Antitrust in Labor Markets: Insights from the FTC Hearings on Competition and Consumer Protection in the 21st Century

by Jee-Yeon K. Lehmann, Tímea Laura Molnár, Liz Neyens, and Rebecca Scott[1]; Analysis Group, Inc.

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Jee-Yeon K. Lehmann


Tímea Laura Molnár


Liz Neyens


Rebecca Scott

Over the past few years, antitrust issues in labor markets have emerged as a focal point in regulatory enforcement. In October 2016, following a series of Department of Justice ("DOJ") investigations and subsequent class actions alleging the existence of "no-poach" agreements among several high -tech firms, the DOJ and the Federal Trade Commission ("FTC") jointly released the *Antitrust Guidance for Human Resource Professionals* ("DOJ/FTC HR guidance"). The DOJ/FTC HR guidance underscores that U.S. antitrust laws apply to competition among employers and warns that "naked" wage-fixing and/or no-poaching agreements—meaning agreements that are "separate from or not reasonably necessary to a larger legitimate collaboration between the employers"—are *per se* illegal.[2] The guidance also announced, for the first time, that individuals and/or companies involved in naked no-poaching or wage-fixing agreements may be criminally prosecuted.[3]

Following the issuance of the DOJ/FTC HR guidance, the two agencies increased their enforcement activities against alleged anticompetitive conduct in labor markets, with actions including *FTC v. Your Therapy Source, LLC et al.*[4] and *United States v. Knorr-Bremse AG and Westinghouse Air Brake Technologies Corp.*[5] The former involved an allegation of wage-fixing agreements between competing therapist-staffing companies, and the latter involved the allegation that rail-equipment suppliers agreed to enter into a "no-poach" agreement with one another. These DOJ/FTC enforcement actions have been accompanied by state investigations into no-poach clauses in franchise agreements in various industries, including fast food, cleaning services, home health care, and hospitality.[6] Multiple civil actions have followed these enforcement activities, and the number of private litigations involving allegations of anticompetitive hiring and/or pay-setting practices is on the rise.[7]

Moreover, in 2018, antitrust scrutiny has extended beyond no-poach and wage-fixing agreements to the use of broad non-compete clauses in employment contracts[8] and to the labor-market effects of mergers.[9]

On October 16, 2018, against this backdrop of regulatory activities and civil actions, the FTC organized two panels examining antitrust issues in labor markets as part of its hearings on Competition and Consumer Protection in the 21st Century.[10] The ten panelists—comprising labor and industrial organization economists, legal scholars, and attorneys—addressed various topics related to (1) economic evidence of labor-market monopsony (as defined in the next section) and (2) antitrust policy for labor markets.[11]

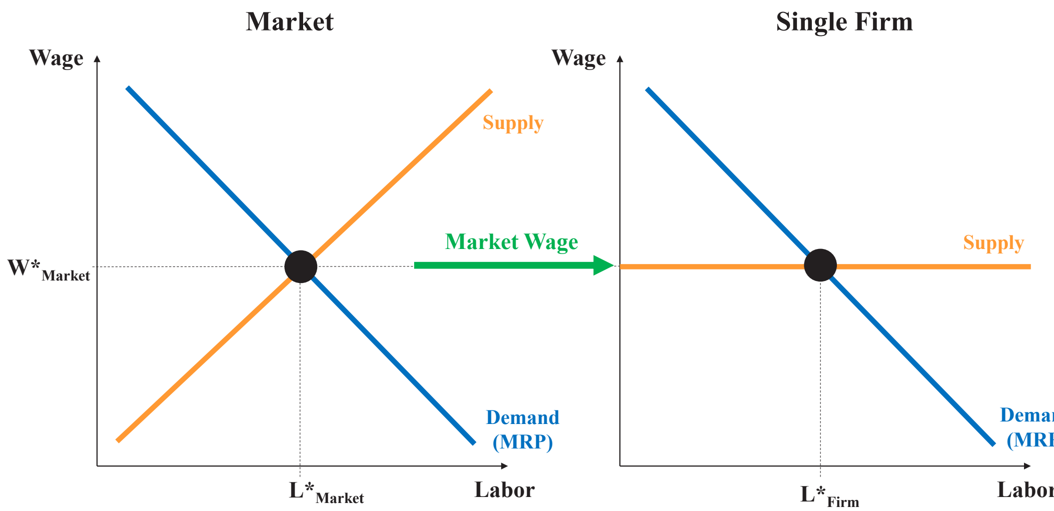
In this article, we summarize the panelists' insights on these topics and highlight key points of debate. We begin with a brief introduction to economic models of labor markets to provide a framework for understanding monopsony power. Next, we summarize the panelists' discussion of the current economic evidence on the connection between employer concentration and wage stagnation in the U.S. We follow with a recap of the debate on the applicability of the consumer-welfare standard to antitrust analysis in labor markets, then summarize panelists' discussion of non-compete agreements. We conclude with a summary of the panelists' recommendations for labor-market antitrust enforcement.

