

## **Labor Monopsony and Antitrust Enforcement: A Cautionary Tale**

*Brian C. Albrecht, Dirk Auer, & Geoffrey A. Manne*

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## Executive Summary

In recent years, there has been growing interest among economists, lawyers, and policymakers in the concept of monopsony power, particularly in labor markets. This interest has been spurred partially by academic research suggesting that labor-market concentration may be more prevalent than previously thought, as well as policy developments signaling a more aggressive approach by antitrust authorities to labor-monopsony issues. Despite this momentum, however, significant empirical and conceptual challenges remain in the use of antitrust law to address labor monopsony.

### A. Economics Challenges

On the empirical front, the evidence on the extent and impact of labor monopsony is mixed. While some studies have found evidence of labor-market concentration and its effects on wages, these studies often rely on indirect measures that have limited applicability to antitrust cases. More direct estimates of monopsony power are rare, and often rely on stylized economic models that may not capture the complexities of real-world labor markets. Moreover, the economics literature has not reached a clear consensus on the appropriate framework to assess labor-market power in antitrust contexts.

Conceptually, there are important differences between monopoly and monopsony that complicate the application of traditional antitrust tools and standards to labor markets. One key difference is that monopsony and monopoly markets do not sit at the same place in the supply chain. This matters because all supply chains end with final consumers, and antitrust policy must grapple with how to balance effects at different levels of the distribution chain. In evaluating monopsony, authorities must consider the “pass through” to final product markets, a complication that does not arise in the mirror-image case of monopoly.

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Another conceptual challenge is how to handle merger efficiencies in labor-market cases. In input markets, traditional efficiencies and increased buyer power are often two sides of the same coin, presenting difficult tradeoffs for authorities. Additionally, market definition—a cornerstone of modern antitrust policy—becomes more complex in labor markets, where the boundaries between different occupations, industries, and geographic areas can be blurry.

### **B. Policymakers' Response**

Despite these challenges, antitrust authorities have recently signaled a more aggressive approach to labor-monopsony issues. The Federal Trade Commission's (FTC) noncompete ban, challenge to the Kroger/Albertsons merger, and the 2023 Merger Guidelines' discussion of labor-market effects are all prominent examples of this trend. But these enforcement actions and policy statements often gloss over the unsettled state of the economics literature and the legal difficulties of proving labor-market harms under existing antitrust standards.

For example, the 2023 Merger Guidelines assert that labor markets have unique features that may exacerbate the competitive effects of mergers, but do not fully grapple with the limitations of the economic models and empirical evidence underlying these claims. Similarly, while the FTC's Kroger/Albertsons complaint advances a novel "union grocery labor" market definition, it is unclear whether this approach aligns with economic realities or legal precedent.

### **C. Legal Difficulties**

More broadly, it remains uncertain whether demonstrating and remedying monopsony power is feasible under existing legal standards. While harms to workers can theoretically be cognizable under the antitrust laws, proving such harms is challenging, especially under the prevailing consumer-welfare standard. Recent criminal cases targeting wage fixing and no-poach agreements have faced difficulties, and civil cases require showing harm to downstream consumers, not just workers.

Addressing these issues may require rethinking the goals and methods of antitrust enforcement. The consumer-welfare standard becomes difficult to apply when a merger may harm workers but benefit consumers downstream. Weighing these cross-market effects raises unresolved questions about the proper balance between consumer and producer surplus. While the 2023 Merger Guidelines assert that harms to upstream competition cannot be offset by benefits to downstream consumers, the basis for this stance in case law is questionable.

There are also important differences between monopoly and monopsony that complicate the mirror-image application of antitrust tools to labor markets. Most fundamentally, authorities must grapple with how to balance effects at different levels of the supply chain—an issue that does not arise in the standard monopoly context.

Moreover, the unique features of labor markets—such as the importance of firm-specific investments in human capital—pose challenges for market definition and the assessment of competitive effects. Traditional concentration measures and econometric tools used in product markets may not readily translate to the labor context. And the potential for countervailing effects on workers and consumers creates difficult tradeoffs in merger review.

Given these complexities, this paper urges caution and further study before radically expanding labor-antitrust enforcement. Advocates of reform should engage seriously with the empirical and conceptual issues highlighted here, rather than assuming that current law and economics support their policy prescriptions. Courts and enforcers should carefully consider the limitations of existing approaches and develop more robust analytical frameworks suited to the realities of labor markets.

#### **D. The Road to Antitrust Enforcement in Labor Markets**

This does not mean that antitrust has no role to play in addressing labor-market power. But it does counsel against a rush to condemn mergers and practices based on simplistic models or tenuous evidence. A more gradual, case-by-case approach focused on building legal precedent and economic consensus may be warranted. In the meantime, further dialogue between labor economists, antitrust experts, and policymakers is essential to aligning theory, evidence, and doctrine.

Such an agenda might include:

- Developing more direct, antitrust-relevant measures of labor-market power beyond concentration ratios.
- Studying the effects of specific mergers and practices on labor-market outcomes, rather than simply correlating concentration with wages.
- Refining models of dynamic competition and firm-specific investments in labor markets and considering their implications for antitrust enforcement.
- Clarifying the goals of antitrust in labor markets and how to weigh effects on different stakeholders under the consumer-welfare standard (or alternative frameworks).

