

EVALUATING THE COMPETITIVE EFFECT OF THE ATTEMPTED KROGER-ALBERTSONS MERGER IN LABOR MARKETS¹

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Over the last decade, antitrust scholars and enforcers have started paying more attention to competition in labor markets, finding that they're more consolidated and less competitive than previously assumed and that this can result in lower pay, reduced job mobility, diminished entrepreneurship, and generally weakened living standards and career opportunities for workers. Until recently, this interest took the form of academic papers and agency workshops, rather than concrete enforcement. That changed when the FTC filed its challenge to the merger of Kroger and Albertsons, the two largest traditional grocery chains in the United States. For the first time in the agency's history, it charged that a merger was illegal not just because it risked lessening competition for consumers, but also because it risked lessening competition in labor markets. While the court did not premise its 2024 injunction on the labor market theory, it recognized the theory's validity and noted that the agency's case was more plausible than the retail-grocer defendants'.

While Kroger was a watershed for labor antitrust, it has largely been ignored in antitrust scholarship. This paper offers the first rigorous assessment of the labor theory in Kroger and answers the court's request for an economic evaluation of competitive effects, as opposed to relying solely on testimony from interested parties. Using models of individualized wage-setting and collective bargaining, we show how the merger was expected to increase concentration, reduce turnover, and weaken the bargaining power of grocery store workers, particularly in markets with overlapping union representation. The paper also offers a framework for enforcement that defines labor markets by institutional constraints, quantifies how employer consolidation weakens strike leverage, and recognizes the role of coordinated conduct such as no-poach agreements in eroding competition. The Kroger litigation illustrates how competition operates in consolidated labor markets that are considerably narrower than antitrust non-practitioners typically assume and how merger law can address harms that appear in the bargaining process, not just in posted wages.

¹ A large part of this paper previously circulated in November 2023 under the title "Evaluating the Competitive Effect of the Proposed Kroger-Albertsons Merger in Labor Markets," before any antitrust enforcer had filed suit against it, and sole-authored by Steinbaum. This revised version considers the case history and disposition of the merger cases that were eventually filed. UFCW Locals 5, 7, 324, 400, 770, and 3000 provided support for the earlier version of the paper.

I. INTRODUCTION

Thanks to the ongoing consolidation of regional full-service and discount grocery chains and the spread of warehouse clubs and supercenters,² the retail grocery market has become highly concentrated over the last three decades.³ In October 2022, Kroger and Albertsons, the two largest remaining traditional grocery chains with a national footprint, announced plans to merge, with Kroger to pay a purchase price of \$24.6 billion.⁴ The proposed merger was challenged in February 2024 by the Federal Trade Commission and several state attorneys general.⁵ After the FTC obtained a preliminary injunction blocking the merger from the U.S. District Court for the District of Oregon in December 2024, the parties abandoned the deal.⁶ During the course of that litigation, the FTC advanced a set of labor market theories of harm that, while acknowledged as plausible by the court, were ultimately not the basis for the injunction.⁷ This paper uses the Kroger–Albertsons case as an ex post study of how those labor market theories can be understood and their competitive effects measured for future merger review and enforcement.

A. RETAIL DOMINANCE AND THE LABOR MARKET BLIND SPOT

Economists—and antitrust practitioners more broadly—have interpreted the rising consolidation in the retail grocery industry over the last decades as reflecting the predominance of technological innovations in production and especially distribution that equip the most advanced national chains to underprice the competition and thus increase their market share ‘on the merits.’ They have therefore mostly assumed that consolidation was pro-competitive and therefore legal under a consumer welfare standard.⁸ What that story overlooks, however, is the

² See Ali Hortaçsu & Chad Syverson, *The Ongoing Evolution of U.S. Retail: A Format Tug-of-War*, 29 J. ECON. PERSP. 89 (2015). (discussing of this market segment and its spread).

³ Eliana Zeballos, Xiao Dong, and Ergys Islamaj, *A Disaggregated View of Market Concentration in the Food Retail Industry*, U.S. DEPARTMENT OF AGRICULTURE ECONOMIC RESEARCH SERVICE ERR-314 (2023).

⁴ Press Release, Albertsons Co., *Kroger and Albertsons Companies Announce Definitive Merger Agreement* (Oct. 14, 2022), <https://www.albertsonscorporation.com/newsroom/press-releases/news-details/2022/Kroger-and-Albertsons-Companies-Announce-Definitive-Merger-Agreement/default.aspx>.

⁵ Complaint, In re Kroger Co., FTC Docket No. D-9418 (Feb. 26, 2024), https://www.ftc.gov/system/files/ftc_gov/pdf/d9428_2310004krogeralbertsonsp3complaintpublic.pdf.

⁶ *FTC v. Kroger Co.*, No. 3:24-cv-00210, slip op. at 1 (D. Or. June 10, 2024); Lina M. Khan et al., *Statement of Chair Lina M. Khan Joined by Commissioners Rebecca Kelly Slaughter and Alvaro Bedoya Regarding the Abandonment of the Kroger–Albertsons Transaction* (Jan. 2, 2025), https://www.ftc.gov/system/files/ftc_gov/pdf/2025.01.02-statement-of-chair-lina-m.-khan-in-the-matter-of-the-kroger-company-and-albertsons-companies-inc.-final.pdf.

⁷ *FTC v. Kroger*, slip op. at 68.

⁸ Paul B. Ellickson, *Does Sutton Apply to Supermarkets?*, 38 RAND J. Econ. 43 (2007); Timothy J. Muris & Jonathan E. Nuechterlein, *Antitrust in the Internet Era: The Legacy of United States v. A&P*, 54 Rev. Indus. Org. 651 (2019); Richard Vedder & Wendell Cox, *The Wal-Mart Revolution: How Big-Box Stores Benefit Consumers, Workers, and the Economy* (AEI Am. Enter. Inst. 2006); Leigh Phillips & Michal Rozworski, *The People’s Republic of Walmart: How the World’s Biggest Corporations Are Laying the Foundation for Socialism* (Verso Books 2019); Jason Furman, *Wal-Mart: A Progressive Success Story* (2005); Emek Basker, *Selling a Cheaper Mousetrap: Wal-Mart’s Effect on Retail Prices*, 58 J. Urb. Econ. 203 (2005); Nicolas Crouzet & Janice Eberly, *Intangibles, Investment, and Efficiency*, 108 Am. Econ. Rev.: Papers & Proc. 426 (2018) are widely varying examples of this reasoning, which nonetheless agree that retail consolidation is due to technological efficiency resulting in retail price reductions. See also David Autor, David Dorn, Lawrence F. Katz, Christina Patterson & John Van Reenen, *The Fall of the Labor Share and the Rise of Superstar Firms*, 135 Q.J. Econ. 645 (2020) for an extension of this reasoning to the U.S. economy as a

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race to the bottom in the labor market and the consequent ability of the few dominant employers remaining to worsen terms and conditions of work in the absence of labor market competition.⁹ When retail consolidation triggers antitrust scrutiny—whether through mergers or exclusionary conduct—it presents an opportunity for enforcement agencies to revisit the assumptions that shaped past practice. In particular, mega-mergers in this sector warrant closer review as part of a renewed enforcement agenda that rejects the ideology of the consolidation era: the notion that rising market share for dominant firms is synonymous with greater productive efficiency.¹⁰

Historically, horizontal mega-mergers in retail have been evaluated for their effect on consumer prices, with the focus of the competitive analysis on whether the merger would eliminate competition that disciplines the ability of either party, or of their competitors, to raise prices or otherwise worsen product offerings and terms of service to the detriment of consumers.¹¹ However, a large body of evidence shows that labor markets are imperfectly competitive,¹² and that the concentration of employers in labor markets worsens wages and terms and conditions of work.¹³ A smaller but still significant set of findings establishes the negative pay effect of mergers, in addition to other varied labor market outcomes.¹⁴ The Kroger-Albertsons case illustrates how a merger can not only harm consumers through greater seller market power, but also by eliminating rivalry in labor markets to disadvantage workers.

whole. Marshall Steinbaum, *Common Ownership and the Corporate Governance Channel for Employer Power in Labor Markets*, 66 *Antitrust Bull.* 123 (2021) contains an empirical critique.

⁹ Sharat Ganapati (2021) and Nathan Wilmers (2018) are rare examples that directly examine the implications of consolidation in the retail supply chain for workers, and by implication, for labor market competition. Nicholas Bloom, et al (2018) show that the large-firm pay premium has declined to the point of being negative (i.e., a wage penalty for working at larger firms) in the retail sector. This finding is confirmed by the empirical analysis in this paper. See Sharat Ganapati, *Growing Oligopolies, Prices, Output, and Productivity*, 13 *AM. ECON. J. MICROECONOMICS* 309 (2021); Nathan Wilmers, *Wage Stagnation and Buyer Power: How Buyer-Supplier Relations Affect U.S. Workers' Wages, 1978 to 2014*, 83 *AM. SOC. REV.* 213 (2018); Nicholas Bloom, Fatih Guvenen, Benjamin S. Smith, Jae Song & Till von Wachter, *The Disappearing Large-Firm Wage Premium*, *AEA PAPERS & PROC.*, May 2018, at 317.

¹⁰ See, e.g., Stacy Mitchell, Kennedy Smith & Susan Holmberg, *The Dollar Store Invasion: Communities Are in Revolt, but the Chains' Predatory Tactics Also Call for Federal Action* (Inst. for Local Self-Reliance 2023), <https://ilsr.org/dollar-store-invasion>. (contending that wholesale price discrimination favoring the largest chains drives consolidation. This dynamic is completely absent from the analysis in the previously cited studies offering a more benign view).

¹¹ See, e.g., *FTC v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997) (blocking Staples/Office Depot based on likely higher prices to consumers in the office supply superstore market)

¹² See Orley C. Ashenfelter, David Card, Henry S. Farber & Michael Ransom, *Monopsony in the Labor Market: New Empirical Results and New Public Policies*, 57 *J. HUM. RESOURCES* S1, S1–S10 (2022); Anna Sokolova & Todd Sorensen, *Monopsony in Labor Markets: A Meta-Analysis*, 74 *INDUS. & LAB. REL. REV.* 27, 27–55 (2021).

¹³ José Azar, Ioana Marinescu & Marshall Steinbaum, *Labor Market Concentration*, 57 *J. HUM. RESOURCES* S167 (2022); José Azar, Ioana Marinescu, Marshall Steinbaum & Bledi Taska, *Concentration in U.S. Labor Markets: Evidence from Online Vacancy Data*, 66 *LAB. ECON.* 101886 (2020); Efraim Benmelech, Nittai Bergman & Hyunseob Kim, *Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?*, 57 *J. HUM. RESOURCES* (2022); Kevin Rinz, *Labor Market Concentration, Earnings, and Inequality*, 57 *J. HUM. RESOURCES* (2022); Yue Qiu & Aaron Sojourner, *Labor-Market Concentration and Labor Compensation*, *INDUS. LAB. REL. REV.* (forthcoming 2022), <https://doi.org/10.1177/00197939221138759>; Anna Thoresson, *Employer Concentration and Wages for Specialized Workers*, *INST. FOR EVALUATION OF LAB. MKT. & EDUC. POL'Y* (2021); Elena Prager & Matt Schmitt, *Employer Consolidation and Wages: Evidence from Hospitals*, 111 *AM. ECON. REV.* 397 (2021); David Arnold, *Mergers and Acquisitions, Local Labor Market Concentration, and Worker Outcomes* (2021 working paper); Tomas Guanziroli, *Does Labor Market Concentration Decrease Wages? Evidence from a Retail Pharmacy Merger* (2022) (unpublished manuscript).

¹⁴ See Elena Prager & Matt Schmitt, *Employer Consolidation and Wages: Evidence from Hospitals*, 111 *AM. ECON. REV.* 397 (2021); Enas Farag, Alaa Abdelfattah, Chris Compton, Anna Stansbury, and Marshall Steinbaum, *A Retrospective Analysis of the Acquisition of Target's Pharmacy Business by CVS Health: Labor Market Perspective* (Working Paper, Aug. 23, 2024). But see David Arnold, *The Labor-Market Impacts of a Major Merger: Evidence from the Security Guard Industry* (2025 working paper) (finding contrary results).

Well-established caselaw¹⁵ holds that competitive effects of mergers must be evaluated antitrust-market-by-antitrust-market.¹⁶ Applying that principle to the Kroger-Albertsons merger, the FTC and several state attorneys general evaluated the potential for the transaction to harm competition in labor markets as well as in product markets.¹⁷ And, consistent with both economic logic and recent case law, the two inquiries—competitive effects in labor markets and in product markets—are conceptually separate: harm to competition in labor markets cannot be offset or compensated by potential benefits in output markets.¹⁸ *Even if* the merger is found not to harm competition in product markets, with or without store divestitures or other merger-specific remedies, it is still unlawful if it harms competition in labor markets.

The labor aspect of this case is especially important because the two merging firms occupy a distinct position in the labor market. Their union contracts provide benefits—health insurance, pensions, and seniority-linked job protections—that are not portable to most non-merging parties, including non-union grocery chains or to other industries.¹⁹ Hence, a worker who moves from either Albertsons or Kroger to work at a non-merging party would likely have to give up important wage- and non-wage benefits, resulting in high diversion rates between the parties and low diversion to non-merging parties. The implication of that fact is that the form of competition most relevant to setting terms and conditions of work for workers at the merging parties is the bargaining context in which employers confront workers collectively represented by the same union local. While these institutional features are particularly salient in markets such as Southern California, Colorado, and Seattle, where both parties are present and compete in the local labor market and a large share of workers are vested in these benefits, the analysis in this paper applies more broadly: whenever a merger removes a significant rival, whether or not all parties are unionized, it alters the bargaining environment that determines pay and job quality.

The Kroger–Albertsons case illustrates this dynamic. The record evidence and economic modeling show that eliminating rivalry between major employers can diminish competition in labor markets, to the detriment of labor standards and worker welfare. This paper therefore explains why the merger was expected to harm competition in labor markets and why it was challenged on those grounds irrespective of any remedies aimed at curing its effects in product markets. It further uses the Kroger-Albertsons transaction as a case study to demonstrate how this can be done, applying models of imperfect competition in labor markets that are widely used by labor economists but relatively unfamiliar to Industrial Organization economists who are usually the ones evaluating the competitive effects of mergers. That divergence was particularly relevant to the case history of the Kroger–Albertsons merger challenge: the FTC’s economic evidence did not sufficiently support the bargaining theory of harm for the judge to rule on that basis, though she found the argument plausible. Thus, in addition to evaluating one specific

¹⁵ See, e.g., *United States v. Philadelphia National Bank*, 374 U.S. 321 (1963).

¹⁶ Recently, a decision by the 7th Circuit Court of Appeals, *Deslandes v. McDonald’s USA, LLC*, 81 F.4th 699, 703 (7th Cir. 2023), interpreted *Alston v. NCAA* to mean that competitive harm in labor markets could not be offset or compensated by benefits in other (output) markets, in effect confirming the economic principle of *Philadelphia National Bank*. Easterbrook (2023).

