is in line with implicit contract models with backloaded pay (Lazear, 1981). However, our estimates also reject the competitive labor market assumption usually made in tournament models: the net present value of wages lies significantly below the net present value of the marginal revenue product of labor. To reconcile these findings, we set up a tournament model that incorporates monopsonistic competition at the career entry margin and nonlinear production, and use it to estimate both short- and long-run residual labor supply elasticities.

Measurement of Monopsony Power

The 'markdown' of an employee's wage below the marginal revenue product of labor is a key metric used in the empirical analysis of monopsony power. Therefore, proper identification of these markdowns is crucial to understand and address concerns of imperfect labor market competition. I have written a number of more methodologically-oriented papers that address markdown identification.

A first methodological challenge is that prior 'production approaches' to wage markdown identification do not separately identify markdowns from factor-augmenting productivity differences. In the paper Exploiting or Augmenting Labor? ([5], joint with Yingjie Wu and Mingzhi Xu), we develop a novel framework to disentangle wage markdowns from labor-augmenting productivity by integrating a production model with a labor supply model. Applying this to Chinese nonferrous metal industries (1999–2006), we find that private firms, especially foreign-owned ones, are more productive, while domestic private firms also exhibit greater monopsony power compared to state-owned enterprises. This reveals a key policy trade-off: privatization boosts productivity but can depress wages through increased monopsony. This finding is relevant for the formulation of industrial policy, whereas the methodological contribution is important for the broader discussion of the important of labor market power in the aggregate. This paper is currently forthcoming at the ***American Economic Review: Insights***.

The paper Estimating Factor Price Markdowns using Production Models ([6], joint with Yingjie Wu and Mingzhi Xu) follows up on this methodological challenge, and critically examines the reliability of production-function-based estimators for assessing wage markdowns using Monte Carlo simulations. We demonstrate that these estimators perform well under the assumption of Hicks-neutral production functions. However, in line with the AER: Insights paper, we find that estimators become biased when this assumption is relaxed, conflating productivity differences with wage markdowns. This finding underscores the necessity of integrating labor supply models into production analyses to accurately disentangle wage-setting power from

productivity variations. This paper is published in the ***International Journal of Industrial Organization***, as part of a special issue for the EARIE Annual Conference.

A second methodological issue is related to managerial markets. In order to assess the competitiveness of markets for managers, it is key to correctly estimate marginal revenue products of managers. In Management, Productivity, and Technology Choices: Evidence from U.S. Mining Schools ([7], solo-authored), I argue that a key task of managers in any setting is to choose optimal combinations of the other inputs used. I show that this is a potentially important productivity effect that does not get picked up when estimating models in which managers are passive inputs. I illustrate the importance of this point using an empirical case study of coal managers in Pennsylvania. This paper was published in 2023 in the ***RAND Journal of Economics***.

Third, I am currently working on a project with Brad Setzler and Chen Yeh that empirically examines labor market conduct in today's U.S. labor markets. This project builds on the conduct inference literature in empirical IO, but allows for downward-sloping labor demand curves. In contrast to the previously-mentioned paper on employer collusion, this model allows for differentiated jobs and firms and more conduct types. We estimate labor supply, demand, and conduct using a large-scale multi-industry dataset on U.S. employers and workers that covers 80% of U.S. private-sector employment.

References

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