The paper concludes by noting that, while the road ahead is challenging, the growing interest in labor antitrust presents an opportunity for interdisciplinary research and policy innovation. By carefully building on existing knowledge and legal frameworks, academics and practitioners can help craft an antitrust regime that promotes competition and welfare in labor markets without unduly chilling procompetitive conduct. The key is to remain grounded in sound economics and committed to empirical rigor, while adapting to the unique features of labor markets. With such an approach, antitrust can play a valuable role in ensuring that workers share in the benefits of a well-functioning economy.

## I. Introduction

Market power—traditionally discussed in terms of monopoly power on the sell side—has faced increasing scrutiny from the buy-side perspective. This is especially true regarding labor monopsony, where employers may exert undue control over employees, thereby influencing wages and working conditions. This shift in focus reflects a growing concern among economists, lawyers, and policy-makers about the implications of such power dynamics in the labor market. The growing discourse around monopsony power in labor markets has been further marked by a keen interest in applying antitrust laws to combat these concerns.

Recent policy initiatives and enforcement decisions indicate a burgeoning will to leverage antitrust law against perceived labor-market power abuses. In the first half of 2024 alone, the Federal Trade Commission (FTC) has enacted a rule banning noncompete agreements for nearly all workers in the United States, justified on grounds that such agreements amount to “unfair methods of competition.”<sup>1</sup> The FTC has also brought an enforcement action challenging the proposed Kroger/Albertsons merger, in part predicated on concerns about the combination’s potential to diminish labor competition and exacerbate monopsony power in local labor markets.<sup>2</sup> At year-end 2023, meanwhile, the FTC and the U.S. Justice Department (DOJ) Antitrust Division published updated merger guidelines that, for the first time, included an expanded discussion of monopsony issues.<sup>3</sup> While the noncompete ban, the Kroger/Albertsons merger challenge, and the 2023 Merger Guidelines are the most prominent examples, they are far from the only ones.<sup>4</sup>

This paper argues that, despite growing interest in the use of antitrust law to address labor monopsony, such efforts are not supported by empirical and theoretical foundations sufficient to bear the weight of these galvanized efforts. While policy proceeds apace, the debate is far from settled on the economic evidence, analytical tools, and legal standards appropriate for understanding and addressing monopsony power in labor markets as an antitrust concern. In fact, the current state of economic research and antitrust jurisprudence raises more questions than answers about the appropriate framework for assessing labor-market power.

Examples of this disconnect are legion. Empirical data concerning the magnitude and impact of labor monopsonies is inconsistent. Evidence on the extent of labor-market power is mixed, with studies reaching divergent conclusions depending on the data, methodology, and markets analyzed.

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<sup>1</sup> *Non-Compete Clause Rule, Final Rule* (RIN 3084-AB74, adopted Apr. 23, 2024) (to be codified at 16 C.F.R. Part 910), available at [https://www.ftc.gov/system/files/ftc\\_gov/pdf/noncompete-rule.pdf](https://www.ftc.gov/system/files/ftc_gov/pdf/noncompete-rule.pdf).

<sup>2</sup> Complaint, *In the Matter of the Kroger Company and Albertsons Companies, Inc.*, FTC Docket No. D-9428 (Feb. 26, 2024), <https://www.ftc.gov/legal-library/browse/cases-proceedings/kroger-companyalbertsons-companies-inc-matter>.

<sup>3</sup> U.S. DEP’T. OF JUST. & FED. TRADE COMM’N, MERGER GUIDELINES 27 (2023), available at <https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf>.

<sup>4</sup> See *infra* Part II.

While the Biden administration has been quick to cite economic research on labor-market concentration and earnings as motivating factors,<sup>5</sup> the referenced studies provide only indirect evidence of monopsony power and have limited applicability to antitrust cases, while direct estimates of monopsony power are rare and often rely on economic models that have not yet been accepted within antitrust. A more complete analysis of the literature on concentration in labor markets, meanwhile, does not support the narrative that labor markets are extremely concentrated across wide swathes of the economy. From a theoretical standpoint, the economics literature has not reached a clear consensus on the appropriate antitrust framework for labor markets. Moreover, the distinct economics of monopsony contrast with those of monopoly, introducing unresolved complexities into customary modes of antitrust analysis, such as market definition, assessment of efficiencies, and the consumer-welfare standard.

The antitrust authorities have ignored these complications in their recent actions. For example, Guideline 10 of the 2023 Merger Guidelines states that labor markets frequently have unique characteristics that may exacerbate the competitive effects of mergers:

[L]abor markets often exhibit high switching costs and search frictions due to the process of finding, applying, interviewing for, and acclimating to a new job. Switching costs can also arise from investments specific to a type of job or a particular geographic location. Moreover, the individual needs of workers may limit the geographical and work scope of the jobs that are competitive substitutes.<sup>6</sup>

This implies that market attributes like switching costs, search costs, and transportation costs are unique to labor markets. Of course, this is not true. Nor is there any reason to think labor markets are even relatively *more* susceptible to such costs. At the same time, the guidelines' statement implies that these labor-market costs are borne only by workers, rather than employers. But there is no reason why that should be the case. Indeed, switching costs do not always make markets less competitive.<sup>7</sup>

The guidelines further assert that relevant labor markets “can be relatively narrow,” and that “the level of concentration at which competition concerns arise may be lower in labor markets than in product markets, given the unique features of certain labor markets.”<sup>8</sup> Because these are the merger guidelines and are meant to cover a wide variety of situations, one could read “may” as implying

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<sup>5</sup> See generally U.S. DEP'T OF THE TREAS., THE STATE OF LABOR MARKET COMPETITION (Mar. 7, 2022), available at <https://home.treasury.gov/system/files/136/State-of-Labor-Market-Competition-2022.pdf>.