¹⁷ See, e.g., *FTC v. Kroger Co.*, Plaintiffs’ Memorandum of Law in Support of Plaintiffs’ Preliminary Injunction Motion, No. 3:24-cv-00347-AN, at 17–21 (D. Or. July 30, 2024) (arguing that merger would remove unions’ leverage in collective bargaining, lowering wages and benefits).

¹⁸ A recent paper about this merger agreed. See Brian C. Albrecht, Dirk Auer, Eric Fruits & Geoffrey A. Manne, *Food-Retail Competition, Antitrust Law, and the Kroger/Albertsons Merger*, INT’L CTR. FOR L. & ECON. (Oct. 17, 2023) (“Rather than relying on proclamations from any of the parties, we need economic analysis of the relevant labor markets, asking the types of questions raised above regarding output markets.”).

¹⁹ *FTC v. Kroger Co.*, Plaintiffs’ Memorandum of Law in Support of Plaintiffs’ Preliminary Injunction Motion, No. 3:24-cv-00347-AN, at 17–21 (D. Or. July 30, 2024) (arguing that merger would remove unions’ leverage in collective bargaining, lowering wages and benefits).

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transaction, this paper offers a methodological framework for use in developing evidence that could be presented in other matters. The Kroger court ultimately declined to rule on the basis of these theories because it “lack[ed] sufficient guidance on how to measure [changes to bargaining power leverage] and what changes would be meaningful.”²⁰

This paper aims to rectify this lacuna in the evidentiary record, for the benefit of merging parties, enforcers, and litigants. It proceeds as follows: Part II describes the basic models of imperfect competition in labor markets that are applied throughout the analysis, as well as the legal basis for applying each model to predict the competitive effects of mergers in labor markets. Part III presents two different mathematical models of labor market competition, one with atomized workers and the other featuring collective bargaining. Part IV introduces the employer-identified labor market dataset used in the rest of the paper, as well as summary statistics for the workers and occupations most directly impacted. Part V computes the parties’ market shares of affected labor markets, as well as overall employer concentration, and estimates the effect of increased labor market concentration on workers’ wages. Part VI estimates the wage-turnover tradeoff in affected labor markets, the key outcome of interest for dynamic models of oligopsonistic competition. Part VII addresses the possibility that the merger would have weakened collective bargaining organizations that are otherwise the source of countervailing market power on the part of workers. Part VIII outlines a legal framework for recognizing harm to union bargaining outcomes and proposes tools that courts and agencies could use to assess such harm in future merger cases. Part IX concludes.

II. THEORETICAL AND LEGAL OVERVIEW

The essence of imperfect labor market competition is that individual firms with labor market power face upward-sloping residual labor supply curves. In layman’s terms, that means employers have discretion over terms and conditions of work, as opposed to having “the market” dictate those things as is the case under perfect competition. In reality, employers can reduce wages (and/or make jobs less attractive to workers in other ways) without losing the entirety of their workforce.

In his 2022 presidential address to the American Economic Association, David Card, a pioneer in the empirical study of imperfect labor markets, said “I will try to make the case that the time has come to recognize that many—or even most—firms have some wage-setting power.”²¹ The speech continues by presenting and describing several different models (and corresponding empirical settings) through which imperfect labor market competition can be evaluated.²² This paper builds on that schema by presenting alternative models of firm-level wage setting when individual workers and their outside options are what constrains employers’ wage-setting power. It then evaluates the alternative of collective bargaining, when a union represents a group of workers and either supplies or withdraws their labor *en masse* as a source of countervailing power, as opposed to individual workers’ leaving for alternative employers.

²⁰ *FTC v. Kroger Co.*, No. 3:24-cv-00210, slip op. at 68 (D. Or. June 10, 2024) (noting that “there is no economic modeling of how wages, benefits, and other compensation might change as a result of changes in bargaining power, either in absolute terms or relative to non-union grocery wages”).

²¹ David Card, Presidential Address at the Annual Meeting of the American Economic Association, *Who Set Your Wage?*, 112 *AM. ECON. REV.* 1075 (2022). Available at https://davidcard.berkeley.edu/papers/Card-presidential-address.pdf?utm_source=chatgpt.com

²² *Id.*

A. STATIC OLIGOPSONY

The first model of individualized wage-setting we consider is static oligopsony. The key determinant of labor market power in a static oligopsony model is the market share of each employer-competitor, and the level of labor market concentration that results. Employers in more concentrated markets have more market power because in the face of wage reductions, workers have few alternatives. Static oligopsony models have an appeal in the context of merger enforcement, because market concentration is a familiar concept to antitrust enforcers and there is caselaw applying the reasoning in *Philadelphia National Bank* to labor markets. For example, in *Penguin-Random House*²³ the restricted market definition in which there was shown to be head-to-head competition between the merging parties was decisive in bringing to bear *Philadelphia National Bank*'s structural presumption and so winning the case for the United States. Presumably for this reason, the framework for merger review in labor markets proposed by Berger et al.²⁴ depends on Cournot competition, i.e., a form of static oligopsony. This paper analyzes the competitive impact of the Kroger–Albertsons merger under a static oligopsony framework in Part V, building on and extending the analysis developed by Zipperer.²⁵

On the other hand, antitrust enforcers might believe that the number of alternative employers for any given worker is large unless that worker is highly specialized. The market definition adopted by the court in *Penguin-Random House* was very narrow and confined to the highest-paid authors.²⁶ Had the litigation proceeded beyond the preliminary injunction stage, the court might have concluded that the predominantly low-wage workforce affected by the Kroger–Albertsons merger had abundant outside employment options, such that the merger would not meaningfully enhance the market power of the parties—or of other employers—in the labor markets where they compete.²⁷

B. DYNAMIC OLIGOPSONISTIC COMPETITION

The insight in dynamic models of labor market power is that workers switch jobs in response to obtaining better wage offers, and hence employers face a tradeoff between either paying high wages to retain workers (and attract new ones) or paying low wages at the cost of high turnover. The benefit of dynamic models is two-fold: they rationalize employer power over wage-setting in labor markets even where it may appear workers have abundant outside options (such as in low-wage industries), and they do not require defining a market to ascertain competitive effects. Indeed, there is some evidence that dynamic models better explain wage dynamics in low-wage labor markets because individual workers do not directly bargain with their employers over pay, and it is in such a bargaining context where the number of outside

²³ United States v. Bertelsmann SE, 2022 WL 16949715, at *18–21 (D.D.C. 2022) (herein referred to as “Penguin-Random House”).

²⁴ David W. Berger, Thomas Hasenzagl, Kyle F. Herkenhoff, Simon Mongey & Eric A. Posner, *Merger Guidelines for the Labor Market*, NBER Working Paper No. 31147 (Apr. 2023, rev. Dec. 2023).

²⁵ Zipperer, Ben. 2023. “Kroger-Albertsons Merger will harm Grocery Store Worker Wages.” Economic Policy Institute Policy Memo.

²⁶ See Penguin-Random House.

²⁷ In fact, there is very good reason to believe Kroger and Albertsons were differentiated from other retail grocery employers, let alone other employers outside that industry. As explained in the introduction, wage- and non-wage benefits are portable between the merging parties, but not to their non-union rivals inside or outside the retail grocery industry.

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options matters more.²⁸ In low-wage labor markets, individual workers' main source of leverage probably comes from better-paying outside job offers, and enforcers need not draw a sharp boundary regarding where those offers might come from to demonstrate that an anti-competitive increase in labor market power is likely to result from the merger. Rather, all that would be necessary to demonstrate that an anti-competitive effect is to show that the arrival rate of outside job offers is likely to diminish as a result of the merger.

It's important to point out the different, and apparently mutually-contradictory, status of labor market turnover in models of dynamic oligopsonistic competition, especially as they relate to mergers in general and this one in particular. Employers trade off wages against turnover, meaning higher turnover indicates a low-road employer and even the dominance of low-road employers in low-wage labor markets. However, switching jobs is also evidence that workers have outside options in the first place. One way that this merger would reduce labor market competition is by eliminating the main source of comparable job offers for workers at each of the merging parties, permitting both the parties and also their competitors to get away with paying lower wages to achieve a given level of turnover among their workforce. In economic terms, this is the distinction between movement *along* a given employer's upward sloping labor supply curve and a shift or rotation of the curve if alternative sources of outside job offers are eliminated. As we demonstrate in Part VI, *infra*, that outcome appears likely in this case.

The problem with dynamic oligopsonistic competition models in merger enforcement is that unlike static oligopsony, they lack a track record in litigation. That is unfortunate for the aforementioned reason that they are likely to be more relevant for a low-wage workforce. Partly for that reason, they probably also reflect the balance of opinion among labor economists broadly as to the most relevant model for analyzing imperfect competition in labor markets.²⁹ As Azar, Berry, and Marinescu (2022) demonstrate, these models are closely related to oligopoly models with differentiated products.³⁰ Such models have an extensive track record in both the courts and among enforcement agencies and are, in fact, the dominant economic framework for analyzing competition in antitrust enforcement.³¹

The theoretical model presented in Part III.A is thus a combination of static oligopsony and dynamic oligopsonistic competition: employers are differentiated rather than homogeneous, but employer market share implies higher labor market power unlike dynamic oligopsonistic competition, and workers work at a single employer rather than moving between them.

C. COLLECTIVE BARGAINING

²⁸ See Callaci, Brian, Matthew Gibson, Sergio Pinto, Marshall Steinbaum, and Matt Walsh. 2023. *The Effect of Franchise No-poaching Restrictions on Worker Earnings*, Working Paper (discussing the empirical relevance of different models of imperfect competition in labor markets to various workforces and job classifications, building on Krueger, Alan B, and Orley Ashenfelter. 2022. "Theory and Evidence on Employer Collusion in the Franchise Sector." *Journal of Human Resources*, 57). In the labor market at issue here, unions bargain directly with employers over pay, and, as shown in the model presented in Part III.B, the number of employers at the bargaining table significantly affects the terms ultimately reached.

²⁹ See, e.g., Nina Roussille & Benjamin Scuderi, *Bidding for Talent: A Test of Conduct in a High-Wage Labor Market*, INST. LAB. ECON. (July 2023).

³⁰ José Azar, Steven Berry & Ioana Elena Marinescu, *Estimating Labor Market Power*, NAT'L BUREAU ECON. RESEARCH, Working Paper No. 30365 (2022).

³¹ See, e.g., William J. Kolasky, Deputy Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, *Mergers With Differentiated Products* (Feb. 19, 2002), <https://www.justice.gov/archives/atr/speech/mergers-differentiated-products> (explaining how oligopoly theory—particularly with differentiated products—predicts price increases under both Bertrand (price) and Cournot (quantity) frameworks).

The other source of leverage for low-wage workers besides better- paid outside job offers is collective representation vis-a-vis one's current employer.³² The Kroger-Albertsons merger consisted of two national chains, a majority of whose retail grocery workforces are covered by collective bargaining agreements that mutually recognize the union and the employer as exclusive bargaining agent. Hence, an important merger effect is likely to increase employers' concentrated power at the bargaining table. This contrasts strongly with the argument made by Albrecht et al. and echoed by the defendant's economic evidence at trial to the effect that *because* the workforce is unionized, anti-competitive merger effects in labor markets are unlikely.³³ The fact of collective representation means the locus of labor market competition is different, not that it is absent. The source of worker power isn't in the availability of outside job offers to individual workers (by this mechanism), but rather the power of their union to negotiate a good deal on their behalf.

Under the status quo, terms and conditions of work are set in a collective bargaining context that consists of one union local representing workers at affiliates of each of the two merging parties, bargaining against the two (usually simultaneously) to set a contract governing the entire unionized workforce at both chains. The potential for diverging interests on the part of the two employers gives the union leverage by which to play one off against the other. The specific mechanism by which the union(s) representing workers would be weakened by the merger is the consolidation of negotiating power on the employer side of the bargaining table. Pre-merger, a union could identify which employer would be least able to withstand a strike and make a deal with that counterparty, then pressure the other(s) to accept that deal or else suffer from a strike and its pickets while their competitor remains fully staffed and open. That bargaining dynamic would have disappeared if, post-merger, the single employer-counterparty could simply issue a take-it-or-leave-it offer to the union, which would have nowhere else to go. The empirical analysis in part VII, *infra*, shows that where that consolidated bargaining position already exists on the employer side, pay at the merging chains is significantly lower.

Once the merger is consummated, that source of leverage at the bargaining table will disappear, likely resulting in worsened contract terms relative to a duopsony counterfactual. Moreover, some non-unionized employers in the industry probably offer terms of work that are responsive to what the union can win at the bargaining table, for fear of losing workers should the union contract provide markedly better pay. If the terms of work established by the union

³² See Samuel Dodini, Kjell G. Salvanes & Alexander Willén, *The Dynamics of Power in Labor Markets: Monopolistic Unions Versus Monopsonistic Employers*, working paper, available at: https://samueldodini.com/workingpapers/union_monopsony/; see also Sabien Dobbelaere, Boris Hirsch, Steffen Müller & Georg Neuschäffer, *Organised Labour, Labour Market Imperfections, and Employer Wage Premia* (Tinbergen Inst., Discussion Paper No. 2020-081/V, 2021) (analyzing collective bargaining as a source of countervailing worker power when employers are concentrated and wield power in the labor market to mark down wages relative to the marginal product of labor). However, both studies show that more employer concentration still worsens terms and conditions of work, even when workers are unionized.

³³ Brian C. Albrecht, Dirk Auer, Eric Fruits & Geoffrey A. Manne, *Food-Retail Competition, Antitrust Law, and the Kroger/Albertsons Merger* 15 (Int'l Ctr. for Law & Econ., Oct. 17, 2023), <https://laweconcenter.org/resources/food-retail-competition-antitrust-law-and-the-kroger-albertsons-merger/> (stating, erroneously, "the existence of union bargaining power makes any monopsony case more difficult and is an important factor to consider in evaluating a merger's likely labor-market effects—particularly in this case, given the high rates of union membership at both companies"); Defendants' Opposition to Plaintiffs' Motion for Preliminary Injunction at 47, *FTC v. The Kroger Co.*, No. 3:24-cv-00347 (D. Or. Apr. 26, 2024) ("Plaintiffs also overlook that a larger union at a single employer would likely have even greater bargaining power than unions in the relevant 'CBA areas' enjoy today").