Economic Models of the Labor Market

Alan Krueger, professor of economics and public policy at Princeton University and former chair of the Council of Economic Advisors, kicked off the panels with an opening address that offered his perspective on the current state of competition in the U.S. labor market.[12] He began by describing three different models of the labor market—perfect competition, monopsony, and search—and their implications for wage determination.

In a perfectly competitive labor market, an individual firm is a *wage-taker*.[13] As illustrated in Figure 1, each firm faces a horizontal (i.e., perfectly elastic) labor supply curve at the market wage rate, which is determined by the supply and demand for labor in the market.[14] Under these conditions, each firm will hire labor up to the point at which the marginal revenue product (MRP) of the last unit of labor hired (i.e., the change in total revenue associated with hiring one last unit of labor) is equal to the market wage.[15]

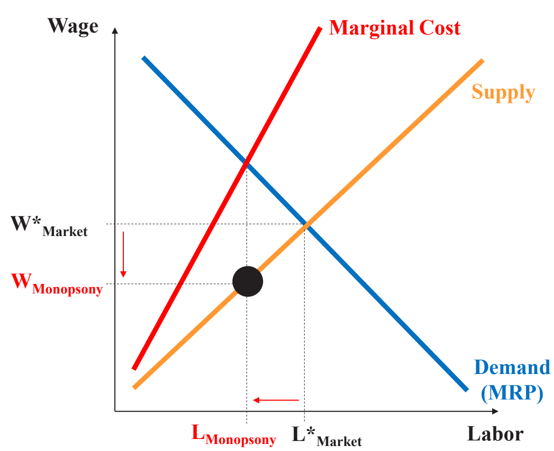
Figure 1 : Model of Perfect Competition[16]



Prof. Krueger argued that perfect competition, traditionally "the go-to model of the labor market," is not generally appropriate. According to Prof. Krueger, labor market features such as bargaining between firms and workers and "collusive behavior by firms"[17] are inconsistent with perfect competition, in which "bargaining power is completely irrelevant because wages are determined by the external forces of supply and demand, [and] firms just passively accept whatever the market wage is."[18] Instead, Prof. Krueger argued that models should take the more appropriate view of firms as "wage-setters or wage-bargainers rather than wage-takers."[19]

Prof. Krueger described two classes of models in which individual firms have some power to determine wages: monopsony and search models. In a classic model of monopsony, the labor market comprises a single, dominant employer (i.e., monopsonist) and many workers who are looking for employment. As illustrated in Figure 2, the monopsonist faces an upward-sloping labor supply curve; in other words, to hire an additional worker, the monopsonist must pay that worker a higher wage than it is currently paying its existing workers. However, the extra cost (i.e., marginal cost) of hiring the additional worker is actually *greater* than the additional worker's wage, because the monopsonist must also increase the wage of its existing employees to match the wage of the additional worker. The monopsonist will hire until the marginal cost of hiring the last unit of labor is equal to the MRP of that unit. Compared to the equilibrium in a perfectly competitive labor market, the monopsony wage is lower and fewer workers are hired. Prof. Krueger noted that the model of monopsony can be

Figure 2 : Model of Monopsony[21]



"easily extended" to a market with several employers (oligopsony) or to a situation where there is collusion among employers.[20]