<sup>6</sup> Merger Guidelines, *supra* note 3, at 27.

<sup>7</sup> See Jean-Pierre Dubé, Günter J. Hitsch, & Peter E. Rossi, *Do Switching Costs Make Markets Less Competitive?*, 46 J. MARKETING RSRCH. 435, 435 (2009) (“In the simulations, prices are as much as 18% lower with than without switching costs. More important, equilibrium prices do not increase even in the presence of switching costs that are of the same order of magnitude as product price.”).

<sup>8</sup> Merger Guidelines, *supra* note 3, at 27.

something more than a possibility. Indeed, the guidelines clearly appear to indicate that, following mergers, anticompetitive effects are more of a concern in labor markets than in product markets.

Unfortunately, the models commonly employed in labor economics to support these claims rely on assumptions about worker mobility, employer conduct, and market structure that likely oversimplify real-world dynamics. All models are simplifications, but how important are those simplifications for antitrust? The economic models commonly used to study labor markets have not been subjected to the same level of antitrust scrutiny as those employed in industrial-organization (IO) economics to analyze product markets. Over the past several decades, IO models of imperfect competition have been rigorously adapted and applied to assess the competitive effects of mergers, collusive agreements, and exclusionary practices in antitrust matters. Empirical IO research has frequently focused on questions of direct relevance to antitrust enforcement, and IO economists have often played an active role in developing the analytical tools used by agencies and courts.

In contrast, most labor-economics research has been conducted without an explicit focus on antitrust policy and, until recently, labor economists were rarely involved in antitrust matters. As a result, the key assumptions and implications of labor-economics models have not been fully stress tested against the evidentiary burdens and legal standards of antitrust cases—at least, not in the same ways as their IO counterparts. This disconnect poses challenges to the effective application of labor economics to antitrust enforcement, as the models and empirical techniques most familiar to labor economists may not align well with the demands of antitrust law.

Moreover, it's not just the economics that is more unsettled than the current administration would like to claim; the law is unsettled, too. It is unclear whether demonstrating and remedying monopsony power is feasible under existing legal standards, for example. It is true that harms to labor can be cognizable under the antitrust laws, which prohibit certain exercises of monopsony power, and not just monopoly power. There are, however, ambiguities in accurately defining the boundaries of relevant labor markets. And establishing tangible anticompetitive effects on workers as “consumers” of jobs also poses challenges.

Wage-fixing agreements are *per se* illegal, but the decisions in recent criminal no-poach and wage-fixing cases suggest difficulties in proving that such agreements amount to meaningful market allocation, rather than insignificant job-posting-policy changes, that would be inconsistent with a *per se* rule. For example, in *United States v. DaVita Inc.*, the judge ruled that no-poach agreements could be an illegal market-allocation agreement.<sup>9</sup> But the jury acquitted the defendants of criminal no-poach charges, finding that the DOJ had failed to prove that the agreements at-issue were made with the

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<sup>9</sup> *United States v. DaVita Inc., et al.*, Case No. 21-cr-00229 (D. Colo. 2021).

purpose of allocating the market and ending meaningful competition for employees. The government has faced similar difficulties in other cases.<sup>10</sup>

Outside of *per se* cases, antitrust becomes even more complicated. Addressing labor-market power requires tradeoffs under established antitrust standards, raising unresolved questions about the goals of antitrust enforcement. As Herbert Hovenkamp notes, “it has been explicit from the start that antitrust’s concern is protection from reduced market output and, concurrently, higher prices.”<sup>11</sup> This focus on output and price effects in downstream product markets sits uneasily with concerns about labor market harms, which may not always manifest in higher consumer prices or reduced output in the downstream product market.

For example, the consumer-welfare standard becomes difficult to apply when a merger may harm workers, but benefit consumers downstream, as when wage reductions for workers accompany consumer benefits (such as lower prices) in downstream product and service markets. Do all mergers that reduce wages for one market of workers “substantially lessen competition” in a “line of commerce”?<sup>12</sup> In practice, weighing these cross-market effects raises unresolved questions about the goals of antitrust enforcement. Is the sole focus on final-product consumers, or should producer surplus also be considered? If so, how should we value and compare producer versus consumer harms?

The 2023 Merger Guidelines acknowledge these issues, but sidestep them, by asserting that:

If the merger may substantially lessen competition or tend to create a monopoly in upstream markets, ***that loss of competition is not offset by purported benefits in a separate downstream product market.*** Because the Clayton Act prohibits mergers that may substantially lessen competition or tend to create a monopoly in *any* line of commerce and in *any* section of the country, ***a merger’s harm to competition among buyers is not saved by benefits to competition among sellers.***<sup>13</sup>

As we explain below, however, the issue is not so simple, and its resolution cannot be assumed simply by quoting the Clayton Act.<sup>14</sup>

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<sup>10</sup> See, e.g., *United States v. Patel, et al.*, Case No. 21-cr-00220 (D. Conn. 2021) (acquitting all defendants and holding that the evidence did not permit a reasonable jury to conclude there was an agreement to meaningfully allocate the labor market for engineers); *United States v. Manahe, et al.*, Case No. 22-cr-00013 (D. Me. 2022) (acquitting all defendants of charges of a wage-fixing conspiracy among home-healthcare agencies); *United States v. Surgical Care Affiliates LLC, et al.*, Case No. 21-cr-00011 (N.D. Tex. 2021) (DOJ voluntarily dismissed its indictment of a no-poach conspiracy of senior-level surgical facility employees).