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contract deteriorate due to monopsony rather than duopsony bargaining, then conditions at those non-union employers will suffer as well.³⁴

The implication of the collective bargaining theory of competitive harm is that the proper antitrust market definition for evaluating a merger of employers operating under collective bargaining agreements is the universe of employers covered under the same or parallel collective bargaining agreements in the same geographic markets defined by those agreements, because that is where the terms and conditions of work are set and consequently the locus of labor market competition between the merging parties. On this point, the Kroger court sided with the FTC, holding

The "CBA areas," as plaintiffs refer to them, are intuitively sensible. CBA defines the wages, benefits, and other conditions of employment for a particular store or group of stores, and generally correlates to a particular geographic area of coverage. . . . Defendants do not propose an alternative to the CBA areas. More uniform or granular geographic market would be preferable, but variation in the size of geographic markets is common and not disqualifying. CBAs indicate where union stores exist, set a consistent compensation scheme for the workers they encompass, and are focalized around a particular store or municipality. The CBA areas are a pragmatic way to capture where the effects of the merger would be felt by union grocery workers.³⁵

The idea that the union representing workers, as opposed to the workers directly, might lose power is also a novel theory of competitive harm from mergers in labor markets. But it has precedents in merger enforcement. For example, in the FTC's 2016 challenge to office supply retailers Staples and Office Depot, the relevant market was defined to be the one for major corporate office supply contracts, which are bid out via competitive auction. For the largest consumers (i.e. major national corporations), the two merging parties were the top two bidders in nearly every contract auction.³⁶ Defining the antitrust market like that was responsive to competitive conditions, but it also avoided thorny and arcane problems of more traditional market definition (e.g., do retailers who sell some office supplies compete with dedicated office supply retailers?). Defining the market to be the set of employers covered by collective bargaining agreements covering the terms and conditions of work for a majority of the workforce at the two merging parties is attractive for similar reasons, namely that a court need not speculate about whether workers in retail grocery might potentially switch to some other industry. More relevant is that the employers have nowhere else to go to secure the labor necessary to their functioning.

Further, this definition highlights the fact that employer consolidation is not beneficial for workers when it eliminates their only leverage. This harkens back to the broader economic literature on retail consolidation: not driven by productive efficiency favoring the largest chains, but rather by the accretion of market power vis a vis their counterparties. The model in Part III.B, *infra*, embodies this dynamic.

III. TWO MATHEMATICAL THEORIES OF IMPERFECT COMPETITION IN THE RETAIL GROCERY LABOR MARKET

³⁴ Jake Rosenfeld, Patrick Denice & Jennifer Laird, *Union Decline Lowers Wages of Nonunion Workers: The Overlooked Reason Why Wages Are Stuck and Inequality Is Growing* (ECON. POLICY INST., Aug. 30 2016). Available at: <https://files.epi.org/pdf/112811.pdf>.

³⁵ *FTC v. Kroger Co.*, No. 3:24-cv-00210, slip op. at 61–62.

³⁶ *FTC v. Staples, Inc.*, No. 1:15-cv-02115 (D.D.C. 2016).

In order to inform the empirical analysis to follow, we present two mathematical theories of imperfect competition in the retail grocery labor market. In the first, atomized workers choose between differentiated employers with alternative wage offers. This model combines aspects of static oligopsony and dynamic oligopsonistic competition, while maintaining the assumption that the determinant of employers' labor market power is individual workers' ability to secure outside employment. In the second, retail grocery workers are represented by a bargaining agent (i.e., a union), which supplies labor "in bulk" to alternative employers. Here, the market power of the employers is higher the fewer alternative employers there are for the union to supply or withhold labor from.

The purpose in presenting these two theoretical treatments is to show that different dynamics obtain depending on whether we conceptualize the merging parties competing for *workers* (in which case, the key dynamic is the availability and potential elimination of outside options for workers), or alternatively, competing for a *union contract*, where by law—under the National Labor Relations Act³⁷—unionized employers are required to bargain with the union on a collective basis instead of with workers individually, and the union bargains with a small number of employers (having likewise recognized them as exclusive bargaining agent).

Throughout this theoretical treatment of the retail grocery labor market, we can consider the retail grocery consumer side of the market to be characterized by a Hotelling model of differentiated retailers competing on price. Firms produce by converting labor into output one-for-one. In the first labor market model (with atomized workers), we start with the assumption of only two employers in Part III.A, but we show in Appendix A that the same logic holds with a larger number of differentiated employers. The second model also generalizes to more than two employers (as shown below), but the point of the model in Part III.B is that the labor market is characterized by collective bargaining, and no other national grocery chains recognize a union bargaining agent for the majority of their retail grocery workforce.

A. A HOTELING MODEL OF LABOR SUPPLY

We start by modeling labor market competition as a Hotelling model in which the two employers are located at the extremes 0 and 1, and workers are distributed uniformly along the line segment between them. The parameter that governs labor supply elasticity is τ , the cost each worker incurs in traveling to the firm where they are employed. This model is meant to combine elements of both the static oligopsony and dynamic oligopsonistic competition approaches to imperfect labor market competition described in the previous section. Like static oligopsony, employer market share bears directly on pay, and the firm with the larger market share has more market power and therefore pays less. But unlike, for example, the model in Berger et al.,³⁸

³⁷ 29 U.S.C. § 159(a) (exclusive bargaining rights).

³⁸ David W. Berger, Thomas Hasenzagl, Kyle F. Herkenhoff, Simon Mongey & Eric A. Posner, *Merger Guidelines for the Labor Market*, NBER Working Paper No. 31147 (Apr. 2023, rev. Dec. 2023).

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competition is over price (i.e., wages) and the exercise of market power does not centrally consist of strategic reduction in the demand for labor.³⁹

The worker surplus for a worker located at $x \in [0, 1]$ is given by

$$WS(x) = r_i - \tau|\ell_i - x| + w_i \quad (3.1)$$

where r_i can be thought of as the amenity value of working at employer i , w_i is the wage paid by employer i , and ℓ_i is the location of employer i (which for the purpose of this exposition will be assumed to be either 0 or 1). If $WS(\cdot) \geq 0 \forall x$, then there's a worker just indifferent between working for either 0 or 1.

$$\begin{aligned} r_0 - \tau\hat{x} + w_0 &= r_1 - \tau(1 - \hat{x}) + w_1 \\ \Rightarrow \hat{x} &= \frac{1}{2} + \frac{r_0 - r_1}{2\tau} + \frac{w_0 - w_1}{2\tau} \end{aligned} \quad (3.2)$$

Equation 3.2 expresses the labor supply to firm i as an increasing function of the wage it pays. We can use this to compute the optimal wage-setting policy of firm i by solving its profit maximization problem

$$\pi_i = \max_{w_i} (p_i - w_i) \left(\frac{1}{2} + \frac{r_i - r_{-i}}{2\tau} + \frac{w_i - w_{-i}}{2\tau} \right) \quad (3.3)$$

where p_i denotes the retail price i charges for each unit of output it sells (alternatively construed as the marginal product of labor). Implicit in equation 3.3 is the assumption that wages are set in the labor market independently from price-setting in the output market. The first-order condition for this profit maximization problem gives rise to the best response function

$$w_i = \frac{1}{2} (p_i - r_i + r_{-i} + w_{-i} - \tau) \quad (3.4)$$

The intersection of the best response functions for employers i and $-i$ yields the equilibrium wage-setting expression

$$w_i = \frac{2}{3}p_i + \frac{1}{3}p_{-i} - \frac{1}{3}r_i + \frac{1}{3}r_{-i} - \tau \quad (3.5)$$

If we make the convenient assumption of equal retail prices, then this simplifies to

³⁹ For this analysis we are restricted to comparing posted pay rates by each company. While pay is a central component of total compensation, there are other significant non-wage elements of compensation, including healthcare and pension benefits, but which we are not able to consider in this study since they are not observed for the non-merging-parties.

$$w_i = p^* - \tau - \frac{1}{3}(r_i - r_{-i}) \quad (3.6)$$

The implication of equation 3.6 is, first, that τ determines the baseline wage markdown below marginal product: the more market power employers have in the labor market, the more they can mark down wages. Second, to the degree there's wage inequality between employers, it offsets differential amenity values. The higher-amenity employer can get away with paying lower wages, and the lower-amenity employer must offset that disadvantage with higher pay to compete in the labor market. The expression for firm 0's market share (equation 3.2) works out to

$$\hat{x} = \frac{1}{2} + \frac{\frac{1}{3}(r_0 - r_1)}{2\tau} \quad (3.7)$$

i.e., inter-firm wage inequality to offset inequality in amenity values is not high enough to fully eliminate inequality in market shares. The employer with the advantage in amenity values has higher labor market share.

Note that if we allowed for retail price inequality between employers, it would magnify the dynamics described above: the lower-paying employer would have a cost advantage in the product market, therefore be able to charge a lower retail price and gain disproportionate market share in the consumer-facing market, which would further increase its labor market share.

We now model a merger between the two employers, which eliminates labor market competition. What would that look like? A wage parity condition that says the formerly higher-wage employer must not offer better wages than the low-wage employer. Given that constraint, the merged firm would offer equal wages between its two locations, and in the absence of labor market competition, that wage would be low—so low as to fully extract worker surplus (or nearly so), because the merged firm's labor market share is no longer increasing in the wage it offers, i.e. it faces a vertical labor supply function, at least under the assumption of full coverage.⁴⁰

Assuming full coverage—all workers employed at one of the two employer locations post-merger—we can readily identify the post-merger wage as that which makes the most disinclined worker willing to supply labor to the most distant employer

$$r_i - \tau + w = 0$$

or

$$w_{post-merger}^* = \tau - r_i \quad (3.8)$$

⁴⁰ If we allow for incomplete coverage, then for all $w < \tau - r_i$, the labor supply function is $\hat{x} = w$.

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where r_i is whichever firm's amenity value is higher (in order to satisfy the wage parity condition).⁴¹ The difference between equation 3.6 and equation 3.8 is a shifting of the worker surplus to favor employers: the wage is marked down more post-merger (to subsistence level), and no longer has anything to do with p , the retail price/marginal product of labor.⁴²

B. AN AUCTION FOR LABOR

In the second model, the workers are collectively represented by a single bargaining agent, which supplies a unit of labor (which can be conceptualized as all of the workers along the Hotelling line in the previous model) to the highest-bidding employer. In that case, the employer bids can be in the range $w_i \in [0, p_i]$, where p_i is the retail price/marginal product of labor. For this model, we assume that p_i is a random variable, realized independently across the employers taking part in the auction. Each employer-bidder knows its own realization, the overall distribution of the random variable, and the number of other bidders, but not their realizations.

Employers face a labor supply function defined as

$$L_i^S(w_i) = \begin{cases} 0 & \text{if } w_i < w_{-i} \\ \alpha \cdot \mathbf{1} & \text{if } w_i = w_{-i}, \alpha \in (0, 1) \\ \mathbf{1} & \text{if } w_i > w_{-i}, \forall -i \end{cases}$$

Therefore, employer i 's profit function can be written

$$\pi_i = \max_{w_i} (p_i - w_i) \cdot \mathbf{1} \cdot P(w_i > w_{-i})^{N-1} \tag{3.9}$$

where $P(w_i > w_{-i})^{N-1}$ denotes the probability that firm i 's wage bid is greater than the bids of all the other firms in the market (and all the employers bid independently). N is the number of employers bidding in this labor market.

The probability that i bids highest is an increasing function of his bid. We assume that wage bids are a weakly increasing function of p_i , because the cost of losing the auction is greater the more foregone sales there are. Further, if we make a distributional assumption on retail prices/marginal product of labor, we can write $P(w_i > w_{-i})$ as $P(p_i > p_{-i})$. For ease of exposition, we will assume the p is uniformly distributed on $[0, 1]$.⁴³ In that case, the probability that i 's

⁴¹ The profit-maximizing monopsony wage may in fact be slightly higher, since it could be efficient to allocate a minority of workers to the lower-amenity-value location post-merger. It will be if $r_i - r_{-i}$ is small relative to τ . In the limit, if $r_i - r_{-i} = 0$, then the monopsonist will route $\frac{1}{2}$ of workers to each location, and the monopsony (subsistence) wage will be $\frac{1}{2}\tau$. If the amenity values are unequal, the monopsonist routes more workers to the higher-amenity-value location, which pays $w = \tau - r_i$ (as does the other location). In both cases, there is strictly positive worker surplus for all but the marginal worker.

⁴² It is also increasing rather than decreasing in τ , because the significance of that parameter is no longer to embody competing employers' market power, but rather the cost of traveling to the monopsony employer, which must be compensated given the assumption of full coverage.

⁴³ If we wanted to fully integrate the labor and retail markets in this model, then the lower bound on p would be τ in the labor market, and the upper bound would be determined by the retailers' market power in the consumer-facing market, as well as consumers' preferences—i.e. the maximum value that workers (and their bargaining agent) could extract from employers.

productivity draw is higher than any one other firm's is equal to p_i . We write p_i as $w^{-1}(w_i)$, i.e., the inverse of the bid function, for the purpose of solving firm i 's profit maximization problem.

Putting all of this together, we have

$$\pi_i = \max_{w_i} (p_i - w_i) \cdot 1 \cdot w^{-1}(w_i)^{N-1} \quad (3.10)$$

$$[w_i] \quad - w^{-1}(w_i)^{N-1} + (p_i - w_i) \cdot (N - 1) \cdot w^{-1}(w_i)^{N-2} \cdot \frac{\partial w^{-1}(w_i)}{\partial w_i} = 0 \quad (3.11)$$

Which simplifies to

$$(p_i - w_i) \cdot (N - 1) \cdot \frac{\partial w^{-1}(w_i)}{\partial w_i} = w^{-1}(w_i) \quad (3.12)$$

Conjecture a linear bid function, $w = b \cdot p$. Then $w^{-1}(w_i) = \frac{1}{b}w_i$ and $\frac{\partial w^{-1}(w_i)}{\partial w_i} = \frac{1}{b}$. Plugging those values into equation 3.12 yields the bid function

$$w_i = \frac{N - 1}{N} p_i \quad (3.13)$$

confirming the conjecture. Here, we see that the wage markdown directly depends on the number of bidders. The more employers there are bidding in this market, the closer is the wage to the marginal product of labor. And the anti-competitive effect of any merger of employers is straightforward: to reduce the number of independent bids, thereby making it more likely that any employer i will be victorious with a lower wage bid, and the wage markdown that prevails in this labor market gets larger in expectation.

C. THEORETICAL DISCUSSION

Kroger is the larger employer in the retail grocery labor market, hence applying the atomized-worker model in Part III.A would have Kroger offering better amenities and paying lower wages, while competition from Albertsons is what keeps wages above subsistence. As we will see in the next three parts, this is consistent with the facts: Albertsons has lower market share and pays better, and in labor markets where Kroger doesn't face competition from Albertsons, Kroger's pay is significantly worse than where it does. However, what's unappealing about that model is that the primitive parameters that result in Kroger having higher market share and paying less is that its amenity value is better. In fact, in the retail grocery labor market (as in most labor markets), there are the opposite of compensating differentials: benefits and job quality

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are positively correlated with wages, not negatively correlated.⁴⁴ Since Kroger has the larger geographic footprint, one could rationalize the better amenity value as resulting from shorter commute times for workers. The merging parties are differentiated from *other* retail grocery employers for workers with accrued seniority, healthcare eligibility, and pension rights. But the idea that Kroger's greater labor market power than Albertsons results from better amenities seems artificial.