Search models allow for "search frictions" in the labor market (i.e., factors that prevent immediate and automatic matching of buyers and sellers). As described by Prof. Krueger, in these models "it takes time and effort for workers to search for job openings and for firms to search for workers."[22] These frictions, Prof. Krueger explained, may allow a firm to offer less than the competitive wage without "los[ing] all of its workers or find[ing] it impossible to hire new ones"—even if the firm is one of many employers.[23] In modern labor-market search models, firms and workers have different characteristics and preferences as well as imperfect information about these differences. The differences and information asymmetries mean that "there is no single going wage," but rather a range of economically plausible wages,[24] with the particular wage for a worker or position determined by bargaining. As a result, factors that change the relative bargaining power of firms and workers can impact the distribution of prevailing wages in the labor market.

Employer Concentration and Labor Market Outcomes

With these frameworks as background, Prof. Krueger set up a discussion on the economic evidence of monopsony power—a term he used broadly to describe any situation in which a firm faces an upward-sloping supply curve, not just a situation with a single or a few employers.[25]

He offered his support for the claim that growing employer concentration in the U.S. is an explanation for the wage stagnation observed in recent decades.[26] Prof. Krueger further noted that "[t]he increase in employer concentration in the U.S. has probably facilitated collusion" among employers.[27]

While some panelists echoed Prof. Krueger's opinion about the causal link between employer concentration and wage stagnation, others disagreed with his assessment of the available evidence. Matthias Kehrig, an assistant professor of economics at Duke University, disagreed with the premise that firm concentration has been rising in labor markets.[28] He argued that, in contrast to research showing that concentration in the goods market has been increasing, "the evidence is much more ambiguous" for labor-market concentration.[29] Prof. Kehrig cautioned that the concentrations of downstream goods markets and labor markets "do not move in lockstep," and that measures of labor-market concentration depend on how employment is measured (e.g., overall employment, net additions to employment, vacancies) and how markets are defined.[30]

Citing her own research on the topic, Ioana Marinescu, an assistant professor at the University of Pennsylvania, countered that there is indeed clear evidence of a link between higher employer concentration and lower wages in the U.S. She pointed to a study[31] in which she and her coauthors used online job vacancies to calculate the Herfindahl-Hirschman index (HHI) for labor markets defined by commuting zone and occupation.[32] The study found that 60% of these labor markets in the U.S. (accounting for 20% of workers) are highly concentrated (i.e., have a HHI of 2,500 or higher).[33] Prof.

Marinescu further noted that higher concentration in labor markets is associated with lower wages, citing her finding, based on data from a major online job-search site, that posted wages tend to be 0.4 to 1.5% lower when HHI is 10% higher.[34, 35]

Robert Topel, professor of economics at the University Chicago, and Nancy Rose, professor of economics at the Massachusetts Institute of Technology and former chief economist of the DOJ Antitrust Division, were critical of the methodology in Prof. Marinescu's studies and questioned whether a causal link between concentration and wages could be established. In particular, Prof. Rose emphasized the difficulty of disentangling two channels by which an apparent relationship between labor-market concentration and wages could arise. First, an additional employer could weaken monopsony power and thereby increase wages. Second, an additional firm could increase labor demand—leading, again, to increased wages. These two explanations for an apparent relationship between concentration and wages have very different implications for antitrust enforcement policy, and Prof. Rose argued that Prof. Marinescu's methodology was not able to distinguish between them.[36] Prof. Topel added that even if one were to take Prof. Marinescu and coauthors' results at face value, the magnitude of the association between employer concentration and lower wages might not be sufficiently large to "be worth the attention of the antitrust authorities."[37]

Given her view that there is not credible evidence of a *causal* link between higher labor-market concentration and lower wages, Prof. Rose explained that it is difficult to discern what actions regulatory agencies should take, if any, with respect to employer concentration in certain labor markets.[38] Prof. Topel agreed, stating that in his opinion, the "the evidence for substantive monopsony power that might be of antitrust concern is pretty thin."[39] Prof. Topel noted that differences in the productivity of workers across geographic regions, rather than differences in HHI, might explain why some regions with low HHI have high wages and some regions with high HHI have low wages.[40]