<sup>11</sup> Herbert Hovenkamp, *The Slogans and Goals of Antitrust Law*, 25 LEG. & PUB. POL’Y 705, 705 (2023).

<sup>12</sup> See 15 U.S.C. § 18 (2018) (“No person... shall acquire... the whole or any part of the stock... of another person..., where in any line of commerce..., the effect of such acquisition may be substantially to lessen competition...”).

<sup>13</sup> Merger Guidelines, *supra* note 3, at 27 (bold/italics emphasis added; italics-only emphasis in original).

<sup>14</sup> See *infra* Sections IV.B and V.



While the guidelines propose treating labor markets similarly to product markets for analytical purposes, the Kroger/Albertsons complaint suggests that, in practice, the agency believes that labor markets should be defined more narrowly—for example, *unionized* workers in *very narrow* geographic areas.<sup>15</sup> This approach raises further conceptual issues in market definition, as labor markets may transcend traditional industry and geographic boundaries in complex ways. More work is needed to align labor economics with the realities of antitrust enforcement. Answering these questions may require revisiting foundational assumptions that currently guide antitrust policy. Caution is thus warranted before concluding that antitrust can or should seek to remedy monopsony, absent harm to consumers of final goods.

Therefore, while monopsony concerns are becoming more prevalent in academic and policy discussions, the agencies should be extremely hesitant as they move forward. Some have argued that “[m]ergers affecting the labor market require some rethinking of merger policy, although not any altering of its fundamentals.”<sup>16</sup> As we discuss below, however, while the economic “fundamentals” undergirding merger policy may not change for labor-market mergers, the “rethinking” required to properly assess such mergers entails fundamental changes that have not yet been adequately studied or addressed. As many have pointed out, there is only a scant history of merger enforcement in input markets in general, and even less in labor markets.<sup>17</sup> It is premature to offer guidelines or impose nationwide bans on labor practices, while purporting to synthesize past practice and the state of knowledge, when neither is well-established.

The following sections illustrate some of the significant disconnects between labor economics and antitrust enforcement, highlighting the need for further research and dialogue between the two fields. In short, while interest is growing, labor economics cannot yet be readily plugged into antitrust enforcement in the same way that IO theory and empirics have been.

## **II. The Contemporary Relationship Between Labor and Antitrust**

As discussed in the previous section, the 2023 Merger Guidelines, Kroger/Albertsons complaint, and the FTC’s noncompete rule evidence an invigorated policy effort to address competition concerns in labor markets. The merger guidelines discuss the potential labor-market implications of mergers in multiple sections, and adopt a guideline specifically related to labor-market considerations that calls out the purportedly unique features of labor-monopsony markets “that can exacerbate the competitive effects of a merger.”<sup>18</sup> While the noncompete ban contains an extensive discussion

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<sup>15</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2.

<sup>16</sup> Ioana Marinescu & Herbert J. Hovenkamp, *Anticompetitive Mergers in Labor Markets*, 94 INDIANA L.J. 1031, 1034 (2019).

<sup>17</sup> See, e.g., *id.* (“While the use of section 7 to pursue mergers among buyers is well established, there is relatively little case law.”).

<sup>18</sup> Merger Guidelines, *supra* note 3, at 26-27.

of the labor-economics literature on noncompetes,<sup>19</sup> the sweeping nature of the ban suggests that policymakers view monopsony power as a pervasive issue affecting most workers, despite the nuances and ambiguity of the literature.<sup>20</sup> And the FTC’s complaint in the *Kroger/Albertsons* case argues that the merger would eliminate labor-market competition between Kroger and Albertsons and would increase their leverage in negotiations with local unions over wages, benefits, and working conditions in an asserted “union grocery labor” market—introducing a novel and remarkably narrow market definition and an untested, contentious theory of harm (reduction in bargaining leverage) particular to labor markets.<sup>21</sup>

While these efforts may signal a newly heightened attention to labor-market concerns, the antitrust focus on labor monopsony did not originate with them. In recent years, there has been growing interest in using the tools of antitrust to address labor issues, with both academic literature and enforcement actions paving the way for a more labor-centric approach to antitrust. This section provides an overview of some of the key developments in this area, illustrating the growing attention given to labor-market power by antitrust authorities and scholars.

Conceptually, the relationship between labor economics and antitrust law has also been a subject of growing academic attention in recent years. A number of law-review articles have highlighted the historical disconnect between the two fields, noting that labor markets have often been overlooked in antitrust analysis.<sup>22</sup> They also point, however, to some areas where labor economics has begun to make inroads into antitrust enforcement.