An alternative atomized-worker model would be more like dynamic oligopsonistic competition, a frictional labor market in which workers move between employers in response to better wage offers. In those models (as in the model in Part III.A), each firm also has a wage policy, but there is generally a firm-size pay premium because workers gravitate toward the higher-paying employer(s). As stated in Part II.A, *supra*, earlier, each employer faces a tradeoff between wages and turnover. The anti-competitive effect of a merger in a model of dynamic oligopsonistic competition is to reduce or shut off the flow of outside job offers, leaving each employer facing a more steeply-positively-sloped residual labor supply function and thereby able to more fully mark down wages. What makes that kind of model unappealing in the Kroger-Albertsons context is that the larger employer—Kroger—pays less, rather than more,⁴⁵ and also appears to suffer from higher turnover the more overall dynamism there is in the labor market, suggesting workers gravitate away from rather than towards Kroger when the economy improves. That is more a feature of static oligopsony rather than dynamic oligopsonistic competition, hence the modeling choice made in this section.

As for the labor auction model, the notion of an exclusive bargaining agent auctioning off labor supply in bulk readily fits the collective bargaining that characterizes this labor market. The collective bargaining agreements that UFCW locals reach with Kroger, Albertsons, or their employer association all recognize the union as the exclusive bargaining agent,⁴⁶ meaning the nexus of labor market competition is at the bargaining table as opposed to in an atomized labor market. However, the model in Part III.B may be too extreme, since all but the highest-bidding employer suffer a total blockade of labor supply. In reality, the way these agreements are reached is moreso that any employer that agrees to the best compensation offer has access to labor, and anyone who doesn't is struck.⁴⁷ If employers decline to bid in the auction, expecting to hire on the union contract terms after a contract is reached, then they may be struck to bring them to the table. Finally, while employers actually undergoing a strike may hire replacement workers⁴⁸ (i.e., the contractual term of exclusive bargaining agent isn't in force because—presumably—the contract has expired, allowing the union to initiate a strike), that resort is extremely costly on short timescales, especially if stores are being picketed.

Equation 3.13 implies that a two-to-one merger such as the one between Kroger and Albertsons would result in the total collapse of competition at the bargaining table, so the wage will fall to subsistence. We can think of that as the non-collectively-bargained wage, i.e. that which would prevail under unchecked employer monopsony power. The papers by Dodini,

⁴⁴ Jason Sockin, *Show Me the Amenity: Are Higher-Paying Firms Better All Around?*, CESifo Working Paper No. 9842. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4167445.

⁴⁵ As stated in Part I.A, *supra*, this pattern is consistent with the overall retail sector, as documented by Bloom et al. (2018).

⁴⁶ This is a legal prohibition that prevents employers from hiring workers except for on the agreed-upon terms while the agreement is in force.

⁴⁷ There are unionized independent grocery chains operating in some markets, but even the largest among those employers tend to pattern the contract(s) negotiated with the two merging parties, as opposed to themselves when setting the terms of the contract.

⁴⁸ Unless the strike is over Unfair Labor Practices.

Salvanes and Willén (2021) and Dobbelaere et al. (2021) show that collective bargaining mitigates wage markdowns in the presence of monopsony.

IV. DATA AND SUMMARY STATISTICS

We used 2015–2023 online job advertisement data from Burning Glass Technologies (now Lightcast) to characterize labor market conditions in industries directly affected by the Kroger–Albertsons merger. These data constitute a near-universe of online job postings, and are broadly representative of the national labor market (albeit with incomplete coverage for some occupations/sectors). Modestino, Shoag and Ballance (2016), Hershbein and Macaluso (2018), and Azar et al. (2020) all use these data to characterize the dynamics of the national labor market, including labor market competition. For this analysis of the Kroger–Albertsons merger, we confine attention to the following NAICS 4-digit industries: Retail Grocery, Specialty Food, General Merchandise Stores (including Warehouse Clubs and Supercenters), Retail Pharmacy, Beer Wine and Liquor, Department Stores, and Other Merchandise Stores.

About 65% of the observations in the BGT data were employer-identified, meaning the employer posting the job advertisement was named, with names partly standardized when the data was de-duplicated. We parsed the text of the employer names to tag job ads as being posted by individual grocery or other retail chains, including those that were part of the merging parties Kroger and Albertsons as well as their competitors. We then aggregated the individually-branded chains into national chains. Thus, when we report findings for “Kroger” and “Albertsons” as such, we refer to all of the constituent chains of those merging parties. Typically, at most a handful of the constituent branded chains appeared in any one metropolitan area market (often only one), reflecting the legacy of a less nationally concentrated grocery industry of the past.

For the purpose of this paper, we focused on six “covered” occupational classifications specific to the retail grocery industry, grouping job ads from all the industries listed above into these classifications. Using the BGT occupation and job title fields, we constructed a crosswalk to these six classifications, as shown in Table 1.

We assigned job titles to these classifications iteratively, drawing on knowledge of how grocery-sector job classifications are typically structured. In general, the titles that constitute each classification were more specific to the merging parties than to their major retail rivals (unsurprisingly, since to some degree they reflect job classifications in collective bargaining agreements). The SOC-6 occupations, by contrast, are broader and include comparable jobs at rival national grocery and supercenter retail chains.

Courtesy Clerks, General Merchandise Clerks, and Food Clerks are three ranks delineated in union contracts in this industry,⁴⁹ and we mapped the observed job ads to those ranks in a manner that makes them comparable across employers (and across industries), whether for the merging parties or their rivals. The Pharmacists and Interns category consists primarily of pharmacy aides, technicians, and managers. Although fully-licensed pharmacists are also covered by union contracts and, more broadly, were part of the labor markets in which the merging parties and their rivals compete, we excluded them from the analysis in this paper due to the paucity of job ads in which salaries for fully licensed pharmacists are posted.

Approximately 15-30% of job ads included a posted salary, which served as our main index of job quality. For job ads that posted an hourly wage, BGT reported the corresponding

⁴⁹ Note that in one CBA, covering Colorado, General Merchandise Clerks and Food Clerks were paid on the same scale despite different job descriptions.

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annual salary by assuming full-time work (multiplying the hourly rate by $52 \cdot 40 = 2080$ to compute the reported annual salary). Throughout this paper, we used the reported annual salary to compare pay across occupations, chains, and time.

In addition to salary, we also used BGT's Work Hours variable, which indicates whether the job ad was for a full-time or a part-time job. In the retail grocery industry, it is typical for workers to be assigned fewer hours of work than they prefer.⁵⁰ Hence, when a job was advertised as being full-time, we treated that as a further indicator of higher job quality.

Finally, for each chain, we summed the total job ads posted for Courtesy Clerks, General Merchandise Clerks, and Food Clerks, and then computed the share attributable to Food Clerks. As the highest-ranked occupation of the three, a higher share of postings for Food Clerks—relative to the lower-paid classifications—signifies better labor standards, i.e., filling vacancies with better-paid workers with greater seniority.

Figure 1 shows the time series of job ads posted in each occupational classification by the two merging chains from 2015 to 2023. Figure 2 presents the corresponding series for average annual earnings, and Figure 3 shows the share of each occupational classification that is full-time. Figure 4 plots the share of Food Clerk job ads. These time series plots reveal several interesting patterns: pay increased in all covered occupations following the onset of the COVID-19 pandemic in 2020, consistent with trends in the broader low-wage labor market.⁵¹ Albertsons generally paid more than Kroger within the same occupational classifications, although in the last few quarters of the data Kroger's advertised pay exceeded Albertsons'. The hours data show a similar pattern: a higher share of jobs were full-time at Albertsons compared to Kroger, especially among Food Clerks. The overall Food Clerk share was higher at Albertsons between 2019 and 2021; starting in 2022, Kroger began hiring relatively more Food Clerks, though the share of those positions that were part-time at Kroger also rose sharply.

The total number of job ads posted by Kroger affiliates was higher during the pandemic, while Albertsons' count of job ads varied less over time. Some of this reflects Kroger's larger scale, but the time series also shows a distinct spike in Kroger's postings during the pandemic that Albertsons did not experience. This likely reflects Kroger's need to recruit more aggressively to maintain staffing levels in a volatile market, whereas Albertsons was better able to retain its workforce by offering higher pay and better hours. This pattern is consistent with the model in Part III.A, *supra*, in which the employer with a larger market share pays lower wages. Furthermore, the pattern of elevated recruiting by Kroger during the pandemic (in combination with the wage patterns shown in Figure 2) also points to one possible motivation for the merger: to reduce labor market churn that fueled competitive bidding between the parties, particularly by forcing Kroger to raise pay to retain workers in a tight labor market. We return to this theme in Part VI, *infra*.

V. STATIC OLIGOPSONY: THE EFFECT OF LABOR MARKET CONCENTRATION ON WAGES AND HOURS OF WORK

⁵⁰ As Marta Lachowska, Alexandre Mas, Raffaele Saggio & Stephen A. Woodbury explain, “[t]hese empirical findings [that there is excess labor supply on the intensive margin at market wages] can be explained by vertical differentiation among employers; that is, the existence of a hierarchical ranking of employers based on the desirability of their jobs.” *Work Hours Mismatch* (2023). Their findings show that this pattern is typical of the low-wage labor market generally—a point strongly consistent with the approach taken in this paper, particularly in Part VI.

⁵¹ David Autor, Arindrajit Dube & Annie McGrew, *The Unexpected Compression: Competition at Work in the Low-Wage Labor Market*, NBER Working Paper No. 31010 (Mar. 2023, rev. May 2024), <https://www.nber.org/papers/w31010>.

In this Part, we report the market shares of the merging parties and overall market concentration, and then use these data to estimate how variation in labor market concentration affected pay and hours of work. Markets are defined at the commuting-zone by occupational-classification by calendar-quarter level, following the basic approach to labor market definition pioneered by Azar et al.⁵² and grounded in observed search and substitution behavior of job applicants documented by Azar, Berry and Marinescu.⁵³

Figure 5 reports average market shares for the merging parties across the six occupational classifications. We next to estimating the effect of variation in labor market concentration on pay and working hours. After computing concentration using the market definitions described above, we estimate the following job-ad-level regression:

$$y_{ijct} = \beta \log \text{HHI}_{jct} + \gamma_{jc} + \lambda_t + \epsilon_{ijct} \quad (5.1)$$

where y_{ijct} is the outcome of interest—either the log of the annual earnings or the hours of work (in fact an indicator for full-time status)—associated with job i in occupation j in commuting zone c in calendar quarter t ; $\log \text{HHI}_{jct}$ is the log of the Herfindahl-Hirschman Index of concentration (based on job ads posted by all employers, including the merging parties, in labor market jct), γ_{jc} denotes occupation-by-commuting zone fixed effects, and λ_t denotes each calendar-quarter fixed effects. ϵ_{ijct} is the residual.

The results from estimating that regression are presented in Table 2 for annual earnings and Table 3 for work hours (i.e. full-time status), with four columns that vary the fixed effects specification. Our preferred specification appears in column 4, which includes interacted fixed effects for occupation and commuting zone. This approach identifies variation within a commuting zone-occupation cell (corresponding to our assumed market definition) over time, rather than across geography or locations. We estimate that a 10 percent increase in labor market concentration corresponds to a 3.3 percent reduction in pay, broadly in line with previous results in this literature.⁵⁴ Additionally, we estimate that a 10 percent increase in concentration corresponds to a 4.1 percent decline in the probability that a given job is full-time.

Altogether, these findings are consistent with the model in Part III.A: more concentrated labor markets feature less competition between employers, worsening the terms and conditions of work. Because the merger will increase labor market concentration, these results imply that it would have been likely to worsen outcomes for workers.

For reference, there are two main conceptual differences between these results and those reported by Zipperer.⁵⁵ First, in this analysis, market shares and concentration (and thus the computed change in concentration due to the merger) are computed directly from the job ads data, whereas the earlier analysis used a combination of the number of stores in each local labor market and an estimate of the number of workers employed at each store (based on a detailed study of staffing at a few specific stores). Second, the earlier analysis applied independent estimates of the relationship between concentration and earnings to this particular industry and

⁵² José Azar, Ioana Marinescu, Marshall Steinbaum & Bledi Taska, *Concentration in U.S. Labor Markets: Evidence from Online Vacancy Data*, 66 LAB. ECON. 101886 (2020).

⁵³ José Azar, Steven Berry & Ioana Elena Marinescu, *Estimating Labor Market Power*, NAT'L BUREAU ECON. RESEARCH, Working Paper No. 30365 (2022)

⁵⁴ See, e.g., José Azar, Ioana Marinescu & Marshall Steinbaum, *Labor Market Concentration*, 57 J. HUM. RESOURCES S167 (2022).

⁵⁵ Ben Zipperer, *Kroger-Albertsons Merger Will Harm Grocery Store Worker Wages* (ECON. POL'Y INST., Report, Mar. 21, 2023). Available at: <https://www.epi.org/publication/kroger-albertsons-merger/#:~:text=Based%20on%20existing%20empirical%20research,in%20annual%20wages%20per%20worker.>

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labor market(s). We estimate, in contrast, the concentration-earnings and concentration-hours relationships specifically for this industry.

The key econometric difficulty in interpreting these results is whether variation in labor market concentration actually reflects variation in employer market power. Many alternative explanations have been raised for variation in concentration, such as fluctuations in the supply of or demand for labor that could also affect concentration without being related to employer power. Moreover, our estimates, based on observed variation in concentration within cells, cannot fully account for the possibility that a merger could alter the allocation of jobs in ways that make post-merger concentration differ from the simple combination of pre-merger shares.

That is why, despite the convenience of its structuralist approach, economists tend to be cautious about using it for out-of-sample predictions. We therefore consider the additional theories of competitive harm from the merger discussed in Part II, *supra*.

VI. DYNAMIC OLIGOPSONISTIC COMPETITION: THE WAGE-TURNOVER TRADE-OFF

In this section we estimate the relationship between employer-specific pay and job turnover, the key observable in dynamic monopsony models of the labor market in the spirit of Burdett and Mortensen⁵⁶ and Manning.⁵⁷ In those models, employers in a given labor market (here, a specific occupation/commuting zone combination) are ordered in an ascending hierarchy of pay. Workers at low-wage firms seek employment at higher-wage firms, and firms face an upward-sloping residual labor supply curve. They can choose lower pay and higher turnover (because workers leave for better-paying alternatives) or higher pay and lower turnover (because once landing such a job, workers will be loathe to leave).