The panelists discussed potential avenues for future research on monopsony power in labor markets. Prof. Krueger and Prof. Topel noted the need to reliably estimate the elasticity of the labor supply curve.[41] Prof. Topel added that just as economists ask whether "demand is inelastic at the competitive price" to evaluate the likelihood "that a collusive agreement might succeed" in a product market, the elasticity of the labor supply curve is relevant for understanding whether collusion among employers would be effective.[42] Prof. Kehrig underscored the importance of examining worker flows, and not merely wage levels, to understand how workers respond to changes in labor-market conditions.[43]

The Consumer Welfare Standard and the Labor Market

The second panel devoted time to a discussion of the consumer welfare standard in the context of labor-market issues.

Jon Jacobson, a partner at Wilson Sonsini Goodrich & Rosati, questioned whether the consumer welfare standard is suited to addressing competition issues that arise from labor monopsony. The consumer welfare standard as currently interpreted, he explained, focuses on consumer prices.[44] Although textbook models suggest that monopsony increases consumer prices by reducing output, Mr. Jacobson argued that in the real world, firms may use their monopsony power to reduce wages and pass along the savings to consumers in the form of lower prices.[45] Rote application of the consumer welfare standard to potential mergers may therefore be problematic, he said, if lower prices are achieved through a reduction in wages.[46]

As an alternative to the consumer welfare standard, Mr. Jacobson proposed an *output standard* for assessing merger effects. That is, instead of assessing conduct's impact on consumer prices, he suggested that antitrust authorities ask whether the conduct at issue has an impact on output.[47] Mr. Jacobson argued that this output standard could be applied to labor markets as well as product markets and predicted that the output standard would "generate better outcomes in a larger percentage of cases than [...] the 'low prices for consumers is all that matters' standard."[48]

Renata Hesse, a partner at Sullivan & Cromwell, noted that the agencies have traditionally viewed adverse effects of mergers on workers—"lower wages, fewer jobs"—as *efficiencies*, because lower labor costs lead to lower consumer prices.[49] If cost reductions are no longer viewed as necessarily beneficial, she explained, antitrust practitioners "will need to really rethink how [they] think about efficiencies."[50] Martin Gaynor, professor of economics and health policy at Carnegie Mellon University, argued that it is important to distinguish between *competitive* and *anticompetitive* mechanisms when analyzing labor efficiencies. If a merger reduces labor costs via a technology investment, for example, Prof. Gaynor acknowledged that this should be considered an efficiency; by contrast, he noted that "if the merger enables [the parties] to be less competitive in the labor market, [...] reduces wages, that's a harm."[51]

Although the consumer welfare standard currently treats lower labor costs as a product-market efficiency, Ms. Hesse argued that this is not problematic if the merger's effects on the labor market are measured separately.[52] Eric Posner, law professor at the University of Chicago School of Law, echoed this sentiment. He noted that he was unaware of any case in which the consumer welfare standard had been invoked to dismiss claims of labor-market harm, and that a merger would be "anticompetitive under the Sherman Act" if it caused anticompetitive harm to consumers *or* workers.[53]

Non-Compete Clauses in Employment Contracts

Given their current prevalence in American workplaces, non-compete agreements (i.e., non-compete clauses in employment contracts) were a topic of considerable discussion. Prof. Krueger noted that such agreements now cover a quarter of American workers, including over a fifth of workers earning less than the median wage.[54] Evan Starr, an assistant professor in economics at the University of Maryland, noted that when Illinois's attorney general provided a hotline for complaints about non-competes, it was inundated with calls.[55] In most states, non-competes are not *per se* illegal, and are subject instead to the rule-of-reason standard:[56] that is, does the particular non-compete constitute an unreasonable restriction on competition?[57]

Participants in the second panel discussed whether the current rule-of-reason standard should be replaced with a rule banning non-competes for some or all workers. An apparent consensus among some panelists was that it would be sensible to ban non-competes at least for certain classes of workers.