On the policy front, President Joe Biden explicitly called for greater scrutiny of “monopsony power” in labor markets in his 2021 executive order on competition.<sup>23</sup> The U.S. antitrust agencies have similarly been ramping up enforcement and other policy work at the intersection of labor and competition policy. For instance, the DOJ sued to block Penguin Random House’s acquisition of Simon & Schuster, in part based on monopsony concerns regarding the market for top-selling book authors.<sup>24</sup> Under the current leadership, the FTC has brought and settled several enforcement actions

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<sup>19</sup> See Non-Compete Clause Rule, Final Rule, *supra* note 1.

<sup>20</sup> For an extensive review of the noncompete literature relied upon by the FTC and a discussion of the nuances and limitations of that literature, see Alden Abbott, *et al.*, *Comments of Scholars of Law & Economics and ICLE in the Matter of Non-Compete Clause Rulemaking*, FTC Matter No. P201200 (Apr. 19, 2023), <https://laweconcenter.org/resources/comments-of-scholars-of-law-economics-and-icle-in-the-matter-of-non-compete-clause-rulemaking>.

<sup>21</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2, at ¶¶ 63 & 70.

<sup>22</sup> See, e.g., Suresh Naidu, Eric A. Posner, & Glen Weyl, *Antitrust Remedies for Labor Market Power*, 132 HARV. L. REV. 536 (2018), (“As far as we know, the DOJ and FTC have never challenged a merger because of its possible anticompetitive effects on labor markets, or even rigorously analyzed the labor market effects of mergers as they do for product market effects. Nor have we found a reported case in which a court found that a merger resulted in illegal labor market concentration.”). Ioana Marinescu & Eric A. Posner, *Why Has Antitrust Law Failed Workers?*, 105 CORNELL L. REV. 1343 (2020)

<sup>23</sup> Exec. Order No. 14036, 86 FR 36987 (2021).

<sup>24</sup> See *United States v. Bertelsmann SE & Co. KGaA*, *et al.*, 646 F. Supp. 3d 1 (D.D.C. 2022).

alleging that certain noncompete agreements violated the FTC Act’s prohibition on “unfair methods of competition.”<sup>25</sup> The day after announcing the first three of those settlements, the FTC first proposed a nationwide ban on the use of noncompetes via a notice of proposed rulemaking.<sup>26</sup>

As noted above, the DOJ has brought several recent wage-fixing cases, albeit with limited success.<sup>27</sup> Previously, during the Obama administration, the DOJ and FTC jointly issued antitrust guidance for human-resource professionals that warned that agreements among competing employers to fix terms of employment may violate the antitrust laws.<sup>28</sup> The DOJ also brought suits against major Silicon Valley employers for entering into anticompetitive “no-poach” agreements to restrict hiring of engineers and programmers from competitor firms.<sup>29</sup> The department alleged in those suits that the agreements amounted to unlawful allocation of the relevant labor market among horizontal competitors. The DOJ also challenged a hospital association’s members agreement to set uniform billing rates for certain nurses as an improper exertion of buyer power.<sup>30</sup> Although both the “no-poach” and nurse wage-setting actions ultimately settled, these cases demonstrated an increasing willingness to extend antitrust scrutiny to labor-market effects and to discipline allegedly monopsonistic practices by dominant buyers of labor.

Finally, in 2022, the FTC signed a memorandum of understanding with the National Labor Relations Board (NLRB) “regarding information sharing, cross-agency training, and outreach in areas of common regulatory interest.”<sup>31</sup> In 2023, the FTC signed a similar memorandum of understanding with the U.S. Labor Department.<sup>32</sup>

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<sup>25</sup> See Press Release, *FTC Cracks Down on Companies That Impose Harmful Noncompete Restrictions on Thousands of Workers*, FED. TRADE. COMM’N, (Jan. 4, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/01/ftc-cracks-down-companies-impose-harmful-noncompete-restrictions-thousands-workers>. See also, e.g., Complaint and Decision and Order, *In the Matter of Anchor Glass Container Corp., et al.*, FED. TRADE. COMM’N (Jun. 2, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/01/ftc-cracks-down-companies-impose-harmful-noncompete-restrictions-thousands-workers> <https://www.ftc.gov/legal-library/browse/cases-proceedings/2110182-anchor-glass>.

<sup>26</sup> See Non-Compete Clause Rule, Notice of Proposed Rulemaking, 88 Fed. Reg. 3482 (RIN 3084, proposed Jan. 19, 2023) (to be codified at 16 C.F.R. Part 910).

<sup>27</sup> See cases referenced *supra* note 10.

<sup>28</sup> DEPT OF JUST. & FED. TRADE COMM’N, ANTITRUST GUIDANCE FOR HUMAN RESOURCE PROFESSIONALS (2016), <https://www.justice.gov/atr/file/903511/download>.

<sup>29</sup> Press Release, *Justice Department Requires Six High Tech Companies to Stop Entering into Anticompetitive Employee Solicitation Agreements*, U.S. DEPT. OF JUST. (Sep. 24, 2010), <https://www.justice.gov/opa/pr/justice-department-requires-six-high-tech-companies-stop-entering-anticompetitive-employee>.

<sup>30</sup> *United States v. Arizona Hosp & Healthcare Ass’n & AzHHA Service Corp.*, No. CV07-1030-PHX (D. Az. May 22, 2007).