We estimate such a wage-turnover tradeoff by focusing on Southern California in 2021, for which we have data on occupation- and employer-specific turnover thanks to UFCW locals. For this purpose, we restrict the national dataset used in the analysis thus far to three commuting zones:

- Los Angeles (including Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties)
- Santa Barbara
- San Diego

Using these data, we then computed occupation-level pay for the two merging parties and their local affiliates, Ralphs and Vons. We have turnover data for both the entire year 2021 as well as month-by-month of 2021. Thus, Figure 6 includes two panels: one for 2021 as a whole, and one showing month-to-month data. These figures indicate that Albertsons was, on the whole, a slightly higher-ranked employer, at least in this market (a finding that is broadly consistent with the wage series shown in Figure 2). In other words, for a given occupation, Albertsons paid slightly more and consequently experienced lower turnover than Kroger. If that was correct, it colors the interpretation of the (national) job ad counts shown earlier in Figure 1: Kroger

⁵⁶ Kenneth Burdett & Dale T. Mortensen, *Wage Differentials, Employer Size, and Unemployment*, 39 INT'L ECON. REV. 257 (1998).

⁵⁷ ALAN MANNING, *MONOPSONY IN MOTION: IMPERFECT COMPETITION IN LABOR MARKETS* (Princeton Univ. Press 2003).

increased job posting more during the pandemic, when it was losing workers to a tighter labor market.

To validate this interpretation, Figure 7 compares the merging parties with Target, Walmart, and Costco, which are large retail employers not covered by UFCW collective bargaining agreements. Although we lack direct turnover data for these non-covered employers, we can observe their job-posting activity. This figure shows that, like Kroger, these firms' job-posting activity spiked during and after the pandemic, suggesting they were also losing workers to better-paying rivals.

The competitive concern is therefore that a merger of labor market competitors reduces the labor market churn that would otherwise provide outside job offers and thus reduces any leverage that individual low-wage workers have on the job, especially for the younger, low-tenure workers at Kroger and Albertsons who are not vested in the health insurance or pension plan.⁵⁸ A reduction in outside job offers makes each firm's incumbent labor force more dependent on their current employer, which in turn enables worsening pay and job quality.

Moreover, had the merger gone forward and led Albertsons to adopt labor market practices more similar to those employed by Kroger, as modeled in Part III.A, *supra*, the result would have represented a movement along the combined firm's labor supply curve, reducing pay and increasing turnover.

The other source of labor market power for low-wage workers, besides outside job offers, is collective bargaining, which we examine in the following section.

VII. COUNTERVAILING POWER: MERGER THREATS TO UNION LEVERAGE

In order to evaluate the third theory of anti-competitive harm—that the reduction in the number of counterparties at the bargaining table reduces the union's leverage in negotiations (as opposed to the power of individual workers)—we compared jurisdictions (commuting zones, in this case) in which two retail grocery employers were party to the union contract with those where there were fewer.

Specifically, we run the following regressions:

$$\log w_{ijct} = \beta \{ \text{Counterparties} \geq 2 \}_c \cdot \phi_k + \theta \{ \text{Vacancies} \}_c + \gamma_j + \lambda_t + \epsilon_{ijct} \quad (7.1)$$

$$\log w_{ijct} = \beta \{ \text{Counterparties} \geq 2 \}_{ct} \cdot \phi_k + \theta \{ \text{Vacancies} \}_{ct} + \gamma_j + \delta_c + \lambda_t + \epsilon_{ijct} \quad (7.2)$$

where most of the variables are defined analogously to equation 5.1. $\text{Counterparties} \geq 2c$ indicates that there were multiple employers covered by the union contract in commuting zone c , and $\text{Counterparties} \geq 2ct$ indicates that there are multiple employer counterparties in commuting zone c in quarter t . ϕ_k indicates that job i was posted by one of the merging parties, either Kroger or Albertsons. We also include a regressor for the count of job ads by commuting zone (in equation 7.1) and by commuting zone-quarter (in equation 7.2) to capture differences in pay policies due to reasons other than the number of counterparties to the retail grocery union contract, for example, urban pay premia. The count of job ads proxies for these wage effects.

⁵⁸ See Alan B. Krueger & Orley Ashenfelter, *Theory and Evidence on Employer Collusion in the Franchise Sector*, 57 J. HUM. RESOURCES S329 (2022), and BRIAN CALLACI ET AL., THE EFFECT OF FRANCHISE NO-POACHING RESTRICTIONS ON WORKER EARNINGS (IZA Discussion Paper No. 16330 (2023)). Available at: <https://docs.iza.org/dp16330.pdf> (discussing a similar dynamic with franchise chain no-poaching clauses and their removal).

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Equation 7.1 relied solely on variation between commuting zones, treating the entire study period (2015-2023) as a single period for purpose of computing the number of counterparties by commuting zone (the year-quarter fixed effect remains, to control for national wage trends). Figure 8 plots the distribution of the number of counterparties by commuting zone corresponding to equation 7.1. Equation 7.2 relied solely on within-commuting-zone variation in the number of counterparties, over time, and therefore included a commuting zone fixed effect.

Figure 9 reports the results, which are very similar regardless of the source of variation used in estimation. We find that multiple bargaining counterparties in a jurisdiction corresponded to roughly a 20 percent earnings premium for Kroger workers, and a more modest 5-9 percent premium for Albertsons workers. This provides strong evidence that competition between the two merging parties at the bargaining table had a substantial effect on worker outcomes, particularly for Kroger workers, who are otherwise lower paid. These results illustrate why the welfare of workers at the two merging chains would have suffered had the merger been consummated. They also highlight a likely motive behind the transaction: eliminating Albertsons as a rival, would remove the competitive pressure at the bargaining table that produces this 20 percent pay premium.

The implications of this shift extend beyond economic modeling. In unionized markets, the collapse of inter-employer rivalry has legal consequences under existing antitrust doctrine. The following section outlines the framework for recognizing and litigating that harm.

VIII. LEGAL FRAMEWORK FOR RECOGNIZING HARM TO UNION BARGAINING OUTCOMES

A. DEFINING UNIONIZED LABOR AS RELEVANT MARKET

Labor market competition does not always occur through spot wages or posted offers. In unionized settings, employment terms are determined collectively, and worker mobility is shaped by institutional frictions embedded in collective bargaining relationships and the agreements they engender (CBAs). As discussed in Part III, *supra*, features like benefit portability, union security clauses, and CBA-specific rights constrain job switching and reduce substitutability between union and non-union employment—even within the same occupation or metro area. For those reasons, the locus of competition in unionized labor markets is the bargaining table.

That has clear implications for market definition. When rival employers bargain separately with the same union local, their conduct is interdependent in economically meaningful ways. In that context, the relevant labor market should ideally reflect the structure of bargaining itself, and not just functional job categories. For many grocery workers covered by CBAs, the key factor putting a floor under labor standards is whether there's another unionized employer nearby, not whether there's another cash register open across town.

This framing was confirmed in both the FTC's enforcement action and a follow-on private suit. In its February 2024 complaint, the FTC alleged that "union grocery labor" constituted a relevant antitrust market, grounded in union representation and bargaining geography.⁵⁹ The court later accepted this as "plausible" at the preliminary injunction stage.⁶⁰ Similar reasoning appeared in *Morgan v. Kroger Co.*, a pending putative class action, where the

⁵⁹ FTC Kroger Complaint ¶¶ 57–64.

⁶⁰ Federal Trade Commission et al. v. Kroger Company, No. 3:24-cv-00347-AN, slip op. at 58–62 (D. Or. Dec. 10, 2024).

complaint characterized union-represented grocery workers as a discrete antitrust labor market and alleged that coordinated employer conduct during a strike depressed bargaining outcomes.⁶¹

This approach aligns with the 2023 Merger Guidelines’ explicit recognition of labor markets as a distinct locus of antitrust concern. Guideline 10 states that “[l]abor markets frequently have characteristics that can exacerbate the competitive effects of a merger between competing employers.”⁶² As an example, the Guidelines note that “labor markets often exhibit high switching costs and search frictions due to the process of finding, applying, interviewing for, and acclimating to a new job.”⁶³ The Guidelines also emphasize that “the level of concentration at which competition concerns arise may be lower in labor markets than in product markets” and that labor markets “can be relatively narrow” in scope.⁶⁴ Thus, under these guidelines, in merger review the DOJ or FTC could be more sensitive to labor market concentration and more willing to define them narrowly, signaling they could find antitrust problems in labor markets even when a corresponding product market looks relatively unconcentrated.⁶⁵

Courts have already applied similar reasoning in buyer-side markets where substitution is shaped by institutional needs rather than product category or geography. In *FTC v. Sysco Corp.*, the district court upheld a narrow market for broadline foodservice distribution to “national customers,” noting that large-scale purchasers—such as restaurant chains, hospitals, and group-purchasing organizations—could not easily switch to regional or local alternatives.⁶⁶ In *FTC v. Staples*, the court found that business customers—unlike retail consumers—depended on full-service office supply vendors, justifying a narrow B2B market.⁶⁷ Finally, in *Penguin Random House*, the court accepted a labor-side market for authors’ services, emphasizing the limited set of publishers competing for major book projects.⁶⁸ The same logic applies to unionized labor markets. That is, substitution depends not just on location or skill, but on the institutional need of union status, bargaining structure, and contractual lock-in.

Whether or not all employers in a given market are unionized is beside the point. What matters is whether those that are behave as meaningful rivals when it comes to labor, whether that be through wage competition, job openings, or leverage at the bargaining table. When a merger eliminates that rivalry, it alters the competitive conditions under which contracts are negotiated.⁶⁹

B. COMPETITIVE EFFECTS

In markets where labor competition occurs through collective bargaining, the relevant antitrust injury is not a reduction in job offers or posted wages, but a shift in the bargaining

⁶¹ See Complaint at ¶¶ 22–33, *Morgan v. Kroger Co.*, No. 2024CV336532 (Denver Cnty. Dist. Ct., filed Nov. 25, 2024).

⁶² See U.S. Dep’t of Justice & Fed. Trade Comm’n, *2023 Merger Guidelines* § 10. Available at: <https://www.justice.gov/atr/media/1329301/dl?inline>. Hereinafter *Merger Guidelines*.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ Section 4.3 further directs enforcers to define labor markets based on real-world frictions and institutional constraints, using evidence of direct competition, existing market power, industry recognition, and the Hypothetical Monopolist Test adapted to non-wage terms (SSNIPT). See U.S. Dep’t of Justice & Fed. Trade Comm’n, *2023 Merger Guidelines* §§ 4.3.A, 4.3.B.

⁶⁶ *FTC v. Sysco Corp.*, No. 1:15-cv-00256 (D.D.C. June 23, 2015) (slip opinion).

⁶⁷ *FTC v. Staples, Inc.*, No. 1:15-cv-02115, slip op. at 4, 25–30 (D.D.C. May 10, 2016)

⁶⁸ *United States v. Bertelsmann SE*, 2022 WL 16949715 (D.D.C. 2022) (holding that the relevant labor-side market comprised authors of anticipated top-selling books, for whom “only a limited set of publishers” (the Big Five) compete, and that the merger would likely reduce author advances, impair contractual terms, and diminish overall output and diversity).

⁶⁹ See *supra*, Part II.

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environment itself.⁷⁰ A merger that eliminates head-to-head employer rivalry in a unionized setting undermines this dynamic, reducing the union’s outside options and diminishing its strike leverage, which in turn increases employer market power to unilaterally worsen labor standards. These are not abstract effects; they alter the structure of negotiations and, by extension, the material terms of CBAs, including wages, benefits, job security provisions, and working conditions.

The FTC advanced this theory in its challenge to the Kroger–Albertsons merger. They alleged that in markets where both firms negotiated with the same union, the merger would blunt strike leverage and facilitate coordinated resistance to wage and benefit increases.⁷¹ The court accepted the premise, calling it “certainly more plausible” than defendants’ claim that labor would be unaffected by or even benefit from the loss of rivalry.⁷² What the court found lacking, however, was a robust framework for quantifying the effects of reduced employer rivalry on union bargaining outcomes. As Chair Lina Khan noted in the FTC’s post-abandonment statement, this shortcoming reflects a broader gap in enforcement tools: unlike consumer markets, labor markets—particularly unionized ones—lack standardized methodologies for assessing merger-induced harm to negotiation dynamics.⁷³

The Morgan complaint helps close this evidentiary gap. There, the plaintiffs allege that during a strike involving Colorado grocery workers, Kroger and Albertsons entered into a no-poach agreement that prevented either firm from hiring the other’s striking workers—a move that, according to the complaint, “strengthened Kroger’s ability to resist union demands at the negotiating table” and “reduced Local 7’s bargaining power while increasing Kroger and Albertsons’ bargaining power” by mitigating “the types of competitive and financial pressures [they] would normally face during a strike.”⁷⁴ As the complaint further explains, “but for the no-poach agreement, Kroger would have faced normal competitive threats from Albertsons ... [and] because Albertsons agreed not to hire any of Kroger’s grocery store workers during the strike, Kroger was insulated from these competitive pressures and benefited from artificially-enhanced bargaining power at the negotiating table.”⁷⁵ Unlike traditional wage-suppression theories that rely on the outside options available to individual workers, *Morgan* offers a fact-based, retrospective theory of harm centered on bargaining structure and outcomes, and thus provides a potential roadmap for proving antitrust injury in unionized labor markets.

Courts are already accustomed to evaluating antitrust harm in negotiated markets—such as provider-insurer reimbursement rates in health care,⁷⁶ or wholesaler-retailer terms in distribution contracts.⁷⁷

⁷⁰ See supra Part IV.

⁷¹ FTC Kroger Complaint ¶¶ 64–70.

⁷² Id. at ¶ 68.

⁷³ *Statement of Chair Lina M. Khan* (joined by Commissioners Rebecca Kelly Slaughter & Alvaro M. Bedoya), *In the Matter of The Kroger Company and Albertsons Companies, Inc.*, Comm’n File No. D-9428, at 8–9 (Jan. 2, 2025), https://www.ftc.gov/system/files/ftc_gov/pdf/2025.01.02-statement-of-chair-lina-m.-khan-in-the-matter-of-the-kroger-company-and-albertsons-companies-inc.-final.pdf (commending court for analyzing labor market theory after finding product market harm and identifying areas where “courts may need further guidance,” including diversion measurement, presumptive concentration thresholds, and economic modeling of bargaining power effects).

⁷⁴ *Morgan v. Kroger & Albertsons*, No. 1:24-cv-02450, Compl. ¶¶ 15, 21 (D. Colo. Aug. 5, 2024).

⁷⁵ Id. at ¶ 64.

⁷⁶ *FTC v. Advocate Health Care Network*, 841 F.3d 460 (7th Cir. 2016).

⁷⁷ See, e.g., *Toys “R” Us, Inc. v. FTC*, 221 F.3d 928, 932–34 (7th Cir. 2000) (evaluating harm from coordinated restrictions on wholesale terms to rival retailers).

C. COLLUSION AND COORDINATED BEHAVIOR

The antitrust concern arising from the Kroger–Albertsons merger is not limited to structural reductions in labor market competition; it also implicates coordinated conduct that directly restrains union bargaining leverage. Even in the absence of a consummated merger, employers can eliminate labor market rivalry by explicitly or tacitly agreeing not to interfere with each other’s labor relations strategies. In unionized settings, this can take the form of no-poach agreements, mutual pledges to “hold the line” in bargaining, or shared approaches to resisting union demands.