These panelists' sentiment is driven by their concerns about non-compete agreements' apparently undesirable effects. Prof. Starr observed not only that "vigorous enforceability of non-competes is associated with slower moving, less dynamic labor markets with lower wages,"[58] but that non-competes "appear to chill employee mobility [...] even when they're totally unenforceable."[59] He also pointed out that, to the extent non-competes prevent workers from striking out on their own to create competing firms, they may have adverse *product* market effects.[60] Prof. Posner and Prof. Gaynor echoed Prof. Starr's concern about product markets, pointing out that non-competes may effectively monopolize a particular type of labor and therefore prevent entry into the corresponding product market.[61] In Prof. Starr's view, the use of non-competes when other, less-restrictive measures are available could mean "that noncompetes only serve monopsonistic ends."[62]

The consensus about the need for a rule on non-competes is also driven by the view that the current rule-of-reason standard may not lead to sufficient enforcement. Prof. Posner argued that the rule-of-reason standard provides little incentive for workers to bring cases, as there are no monetary damages at stake;[63] and Mr. Jacobson observed that "it's hard to imagine a case broad enough where the impact on a relevant market would be significant so that [the FTC] would prevail in a Section 1-type case."[64]

Both Mr. Jacobson and Prof. Posner suggested a rule banning non-competes for low-wage workers.[65] Mr. Jacobson noted that this would require some work to distinguish lower-wage workers for whom non-competes are not associated with efficiencies from higher-wage workers for whom non-competes may serve as a way to protect trade secrets.[66] Prof. Starr suggested that it would be helpful to enact "clear policies" about non-competes.[67] In addition, he argued, hotlines for workers to report anticompetitive non-competes—like Illinois's—could aid enforcement.[68]

Recommendations on Priorities for Antitrust Enforcement in Labor Markets

The panelists' range of recommendations for addressing labor-market antitrust issues reflected their range of opinions on the significance of labor market monopsony, with consensus on some issues and a broader divergence of opinion on others.

Further Research

A number of panelists recommended that further research should be a priority—either alongside or prior to regulatory action on labor-market competition.

In some instances, recommendations to prioritize research were driven by the view that the economic literature has not yet sufficiently demonstrated a causal link between labor-market concentration and wages and/or wage inequality. Prof. Gaynor, for example, argued that while existing studies provide "an important contribution," "they're [not] at the point yet where they're telling us what we really need to know."[69] He suggested that a starting point should be "investments in generating more knowledge."[70] Similarly, Ms. Hesse explained that she would prioritize research into the relationship between labor-market concentration and wage levels and inequality, with the aim of building a consensus among key players.[71] Prof. Starr, meanwhile, suggested that resources should be devoted to "understanding more about labor markets"[72] and "actual concentration for workers."[73]

Panelists had a number of recommendations for specific research priorities. Both Prof. Gaynor[74] and Mr. Jacobson[75] suggested retrospective studies of mergers, which could shed light on the prevalence of labor-market concerns and the extent to which labor-market concerns are redundant to product-market concerns.[76] Prof. Gaynor also suggested tackling these questions via prospective labor-market analysis for a sample of mergers under review.[77]

Among the speakers advocating further research, several suggested adopting an in-depth focus on particular markets or industries. Moderator Derek Moore, attorney advisor in the Office of Policy Planning, for example, did not believe that further work on concentration would be fruitful; he pushed instead for "studies on specific markets analogous to the study [...] about the effect of hospital mergers on certain nursing markets."[78] Prof. Gaynor agreed, explaining, "rather than trying to do more aggregate-level work, I think we do in-depth, careful study at the level of individual markets analogous to industry studies on the sell side [...]."[79]

Rulemaking and Low-Hanging Regulatory Fruit

Generally, there appeared to be consensus among some panelists that rulemaking—and, in particular, rules on non-competes and no-poach agreements—could be an effective next step in addressing antitrust issues in labor markets. Mr. Jacobson, for instance, suggested that there would be "terrific procompetition effects" if the FTC issued "a rule banning noncompetes or no-poach agreements from low-wage professions."[80] Similarly, Prof. Gaynor suggested that there are potential rules with "a high benefit relative to cost" that the authorities should consider,[81] such as rules on non-competes.[82] There also appeared to be some consensus that pursuit of no-poach and wage-fixing cases is among the "low-hanging fruit"[83] of enforcement activities. Both Mr. Jacobson and Prof. Gaynor argued that that the Commission should go after no-poach cases and "[o]ther activities involving collusion."[84, 85] Prof. Krueger argued that the pursuit of such cases could have a cost-effective deterrent effect, sending "a very strong signal across many different employers" and thereby inducing substantial behavioral changes.[86]