<sup>31</sup> *Memorandum of Understanding Between the Fed. Trade Comm’n and the Nat’l Labor Relations Bd. Regarding Information Sharing, Cross-Agency Training, and Outreach in Areas of Common Regulatory Interest* (Jul. 19, 2022), available at [https://www.ftc.gov/system/files/ftc\\_gov/pdf/ftcnlrb%20mou%2071922.pdf](https://www.ftc.gov/system/files/ftc_gov/pdf/ftcnlrb%20mou%2071922.pdf).

<sup>32</sup> *Memorandum of Understanding Between the U.S. Dep’t of Labor and the Fed. Trade Comm’n* (Aug. 30, 2023), available at [https://www.ftc.gov/system/files/ftc\\_gov/pdf/23-mou-146\\_oasp\\_and\\_ftc\\_mou\\_final\\_signed.pdf](https://www.ftc.gov/system/files/ftc_gov/pdf/23-mou-146_oasp_and_ftc_mou_final_signed.pdf).

While these recent developments reflect growing interest in the application of antitrust law to labor-monopsony concerns, the linkage between labor economics and antitrust is not yet as developed as the one between antitrust law and IO and antitrust economics for output markets. Over the 20th century, the fields of IO economics and antitrust law evolved considerably. While the two fields are not co-extensive, the mutual influence has been considerable and ongoing, as strong connections have developed between economic theory, empirical study, and legal doctrine. Models of imperfect competition were incorporated into analyses of mergers, collusion, and exclusionary practices.<sup>33</sup> Notably, even the Chicago School, despite some scholars' claims to the contrary,<sup>34</sup> made extensive use of models beyond perfect competition as a central part of its approach to antitrust.<sup>35</sup> Empirical IO research also frequently studied topics directly relevant to antitrust inquiries.<sup>36</sup> This close, co-evolutionary relationship does not yet exist—at least, not to the same extent—between labor economics and antitrust.<sup>37</sup>

While some scholars have worked to integrate labor and antitrust economics more closely, most empirical research remains focused on indirect concentration measures, rather than pricing conduct directly relevant to antitrust enforcement. Labor economics does not yet have IO's established track record of successful application to assessing the competitive impact of mergers, restraints, or exclusionary practices. Before that sort of track record can be built, certain limitations must be overcome—not least that labor research has largely developed without a focus on, or involvement in, antitrust policy.

### III. The Newly Developing Economic Literature on Labor-Market Power

Labor markets have become an increasingly popular topic in antitrust-policy debates. These debates have, at least in part, been spurred by academic research that purports to find widespread market

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<sup>33</sup> See generally HERBERT HOVENKAMP, *THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION* 38-9 (2005) (citing examples and noting that “post-Chicago theory typically models strategic behavior by use of game theory, with alternatives that reach far beyond the conventional Cournot oligopoly analysis”). See also, e.g., Edward J. Green & Robert H. Porter, *Noncooperative Collusion under Imperfect Price Information*, 52 *ECONOMETRICA* 87 (1984); Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 *YALE L.J.* 209 (1986).

<sup>34</sup> Herbert J. Hovenkamp & Fiona Scott Morton, *Framing the Chicago School of Antitrust Analysis*, 168 *U. PA. L. REV.* 1843, 1847 (2020) (“Built into Chicago School doctrine was a strong presumption that markets work themselves pure without any assistance from government. By contrast, imperfect competition models gave more equal weight to competitive and noncompetitive explanations for economic behavior....”).

<sup>35</sup> See, e.g., Lester G. Telser, *Why Should Manufacturers Want Fair Trade?*, 3 *J.L. & ECON.* 86 (1960); George J. Stigler, *A Theory of Oligopoly*, 72 *J. POL. ECON.* 44 (1964); Howard Marvel, *Exclusive Dealing*, 25 *J. L. ECON.* 1 (1982).

<sup>36</sup> See, e.g., Gregory J. Werden & Luke M. Froeb, *The Effects of Mergers in Differentiated Products Industries: Logit Demand and Merger Policy*, 10 *J.L. ECON. & ORG.* 407 (1994); Jonathan B. Baker & Timothy F. Bresnahan, *The Gains from Merger or Collusion in Product-Differentiated Industries*, 33 *J. INDUS. ECON.* 427 (1985).

<sup>37</sup> To be clear, this is merely a descriptive claim about the present state of the relationship between labor economics and antitrust, not a normative claim that the two fields should not develop stronger connections.

power in labor markets, thus warranting the need for antitrust scrutiny.<sup>38</sup> For example, the U.S. Treasury Department’s report on “The State of Labor Market Competition” connects the economics research to “a description of Biden Administration actions to improve competition.”<sup>39</sup> Unfortunately, conclusions that the labor-market-power literature supports tougher antitrust enforcement often rely on indirect measures of market power, such as concentration figures, that are sometimes far-removed from the needs of antitrust enforcement, which usually requires more direct measures and more antitrust-relevant markets.<sup>40</sup>

Against this backdrop, this section reviews the scholarly evidence on labor-market power. Subsection A reviews economic papers that attempt to measure firms’ labor-market power directly, while Subsection B reviews papers that rely on such proxies as industry-concentration measures (*i.e.*, indirect evidence of labor-market power). Ultimately, we find that these bodies of research say little about the need for tougher antitrust enforcement, largely because their measures of market power fail to indicate that there is an antitrust-relevant problem that is currently unaddressed in labor markets.