This theory is at the heart of *Morgan v. Kroger*, a class action complaint arising from the Colorado Attorney General’s merger investigation. According to the complaint, Kroger and Albertsons entered into a no-poach agreement during a 2022–2023 strike that prohibited either firm from hiring the other’s striking workers.⁷⁸ The result, plaintiffs allege, was the elimination of the ability of UFCW Local 7, representing the striking workers at King Soopers (a Kroger chain), to leverage competition between the two employers, which was a strategy that historically enabled the union to extract superior contract terms. The ensuing collective bargaining agreement, plaintiffs argue, was materially weaker than what would have been achieved in a genuinely competitive bargaining environment.⁷⁹

In functional terms, this is market allocation—not of product markets, but of labor-side negotiations. By agreeing not to compete for labor during a critical moment of employer vulnerability, the employers suppressed a channel of competition that had historically benefited workers. Under standard antitrust doctrine, this kind of coordination is per se unlawful when it involves horizontal restraints on hiring or wage-setting.⁸⁰ While some employer coordination in labor relations may be shielded under labor law when occurring within lawful multi-employer bargaining units, naked restraints outside that context remain subject to antitrust scrutiny.

Moreover, the economic harm from such coordination is not limited to immediate wage effects. As *Morgan* illustrates, coordination between employers undermines the structural preconditions for meaningful bargaining, thus reducing the union’s outside options, its ability to deploy selective strike strategies, and ultimately the quality of negotiated agreements. Courts have already recognized these dynamics in other contexts involving negotiated pricing.⁸¹ Going forward, courts and agencies should treat efforts to suppress inter-employer labor competition—whether through merger, informal alignment, or direct coordination—as restraints of trade. When such efforts target the very mechanisms that give unions bargaining power, the anticompetitive effects are not speculative; they are embedded in the structure of the negotiation itself.

D. IMPLICATIONS FOR MERGER REVIEW AND ENFORCEMENT

The FTC’s labor theory in *Kroger–Albertsons* represents a turning point in merger enforcement. For the first time, a federal court acknowledged that harm to union bargaining leverage—not just individual wage effects—could constitute a standalone violation of Section 7 of the Clayton Act. While the court ultimately granted a preliminary injunction on traditional product market grounds, it made clear that the labor theory was “certainly more plausible” than

⁷⁸ *Morgan v. Kroger & Albertsons*, No. 1:24-cv-02450, Compl. ¶¶ 6–15 (D. Colo. Aug. 5, 2024).

⁷⁹ *Id.* at. ¶¶ 30–34, 38–44.

⁸⁰ See, e.g., *In re High-Tech Employee Antitrust Litig.*, 856 F. Supp. 2d 1103, 1110–12 (N.D. Cal. 2012) (finding per se theory viable where companies allegedly agreed not to cold-call each other’s employees).

⁸¹ See *supra* Part VIII.B.

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defendants' rebuttal and did not fall outside the bounds of antitrust law merely because it concerned collective bargaining.⁸² What ultimately limited the court's willingness to rest an injunction on that theory was evidentiary, not doctrinal: the agency lacked a clear methodology for modeling the magnitude of harm.

That gap is not unique to this case. As Chair Khan noted in the FTC's post-abandonment statement, merger enforcement remains under-equipped to quantify how structural changes affect bargaining outcomes in unionized labor markets, despite recognizing in theory that these effects are real.⁸³ The *Morgan* complaint provides a concrete answer to those questions. It presents a retrospective, fact-intensive theory of harm: that a no-poach agreement between Kroger and Albertsons during a strike altered the structure of negotiations and resulted in a materially weaker CBA.⁸⁴ CITE: *Morgan Complaint* ¶¶ 30–44. That model—where plaintiffs compare observed outcomes under coordinated employer behavior to counterfactuals drawn from prior bargaining rounds or comparable markets—offers a clear path forward for enforcers and courts.

This is where the tools developed earlier in this article become operational. Part VI estimates wage-turnover elasticities for affected markets—an empirical measure of workers' ability to exit in response to reduced compensation. Because a union's strike leverage depends on its members' credible outside options, these elasticities *could* provide a defensible proxy for bargaining power.⁸⁵ But the more direct evidence for this bargaining-power-reduction theory of harm comes in Part VII's comparison of pay in markets where Kroger and Albertsons both operate to those where only one or neither is present.⁸⁶ Part V's concentration analysis identifies geographic markets where both firms employ union labor and calculates changes in market share, thus offering a basis for pre- and post-merger comparisons of employer-side bargaining strength.⁸⁷ Part III outlines a stylized model of how bargaining outcomes can shift when a union's ability to play one employer off another is eliminated.⁸⁸ These are the kinds of analytic tools that economists could deploy in future cases involving negotiated markets. Taken together, such tools could provide a workable foundation for modeling bargaining-side harm in labor markets, drawing on methods already accepted in cases involving negotiated pricing.

This framework also fits within a broader pattern of merger enforcement. For example, in *Penguin Random House*, the district court blocked a merger on the theory that it would reduce competition for author advances, which was a labor market effect in a highly concentrated, contract-driven setting.⁸⁹ In *Staples/Office Depot* and *Sysco/US Foods*, courts upheld narrowly drawn customer markets based on the preferences and constraints of sophisticated buyers.⁹⁰ These precedents signal that where competition is structured by institutional dynamics, courts are open to market definitions, theories of harm, and types of evidence that reflect that structure.

The same logic applies to unionized labor markets. Bargaining outcomes reflect the structure of the employer side of the table. When a merger eliminates the union's ability to pit

⁸² Federal Trade Commission et al. v. Kroger Company, No. 3:24-cv-00347-AN, slip op. at 68 (D. Or. Dec. 10, 2024).

⁸³ *Statement of Chair Lina M. Khan* (joined by Commissioners Rebecca Kelly Slaughter & Alvaro M. Bedoya), *In the Matter of The Kroger Company and Albertsons Companies, Inc.*, Comm'n File No. D-9428, at 8–9 (Jan. 2, 2025), https://www.ftc.gov/system/files/ftc_gov/pdf/2025.01.02-statement-of-chair-lina-m.-khan-in-the-matter-of-the-kroger-company-and-albertsons-companies-inc.-final.pdf

⁸⁴ *Morgan v. Kroger & Albertsons*, No. 1:24-cv-02450, Compl. ¶¶ 30–44 (D. Colo. Aug. 5, 2024).

⁸⁵ See *Supra* Part VI.

⁸⁶ See *supra* Part VII.

⁸⁷ See *Supra* Part V.

⁸⁸ See *Supra* Part III.

⁸⁹ *United States v. Bertelsmann SE*, 2022 WL 16949715 (D.D.C. 2022).

⁹⁰ *FTC v. Staples, Inc.*, 190 F. Supp. 3d 100, 121–23 (D.D.C. 2016); *FTC v. Sysco Corp.*, No. 1:15-cv-00256, slip op. at 35–38 (D.D.C. June 23, 2015)).

one employer against another, the downstream effect is not theoretical—it is embedded in the contract. For enforcement agencies, the implication is clear: merger review must incorporate bargaining-based labor harm into the toolkit, not as a novel theory but as a logical extension of existing doctrine. For courts, the path forward is equally clear: treat these effects the same way you treat negotiated prices in any other concentrated market.

IX. CONCLUSION

The purpose of merger analysis is to evaluate whether the merger was likely to increase market power in a relevant antitrust market.⁹¹ This paper examined three different theories of competitive harm in the labor market associated with the proposed merger of two national retail grocery chains, Kroger and Albertsons: that increased labor market concentration worsens pay and job quality, that a reduction in the flow of job offers limits any leverage low-wage workers have to obtain better job quality, and that concentrating employers at the bargaining table in a labor market where terms and conditions are set by collective bargaining agreement deprives the union representing those workers of leverage, leading to worse contractual terms and outcomes for workers. All three theories centrally concern the exercise of labor market power resulting directly from the merger. We conclude the evidence presented here shows that the merger posed a significant risk to labor market competition and worker welfare through all three channels, any one of which constitutes a valid theory of harm.

⁹¹ JONATHAN B. BAKER ET AL., COMMENTS OF ECONOMISTS AND LAWYERS ON THE DRAFT MERGER GUIDELINES (2023) (“Merger analysis is concerned with the possible change in the incentive and ability of market participants to exercise market power flowing from the merger, measured relative to their incentive or ability in a but-for world in which the merger did not take place (which is often reasonably proxied by the pre-merger world).”).

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Figure 1. Count of Job Ads by Occupation, 2015-2023. This figure plots the total count of job ads posted quarterly by each of the merging parties (including all of their constituent chains) from 2015-2023.

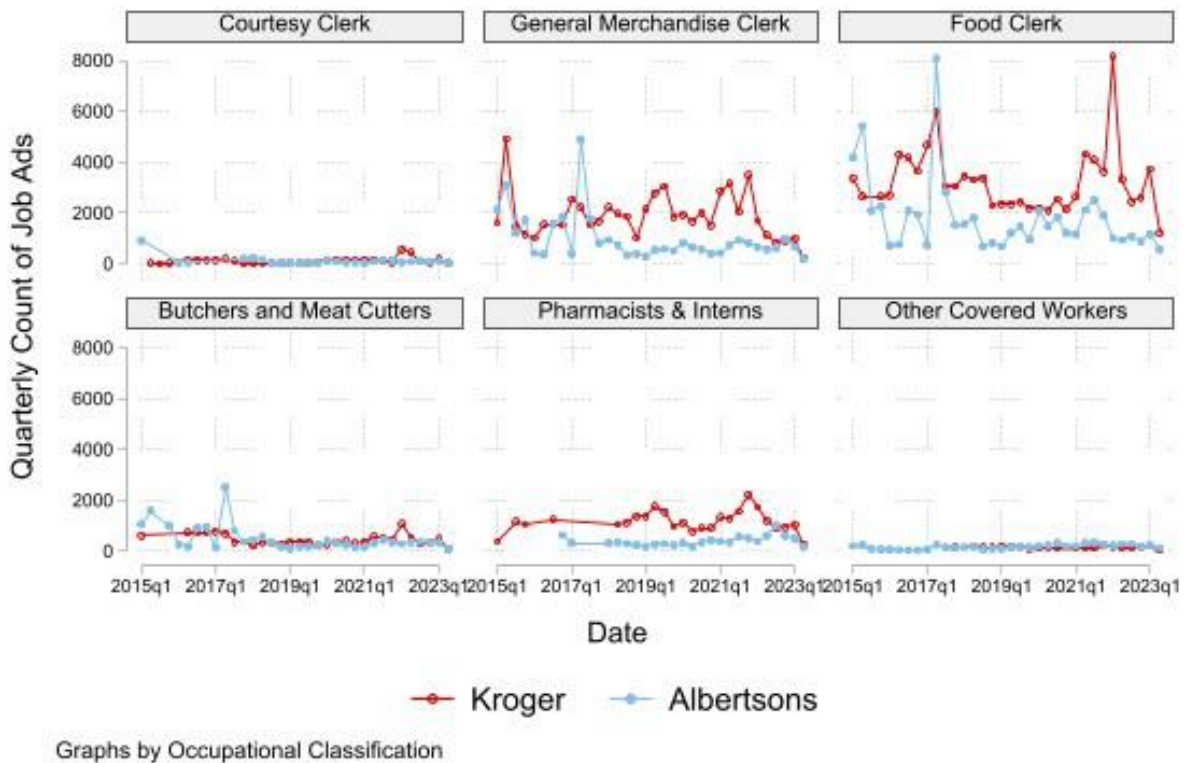
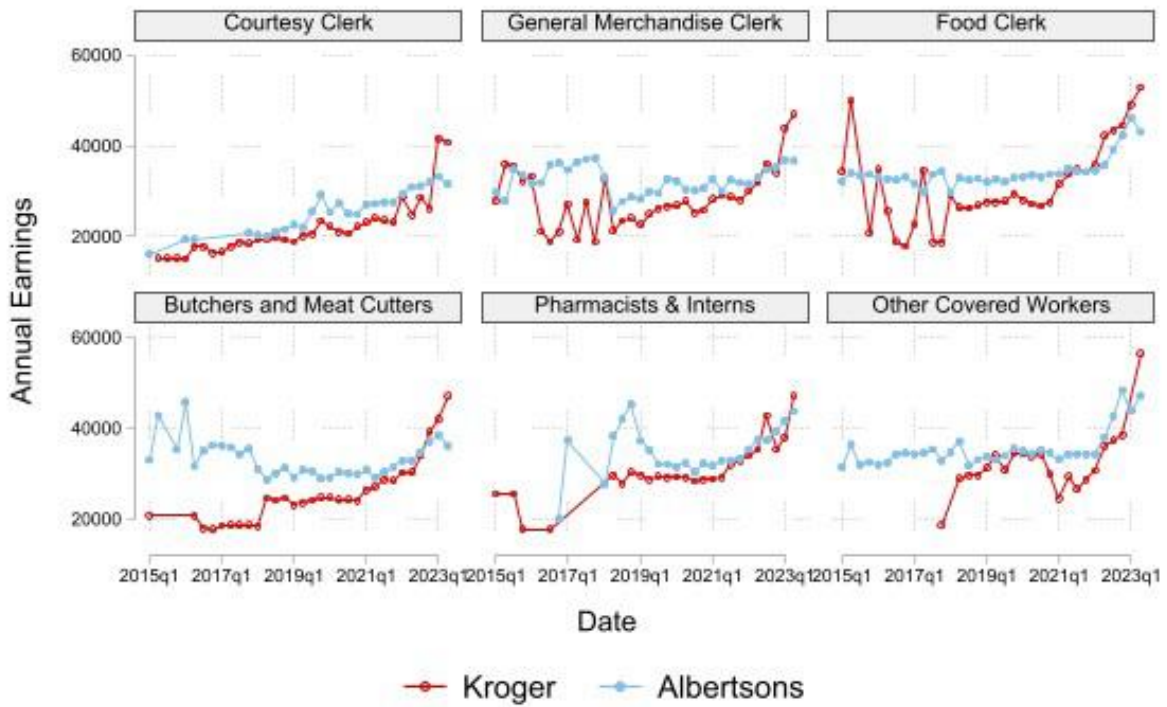