Labor Market Analysis in Merger Review

Panelists' opinions diverged more broadly on the question of whether, and how aggressively, labor-market analysis should be incorporated in merger review.

Leading the charge in favor of considering labor-market concentration in merger reviews was Prof. Posner, who argued that the FTC's historical focus on the product market encourages firms to divert anticompetitive efforts to the labor market.[87] He offered an analogy to policing: if two roads lead to the same destination and the police patrol only the first route, then drivers will take their unsafe behavior to the second route.[88] In accordance with this view, Prof. Posner argued that "the FTC [should] not be cautious but […] recklessly forge ahead to deal with this problem."[89] Prof. Starr agreed that merger review should be a priority.[90]

Others urged a more conservative or incremental approach to addressing labor-market concerns in merger reviews. Mr. Jacobson, for instance, agreed that labor markets "should have more prominent consideration in merger reviews," but suggested that "in most cases" the existing attention to product markets should "tak[e] care" of labor-market issues.[91] Prof. Gaynor suggested thinking about how the Horizontal Merger Guidelines could be revised to consider labor-market issues, and looking for "shortcuts or quicker analyses" that could make this process more efficient.[92] Prof. Rose, meanwhile, argued that including labor-market analysis in merger reviews would come at the cost of "investigat[ing] and challeng[ing] fewer mergers overall," and thus that resource constraints dictate a more gradual approach to addressing labor-market issues.[93] In particular, she suggested that first steps might include thinking about where to look for labor-market issues and perhaps adding a small number of screening questions.[94] In contrast to Prof. Posner, Prof. Rose anticipated that the net benefit of an aggressive pursuit of labor-side issues would be low, especially while analytical tools and case law are still under development.[95]

Conclusion

Recent trends in enforcement activity and civil litigation indicate that competition issues in labor markets—including no-poach and wage-fixing agreements, non-compete clauses, and potential merger effects on labor markets—will continue to be of increasing interest to the antitrust community. The October 2018 FTC hearings on labor-market antitrust issues indicate that there is a growing and important debate over the economic evidence of monopsony power, the application of existing antitrust policies and tools to the analysis of labor markets, and the appropriate regulatory and enforcement measures that the antitrust community should consider.

Jee-Yeon K. Lehmann, Ph.D., is a Vice President; Rebecca Scott, Ph.D., is a Manager; and Liz Neyens is an Associate in the Boston office of Analysis Group. Tímea Laura Molnár, Ph.D., is an Associate in the Montreal office of Analysis Group. They specialize in applying microeconomic theory and econometrics to complex litigation matters.

Endnotes

1 The authors thank Olivia Althans, Yilin Chen, and Charlotte Mann for their excellent research assistance.

2 Department of Justice and Federal Trade Commission, "Antitrust Guidance for Human Resource Professionals" (Oct. 2016), *available at* https://www.justice.gov/atr/file/903511/download, at 3.

3 *Id.* at 4. In 2018, Assistant Attorney General Makan Delrahim clarified that indi-viduals or firms involved in no-poach agreements that started or continued *after* the October 2016 issuance of the DOJ/FTC HR Guidance will face criminal charges (see Matthew Perlman, "Delrahim Says Criminal No-Poach Cases Are in the Works," *Law360* (Jan. 19, 2018), https://www.law360.com/competition/articles/1003788/delrahim-says-criminal-no-poach-cases-are-in-the-works).

4 Federal Trade Commission, "Therapist Staffing Company and Two Owners Settle Charges that They Colluded on Rates Paid to Physical Therapists in Dallas/Fort Worth Area" (Jul. 21, 2018), https://www.ftc.gov/news-events/press-releases/2018/07/therapist-staffing-company-two-owners-settle-charges-they.