### **E. Direct Evidence: Do Employers Have Significant Labor-Market Power?**

How do we measure labor-market power? While the bulk of the evidence on labor markets is only indirectly related to market power (if related at all), there have been a few explicit attempts to quantify the extent of labor-market power within U.S. markets.

The most popular way to directly estimate labor-market power is through the residual labor-supply elasticity that a firm faces. A labor-supply elasticity measures how responsive the supply of labor is to a change in wages. In the simplest model, a more elastic labor supply means workers have more outside options and employers have less wage-setting power. In the extreme, a perfectly competitive firm faces a perfectly elastic residual supply curve; in the baseline (two-firm) model, if one firm pays \$0.01 less than the other employer, all the employees will leave for the other employer.

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<sup>38</sup> See, e.g., Jose Azar, Iona Marinescu, & Marshall Steinbaum, *Labor Market Concentration*, 57 J. HUM. RES. S167, S197 (Supp. 2022) (“The type of analysis we provide could be used to incorporate labor market concentration concerns as a factor in antitrust analysis.”).

<sup>39</sup> See U.S. Dep’t of the Treas., *supra* note 5.

<sup>40</sup> See, e.g., Azar, Marinescu, & Steinbaum, *supra* note 38, at S174 (“Our baseline measure of market power in a labor market is the Herfindahl–Hirschman index (HHI)...”); Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. ECON. PERSP. 69, 75-76 (2019). (“Measures of industry concentration based on data from the US Economic Census are simply not very informative for merger analysis because these data are available only at an aggregated level. The modest increases in concentration observed when using these data confirm that the largest firms are responsible for a greater portion of economic activity in many industries, but they tell us very little about concentration in properly defined relevant antitrust markets... Furthermore, it is important to remember that an increase in concentration in a properly defined relevant market does not prove that competition in that market has declined.”).

Outside of the perfectly competitive case, a firm may have some degree of labor-market power, which can be measured by the difference between the wage and the marginal revenue product, known as the wage “markdown.”<sup>41</sup> In the case of perfect competition (*i.e.*, no market power), the firm is unable to pay wages below the marginal product of labor (the revenue generated for the firm by an additional worker), and thus the labor markdown of wages is zero. By contrast, the presence of a larger wage markdown (because of a lower labor elasticity) indicates greater labor-market power.<sup>42</sup>

Naidu, Posner, and Weyl summarize estimates of labor-supply elasticity from several studies, finding evidence of substantial market power in some labor markets, but by no means all.<sup>43</sup> Indeed, the underlying papers find residual labor elasticities ranging from 0.1 to 4.2, which would mean that workers are receiving between 9% and 81% of their marginal product, depending on the particular paper’s estimate.<sup>44</sup> While the list of papers estimating labor elasticity is too lengthy to detail in this paper, the upshot for antitrust policy is that low elasticity (and thus large labor-market power) is not universal (nor should we expect it to be; even if average market power is large, not every market is average).<sup>45</sup>

But even if the empirical labor-economics literature unanimously identified a large degree of labor-market power, which it does not, it would remain unclear what the implications are for antitrust policy. The crux of the problem is that the literature’s estimates of labor elasticities generally rely on assumptions that may not mirror those typically used in antitrust analysis. Applying these estimates to a simple antitrust model of monopsony generates implications that go against the data. For example, a labor-supply elasticity of 0.1 would imply a labor share of income of just 8% in the model

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<sup>41</sup> This is effectively the labor-market equivalent of markups that measure whether firms enjoy market power in the market for goods or services. *See, e.g.*, Naidu, Posner, & Weyl, *supra* note 22, at 556 (“The firm’s absolute markup is the gap between this price and the firm’s cost. The markup equals the difference between the monopoly price and the competitive price, and thus serves as a natural gauge of market power... As in the monopoly case, a monopsonist will not internalize this effect on workers and will choose an “absolute markdown” of wages below the marginal revenue product.”).

<sup>42</sup> As we will discuss later, this connection between labor-supply elasticities, marginal products, and wages is more complicated. For example, the markdown could be a mismeasured return to technology, not traditional market power. *See, e.g.*, Ivan Kirov & James Traina, *Labor Market Power and Technological Change in US Manufacturing*, conference paper for Institute for Labor Economics (Oct 2022), at 42, available at [https://conference.iza.org/conference\\_files/Macro\\_2022/traina\\_j33031.pdf](https://conference.iza.org/conference_files/Macro_2022/traina_j33031.pdf) (“The labor [markdown] therefore increases because “productivity” rises, and not because pay falls. This suggests that technological change plays a large role in the rise of the labor [markdown].”).

<sup>43</sup> *See* Naidu, Posner, & Weyl, *supra* note 22.

<sup>44</sup> *Id.* at 567. *See also* Douglas O. Staiger, Joanne Spetz, & Ciaran S. Phibbs, *Is There Monopsony in the Labor Market? Evidence from a Natural Experiment*, 28 J. LAB. ECON. 211 (2010); Arindrajit Dube, Laura Giuliano, & Jonathan Leonard, *Fairness and Frictions: The Impact of Unequal Raises on Quit Behavior*, 109 AM. ECON. REV. 620 (2019).