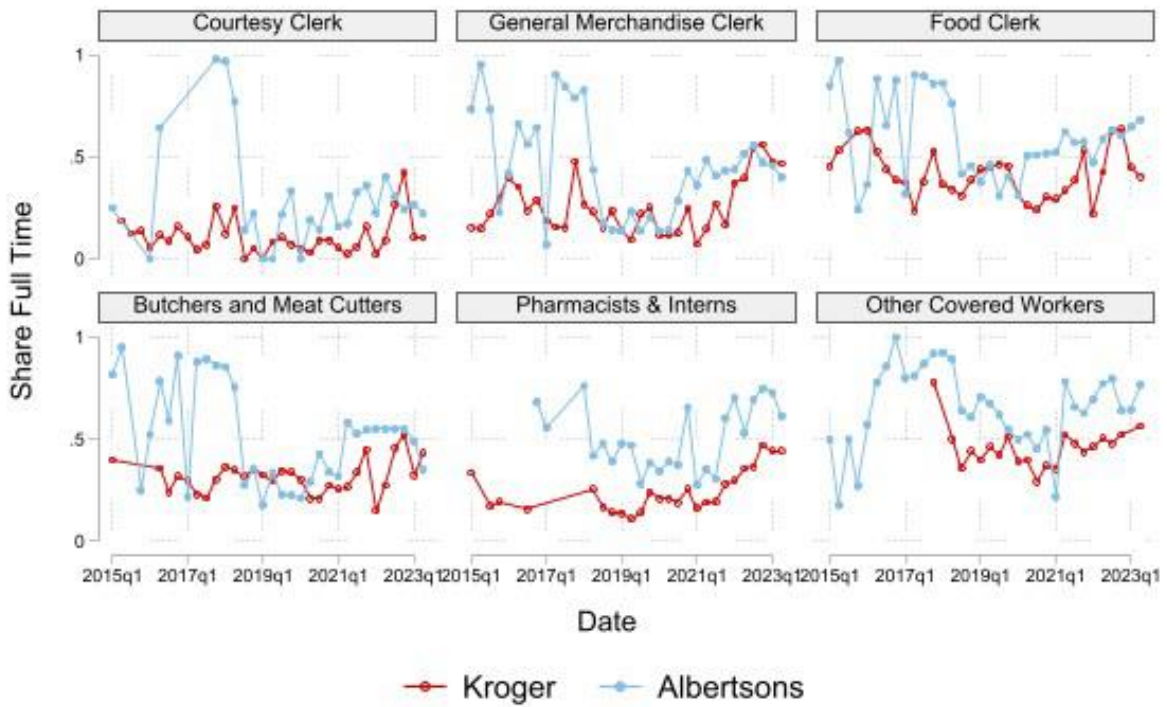
Figure 2. Average annual earnings by occupation, 2015-2023. This figure plots the average earnings over time for each occupational classification, for the merging parties from 2015-2023.



Graphs by Occupational Classification

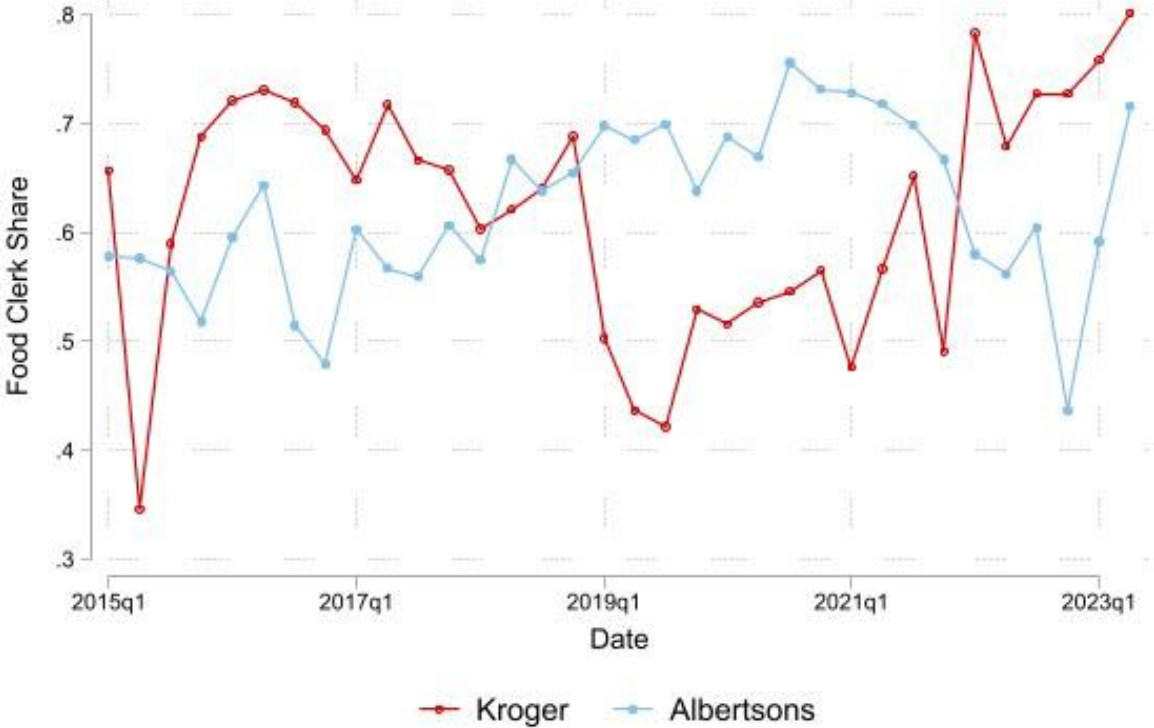
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Figure 3. Share of full-time jobs, 2015-2023. This figure plots each chain's share of full-time jobs over time for each occupational classification from 2015-2023.



Graphs by Occupational Classification

Figure 4. Food Clerks as Share of All Clerks, 2015-2023. This figure plots each chain's food clerk share of total clerk hires from 2015-2023. Food Clerk is the best-paid classification with the most seniority, so a higher share of hiring in that category reflects overall chain-level job quality.



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Figure 5. Average market shares of the merging parties by occupation, 2021-2023. This figure plots the occupation-level average market share of the two merging parties. Throughout, the market definition is commuting zone by occupational classification by calendar quarter. For this chart, the market shares are computed for 2021-2023.

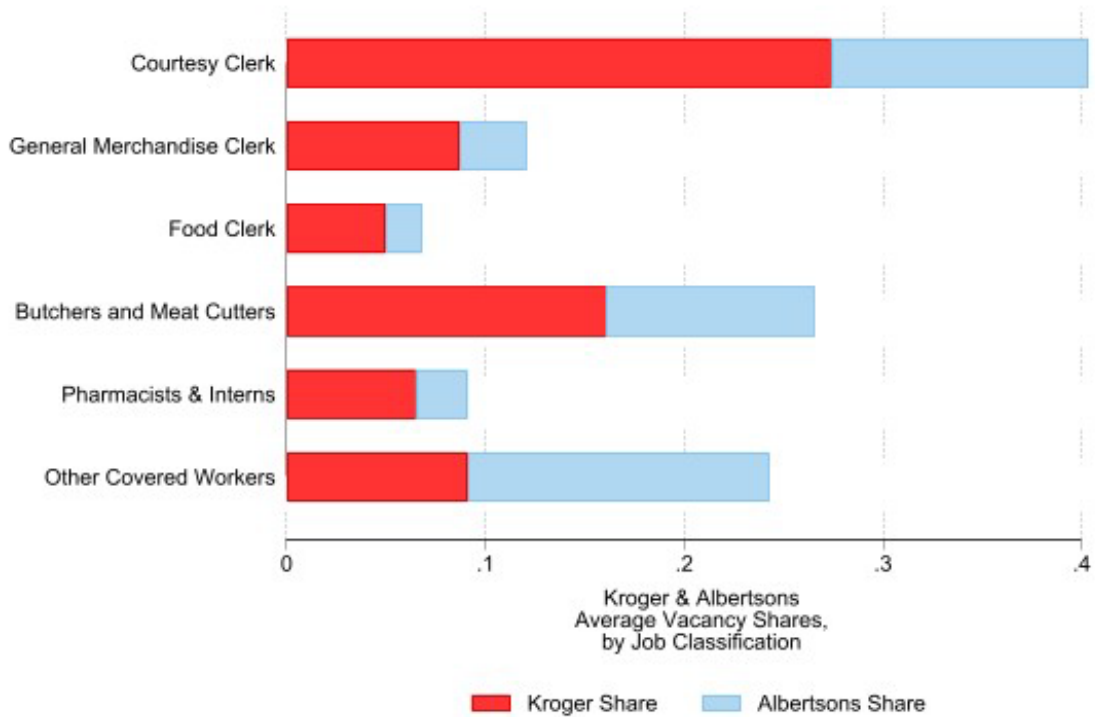
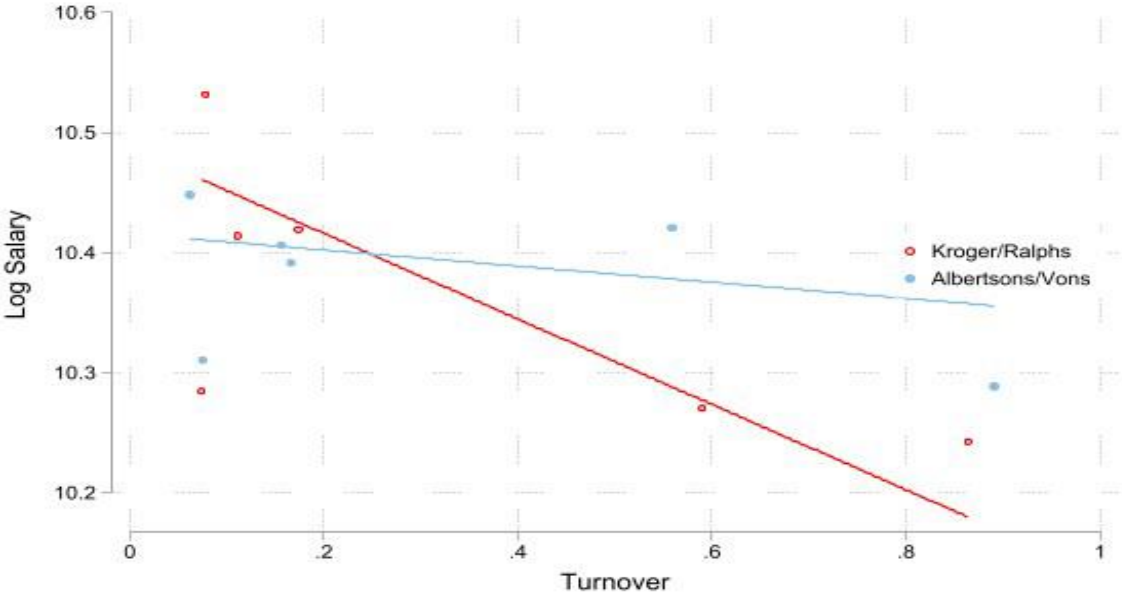


Figure 6. Relationship between pay and turnover for each of the merging parties in Southern California, 2021. This plots the estimated relationship between occupation- and employer-specific pay and job turnover in the Southern California coverage area in 2021.

(A) Annual Data



(B) Monthly Data

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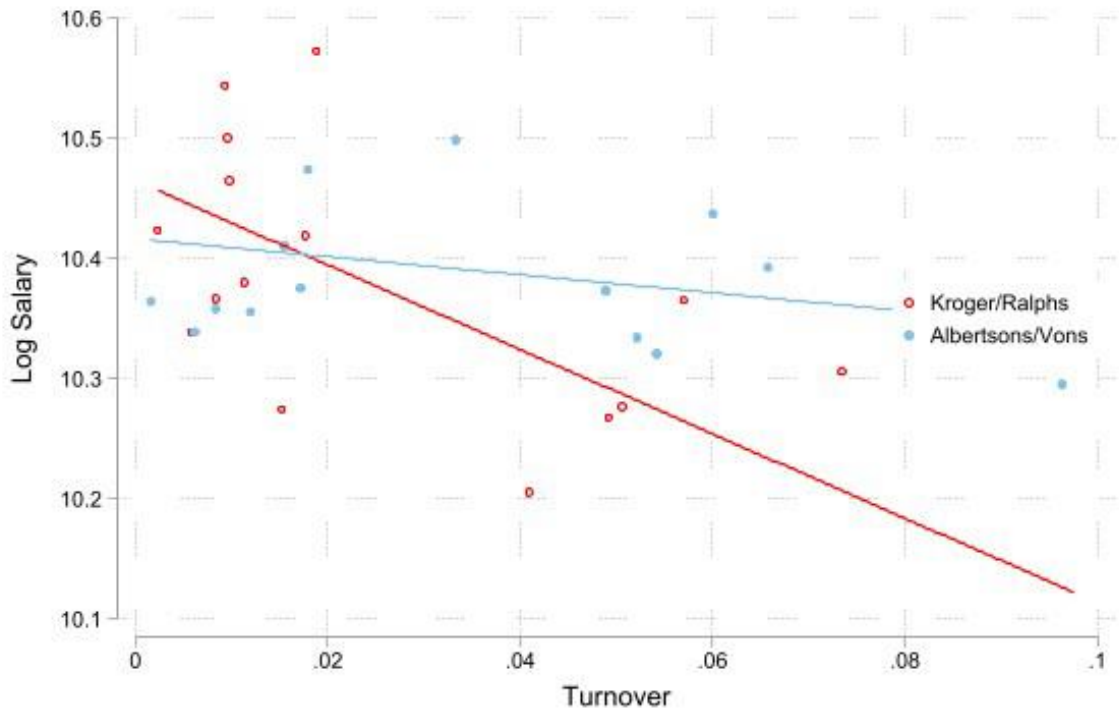


Figure 7. Job posting by the merging parties and their rivals in Southern California. These figures compute the count of job postings for the two merging parties and three rivals: Target, Walmart, and Costco, in the Southern California market.