5 Department of Justice, "Justice Department Requires Knorr and Wabtec to Ter-minate Unlawful Agreements Not to Compete for Employees" (Apr. 3, 2018), https://www.justice.gov/opa/pr/justice-department-requires-knorr-and-wabtec-terminate-unlawful-agreements-not-compete.

6 *See, e.g.*, Washington State Office of the Attorney General, "AG Ferguson's Initia-tive to End No-Poach Clauses Nationwide Continues with Five Additional Chains" (Dec. 5, 2018), https://www.atg.wa.gov/news/news-releases/ag-ferguson-s-initiative-end-no-poach-clauses-nationwide-continues-five.

7 *See, e.g.*, Fuentes v. Royal Dutch Shell PLC et al., No. 2:18-cv-05174 (E.D. Pa. Nov. 29, 2018); Carruth v. Knorr-Bremse AG et al., No. 2:18-cv-00469 (W.D. Pa. Apr. 11, 2018); and Maurella v. H&R Block, Inc. et al., No. 1:18-cv-07435 (N.D. Ill. Nov. 8, 2018).

8 Braden Campbell, "The Biggest Noncompete Developments of 2018," *Law360* (Dec. 17, 2018), https://www.law360.com/employment/articles/1112172.

9 Ben Remaly and Kaela Cote-Stemmermann, "FTC Considers Workers in Deal Reviews," *Global Competition Review* (Oct. 4, 2018), https://globalcompetitionreview.com/article/usa/1175255/ftc-considers-workers-in-deal-reviews.

10 Federal Trade Commission, "FTC Hearing #3: Competition and Consumer Protection in the 21st Century, Agenda," *available at* https://www.ftc.gov/news-events/events-calendar/2018/10/ftc-hearing-3-competition-consumer-protection-21st-century (hereinafter cited as "FTC Hearing #3"); and Federal Trade Commission, "Hearings on Competition and Consumer Protection in the 21st Century," *available at* https://www.ftc.gov/policy/hearings-competition-consumer-protection.

11 *Id.*

12 Alan Krueger, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 5-22.

13 *See, e.g.*, Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy* (11th ed. 2012), at 43-44.

14 *Id.*

15 This is analogous to the better-known perfectly competitive equilibrium in the product market, in which each individual firm will choose to produce up to the point at which the marginal revenue (i.e., market price) from selling that product is equal to the marginal cost.

16 Ronald Ehrenberg and Robert Smith, *supra* note 13, at 44.

17 Alan Krueger, *supra* note 12, at 6-7.

18 Alan Krueger, *supra* note 12, at 6.

19 Alan Krueger, *supra* note 12, at 6.

20 Alan Krueger, *supra* note 12, at 8-9.

21 Jeffrey M. Perloff, *Microeconomics* (4th ed. 2007), at 528-530.

22 Alan Krueger, *supra* note 12, at 9.

23 Alan Krueger, *supra* note 12, at 9.

24 Alan Krueger, *supra* note 12, at 9.

25 Prof. Nancy Rose noted that this use of the term is "quite different than the way that industrial organization economists and antitrust enforcers tend to use the word 'monopoly.'" Prof. Rose explained that labor economists' use of "monopsony" extends to "a wide range of frictions, including information failures, search costs, transaction costs, unwillingness to relocate, idiosyncratic match quality, and so forth." (See Nancy Rose,

Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 51).

26 Alan Krueger, *supra* note 12, at 10-12.

27 Alan Krueger, *supra* note 12, at 20.

28 Matthias Kehrig, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 26-28.

29 *Id.* at 27.

30 *Id.* at 27-28.

31 José A. Azar, Ioana Marinescu, Marshall I. Steinbaum, and Bledi Taska, "Concentration in US Labor Markets: Evidence from Online Vacancy Data" (Mar. 2018), NBER Working Paper No. 24395, *available at* https://www.nber.org/papers/w24395.pdf.

32 Ioana Marinescu, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 37.

33 *Id.* at 37-38; José Azar et al., *supra* note 31, at 2.

34 Ioana Marinescu, *supra* note 32, at 39.

35 José Azar, Ioana Marinescu, Marshall I. Steinbaum, "Labor Market Concentra-tion" (Dec. 2017), NBER Working Paper No. 24147, *available at* https://www.nber.org/papers/w24147.pdf, at 2.

36 Nancy Rose, *supra* note 25, at 52-54.

37 Robert Topel, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 65.

38 Nancy Rose, *supra* note 25, at 49.

39 Robert Topel, *supra* note 37, at 60.

40 Robert Topel, *supra* note 37, at 63-64.

41 Alan Krueger, *supra* note 12, at 101; and Robert Topel, *supra* note 37, at 103-104.

42 Robert Topel, *supra* note 37, at 103.

43 Matthias Kehrig, *supra* note 28, at 104.

44 Jonathan Jacobson, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 124.

45 *Id.* at 124-125, 150-151.

46 *Id.* at 124.

47 *Id.* at 125-126.

48 *Id.* at 126.

49 Renata Hesse, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 137-138.

50 *Id.* at 138.

51 Martin Gaynor, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 152.

52 Renata Hesse, *supra* note 49, at 151.

53 Eric Posner, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 149-150.

54 Alan Krueger, *supra* note 12, at 14-15.

55 Evan Starr, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 158-159.

56 *Id.* at 140.

57 Merriam-Webster, "Rule of Reason," *available* at https://www.merriam-webster.com/legal/rule%20of%20reason.

58 Evan Starr, *supra* note 55, at 145.

59 Evan Starr, *supra* note 55, at 146.

60 Evan Starr, *supra* note 55, at 147.

61 Eric Posner, *supra* note 53, at 161; Martin Gaynor, *supra* note 51, at 161-162.

62 Evan Starr, *supra* note 55, at 147-148.

63 Eric Posner, supra note 53, at 160.

64 Jonathan Jacobson, *supra* note 44, at 162.

65 Eric Posner, *supra* note 53, at 160; Jonathan Jacobson, *supra* note 44, at 162-163.

66 Jonathan Jacobson, *supra* note 44, at 162-163.

67 Evan Starr, *supra* note 55, at 159.

68 Evan Starr, *supra* note 55, at 159.

69 Martin Gaynor, *supra* note 51, at 114.

70 Martin Gaynor, *supra* note 51, at 167.

71 Renata Hesse, *supra* note 49, at 170.

72 Evan Starr, *supra* note 55, at 168.

73 Evan Starr, *supra* note 55, at 171.

74 Martin Gaynor, *supra* note 51, at 116.

75 Jonathan Jacobson, *supra* note 44, at 168, 170.

76 Martin Gaynor, *supra* note 51, at 116.

77 Martin Gaynor, *supra* note 51, at 116-117.

78 Derek Moore, Comments at FTC Hearing #3 (Oct. 16, 2018), *available at* https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_2_10-16-18.pdf, at 171-172.

79 Martin Gaynor, *supra* note 51, at 117.

80 Jonathan Jacobson, *supra* note 44, at 127. Mr. Jacobson acknowledged that such a rule would likely trigger a court challenge, but he said that he thought the rule would ultimately be upheld (Jonathan Jacobson, supra note 44, at 127).

81 Martin Gaynor, *supra* note 51, at 119.

82 Martin Gaynor, *supra* note 51, at 169.

83 Martin Gaynor, *supra* note 51, at 117.

84 Jonathan Jacobson, *supra* note 44, at 126.

85 Martin Gaynor, *supra* note 51, at 118.

86 Alan Krueger, *supra* note 12, at 85, 108-109.

87 Eric Posner, *supra* note 53, at 129-130.

88 Eric Posner, *supra* note 53, at 168.

89 Eric Posner, *supra* note 53, at 128.

90 Evan Starr, *supra* note 55, at 171.

91 Jonathan Jacobson, *supra* note 44, at 126.

92 Martin Gaynor, *supra* note 51, at 118.

93 Nancy Rose, *supra* note 25, at 57, 107-108.

94 Nancy Rose, *supra* note 25, at 107.

95 Nancy Rose, *supra* note 25, at 107-108.