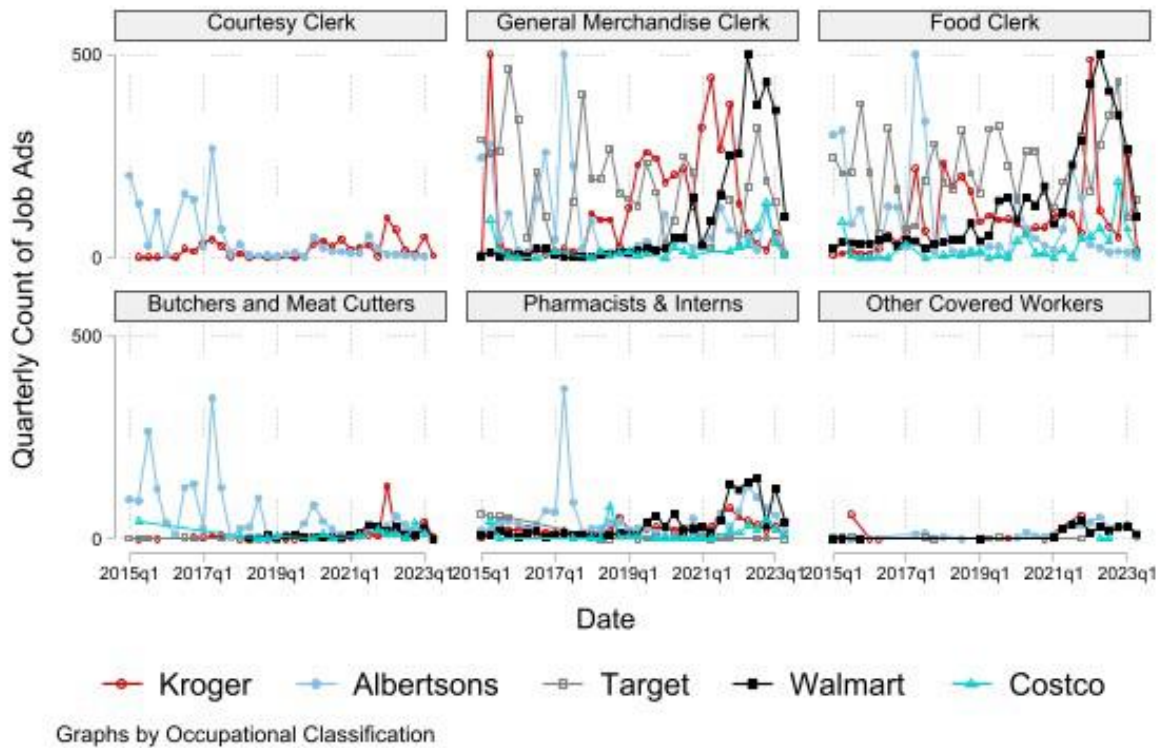


Figure 8. Count of the Number of Employer-Counterparties by Commuting Zone. This histogram plots the distribution of the number of employer counterparties to collective bargaining by commuting zone, where that is determined over the entire 2015-2023 study period. Hence, it depicts the identifying variation in equation 7.1.

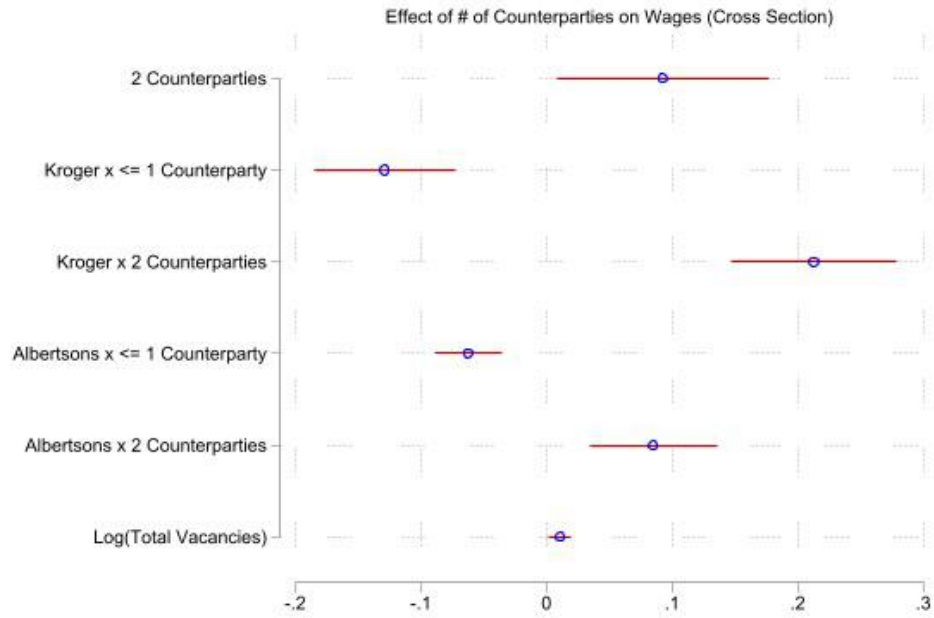
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Figure 9. Effect of multiple counterparties on pay. These figures estimate the marginal effect of multiple employer-counterparties on pay at each of the merging parties during 2015-2023. The first set of estimates utilize only cross-sectional variation in the number of counterparties across

commuting zones. The second utilize only time series variation in the number of counterparties within commuting zones.

(A) Cross-section



(B) Panel

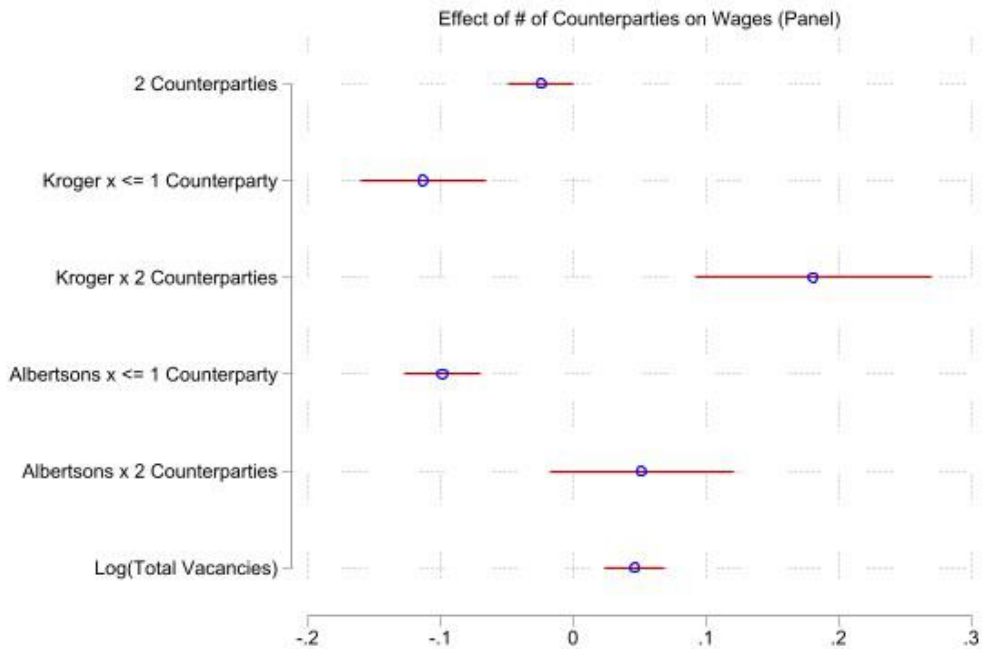


Table 1. Directory of Occupational Classifications This table explains how the six occupational classifications used in the analysis of labor market competition are constructed from constituent SOC-6 occupations and BGT's standardized job titles.

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Occupational Classification	6-digit SOC Occupations	Job Titles
Courtesy Clerks		<ul style="list-style-type: none"> · Courtesy Clerk · Cart Clerk · Utility Clerk
General Merchandise Clerks	<ul style="list-style-type: none"> · Stock Clerks & Order Fillers · Food Preparation Workers 	<ul style="list-style-type: none"> · Retail Clerk · Deli Clerk · Order Filler · Stock Clerk · Bakery Clerk · Rx Clerk
Food Clerks	<ul style="list-style-type: none"> · First Line Supervisors of Food Preparation Workers · Cashiers 	<ul style="list-style-type: none"> · Dairy Clerk · Frozen Food Clerk · Grocery Clerk · Foods Clerk · General Clerk · Cashier · Produce Clerk · Perishable Clerk
Butchers and Meat Cutters	<ul style="list-style-type: none"> · Butchers and Meat Cutters 	<ul style="list-style-type: none"> · Meat Clerk · Meat Cutter · Butcher · Seafood Clerk
Pharmacists and Interns	<ul style="list-style-type: none"> · Pharmacy Aides · Pharmacy Technicians 	<ul style="list-style-type: none"> · Pharmacy Technician · Pharmacy Manager
Other Covered Occupations	<ul style="list-style-type: none"> · Food Service Managers · Sales and Related Workers, All Other 	

Table 2. HHI-Earnings Regression Results This table reports the results from estimating equation 5.1 with alter- native fixed effects specifications, where the outcome of interest is the log of the annual salary posted in the job ad.

VARIABLES	(1)	(2)	(3)	(4)
	Log(Salary)	Log(Salary)	Log(Salary)	Log(Salary)
Log(HHI)	-0.0531*** (0.00619)	-0.0738*** (0.00455)	-0.0163** (0.00818)	-0.0330*** (0.0116)
Constant	10.36*** (0.0133)	10.31*** (0.0122)	10.45*** (0.0174)	10.41*** (0.0271)
Observations	700,427	700,413	700,427	700,083
R-squared	0.122	0.150	0.032	0.083
Year-Quarter FE	YES	YES	YES	YES
Commuting Zone FE	NO	YES	NO	NO
Occupation FE	NO	NO	YES	NO
Occupation-by-Commuting Zone FE	NO	NO	NO	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3. HHI-Work Hours Regression Results This table reports the results from estimating equation 5.1 with alternative fixed effects specifications. The outcome of interest is an indicator for whether the job advertises full- time hours.

VARIABLES	(1)	(2)	(3)	(4)
	Full Time	Full Time	Full Time	Full Time
Log(HHI)	-0.0927*** (0.00517)	-0.136*** (0.00637)	-0.0279*** (0.00522)	-0.0411*** (0.00600)
Constant	0.405*** (0.0123)	0.312*** (0.0173)	0.544*** (0.0112)	0.516*** (0.0129)
Observations	2,288,327	2,288,321	2,288,327	2,288,134
R-squared	0.029	0.053	0.075	0.106
Year-Quarter FE	YES	YES	YES	YES
Commuting Zone FE	NO	YES	NO	NO
Occupation FE	NO	NO	YES	NO
Occupation-by-Commuting Zone FE	NO	NO	NO	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

APPENDIX A. Model of Labor Supply on a Salop Circle

EVALUATING THE COMPETITIVE EFFECT OF THE ATTEMPTED KROGER-ALBERTSONS MERGER IN LABOR MARKETS

This appendix presents an oligopsony model of labor market competition, extending the model in Part III.A to more than two (pre-merger) employers.⁹² In this extension, the merger of two employers does not result in the total collapse of labor market competition, but does increase the wage markdown paid by the merging parties.

There are $N > 2$ employers equally spaced around the perimeter of a circle, with workers distributed uniformly around the circle. We will model the merger of adjacent employers 1 and 2,⁹³ where employer 1 enjoys the higher amenity value $r_1 > r_2$. All the other employers $i > 2$ have amenity value r^* and pay equal wage w^* by assumption.⁹⁴

Under a Salop circle model, the labor market share/labor supply function of firm 1 is given by

$$Q_1(\{w\}, \{r\}) = \frac{1}{N} + \frac{2w_1 - w_2 - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} \quad (\text{A.1})$$

As before, we can use this to solve firm 1's profit maximization problem.

$$\pi_1 = \max_{w_1} (p_1 - w_1) \left(\frac{1}{N} + \frac{2w_1 - w_2 - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} \right) \quad (\text{A.2})$$

$$[w_1] \quad \frac{1}{N} + \frac{2w_1 - w_2 - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} = \frac{1}{\tau}(p_1 - w_1) \quad (\text{A.3})$$

$$w_1^* = \frac{1}{2} \left(p_1 - \frac{\tau}{N} + \frac{1}{2}w_2 + \frac{1}{2}w^* - r_1 + \frac{1}{2}r_2 + \frac{1}{2}r^* \right) \quad (\text{A.4})$$

Equation A.4 is the best response function for firm 1. The best response function for firm 2 is given by

$$w_2^* = \frac{1}{2} \left(p_2 - \frac{\tau}{N} + \frac{1}{2}w_1 + \frac{1}{2}w^* - r_2 + \frac{1}{2}r_1 + \frac{1}{2}r^* \right) \quad (\text{A.5})$$

The intersection of the best response functions yields the equilibrium wage formula

⁹² Steven C. Salop, Monopolistic Competition with Outside Goods, 10 BELL J. ECON. 141 (1979).

⁹³ The idea that Kroger and Albertsons are proximate in the labor market is supported by the transferability of seniority, qualification for health insurance, and pension rights across employers subject to the union contract, but are not transferable to employers not subject to the contract.

⁹⁴ Given equal amenity values, there will still be some wage inequality among the non-merging parties given proximity to the merging parties with different amenity values. For the purpose of this exposition, we do not model that.

$$w_i^* = \frac{8}{15}p_i + \frac{2}{15}p_{-i} - \frac{2\tau}{3N} + \frac{1}{3}w^* + \frac{2}{15}r_{-i} - \frac{7}{15}r_i + \frac{1}{3}r^* \quad (\text{A.6})$$

where i and $-i$ refer to firms 1 and 2, or vice versa. If we assume equal retail prices/marginal products, this simplifies to

$$w_i^* = \frac{2}{3}p^* - \frac{2\tau}{3N} + \frac{1}{3}w^* + \frac{2}{15}r_{-i} - \frac{7}{15}r_i + \frac{1}{3}r^* \quad (\text{A.7})$$

which is the equivalent of equation 3.6.

As before, we model a merger of firms 1 and 2 by assuming a wage parity condition is the result: the firm with the lower amenity value of the merging parties is prevented from competing in the labor market by paying a higher wage. The notation that follows assumes the lower-amenity-value merging party is firm 2, and we solve firm 1's post-merger profit maximization function with \tilde{w} as the shared post-merger wage. N stays constant because we assume the merged firm keeps the former location of firm 2 open, as in the Hotelling case.

$$Q_1(\{w\}, \{r\}) = \frac{1}{N} + \frac{\tilde{w} - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} \quad (\text{A.8})$$

$$\pi_1 = \max_w (p^* - \tilde{w}) \left(\frac{1}{N} + \frac{\tilde{w} - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} \right) \quad (\text{A.9})$$

$$[\tilde{w}] \quad \frac{1}{N} + \frac{\tilde{w} - w^*}{2\tau} + \frac{2r_1 - r_2 - r^*}{2\tau} = \frac{1}{2\tau}(p^* - \tilde{w}) \quad (\text{A.10})$$

$$\tilde{w}^* = \frac{1}{2}p^* - \frac{\tau}{N} + \frac{1}{2}w^* - r_1 + \frac{1}{2}r_2 + \frac{1}{2}r^* \quad (\text{A.11})$$

Comparing equation A.11 with equation A.7, we see that wage share of MPL (the coefficient on p^*) is lower post-merger, and the market power markdown term $\frac{a\tau}{bN}$ is also larger in magnitude

for $N \geq 2$ post-merger. Both effects are partly offset by higher weights on w^* and r^* , because the other firms become the more relevant sources of labor market competition for firm 1 post-merger. However, it should be noted that if firms 1 and 2 collectively form a non-trivial share of the labor market, then in a full equilibrium of the model w^* will also adjust downward post-merger since wages are strategic complements. That would constitute a coordinated effect of the merger. Altogether, the merger exerts downward pressure on wages, but does not drive them to subsistence as in Part III.A.

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One appealing feature of this model is that the non-merging parties will gain market share as a result of firm 1 gaining labor market power. That result reflects the intuition that worsened competitive outcomes following the merger redistribute market share to the non-merging firms, so combining their ex ante market share overstates the competitive effect of the merger. In the case of a merger of two retail employers like Kroger and Albertsons, any post-merger store closures and layoffs could be interpreted through that lens.