<sup>45</sup> For one example, Matsudaira uses a natural experiment around the introduction of state minimum-nurse-staffing laws and evidence consistent with perfect competition and zero market power for nurse-aides. High and low market power can exist at the same time. *See* Jordan D. Matsudaira, *Monopsony in the Low-Wage Labor Market? Evidence from Minimum Nurse Staffing Regulations*, 96 REV. ECON. & STAT. 92 (2014).

described in Naidu, Posner, & Weyl.<sup>46</sup> That is far lower than the actual labor share observed in most countries, which has fallen, but is still closer to 60%, not 8%.<sup>47</sup> This suggests that the connection between the estimate and the model may not be appropriate. Thus, while labor-supply elasticities can provide valuable information about the degree of labor-market competition, antitrust practitioners should be wary of applying them mechanically to standard models of product-market competition without considering the unique features and dynamics of labor markets.

There can also be discrepancies between the tools employed to estimate labor-supply elasticities, on the one hand, and the needs of antitrust enforcement, on the other. For instance, a study by Ransom and Sims employs a search model—a standard tool in labor economics, but not a model generally seen in antitrust. The model is based on the idea of “search frictions,” which refers to the time and effort required for workers to find jobs and for employers to fill vacancies.<sup>48</sup> Because of these frictions, workers may accept lower-paying jobs while continuing to search for better opportunities.

This model assumes that, in the long run, the number of workers leaving a job is equal to the number of workers taking a new job. While this “steady state” assumption may hold in many contexts, it is not one typically seen in antitrust analysis of product markets. If the assumption is violated, estimates of labor-market power derived from the model could be biased in either direction, depending on the specific imbalance of worker flows. In the realm of antitrust enforcement, this could lead to both false positives and false negatives. It remains to be seen what courts would do when confronted with these new models.

Conversely, other papers attempt to apply the standard Cournot model from antitrust product-market analysis to labor markets.<sup>49</sup> In this approach, the authors take the median Herfindahl-Hirschman Index (HHI), a common measure of market concentration, and divide it by the aggregate labor-supply elasticity to estimate labor-market power. But there may be a mismatch here, as well. Indeed, it is unclear whether the Cournot model, where firms commit to hiring a certain number of workers each period, is a realistic representation of labor markets for antitrust purposes, because it relies on critical assumptions that may not be present in real-world markets, such as simple wage-posting, monopsony models. In fact, this may explain why search models, despite their flaws, remain the most common approach to assessing labor markets.

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<sup>46</sup> See Naidu, Posner, & Weyl, *supra* note 22, at 564-566.

<sup>47</sup> Loukas Karabarbounis & Brent Neiman, *The Global Decline of the Labor Share*, 129 QUARTERLY J. OF ECON. 61, 71 (2013).

<sup>48</sup> Michael R. Ransom & David P. Sims, *Estimating the Firm's Labor Supply Curve in a “New Monopsony” Framework: Schoolteachers in Missouri*, 28 J. LAB. ECON. 331 (2010).

<sup>49</sup> See, e.g., Efraim Benmelech, Nittai K. Bergman, & Hyunseob Kim, *Strong Employers and Weak Employees, How Does Employer Concentration Affect Wages?*, 57 J. HUM. RES. S200 (Supp. 2022). See also David Berger, Kyle Herkenhoff, & Simon Mongey, *Labor Market Power*, 112 AM. ECON. REV. 1147 (2022).

Recognizing these limitations, a burgeoning literature attempts to design labor-market competition models that better align with the needs and realities of antitrust analysis. But as yet, there is no silver bullet. Azar, Berry, and Marinescu, for example, combine elements of a static model of imperfect competition (commonly used in IO economics) with a labor-market model.<sup>50</sup> This approach aims to capture the dynamics of labor-market competition more accurately by considering the differentiation among jobs and workers' preferences.

The authors use data on job vacancies from CareerBuilder.com (a popular online job board) to estimate a model of differentiated jobs and workers' preferences for those jobs. Because of data limitations, however, they only have information on the elasticity of vacancy demand—*i.e.*, the intensity of responses to posted job vacancies—not on actual wages. To overcome this, they assume a simple model where employers post wages and workers choose whether to accept those offers, similar to how firms post prices in the Cournot model of product-market competition. Using this approach, the authors estimate that workers are paid 21% less than their marginal product, suggesting significant labor-market power.<sup>51</sup> But their model relies on the same long-run-equilibrium assumption discussed earlier, where the number of workers leaving a job equals the number of workers taking a new job.

One final approach uses wage markdowns to estimate labor-market power, but this, too, is far from perfect. Yeh, Macaluso, and Hershbein, for example, use data from the U.S. Census Bureau to estimate markdowns in the manufacturing sector.<sup>52</sup> They find that, on average, workers earn about 65 cents for every dollar of value they generate for their employer.<sup>53</sup> This would imply a significant degree of labor-market power. The researchers also find that markdowns tend to be larger for bigger companies, suggesting that these firms have more power to set wages.<sup>54</sup> Interestingly, they find that markdowns decreased from the late 1970s to the early 2000s, but have increased sharply over the past 20 years.<sup>55</sup> This recent increase in markdowns could indicate a growing problem of labor-market power.

Unfortunately, interpreting markdowns as a clear sign of labor-market power is not always straightforward, and there are reasons to be skeptical of these results. To see why, imagine two hair salons: Salon A is a basic salon that charges \$20 for a haircut, while Salon B is a luxury salon that charges \$40 for a haircut that the econometrician believes is the same quality. If both salons hire hairdressers

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<sup>50</sup> José A. Azar, Steven T. Berry, & Ioana Marinescu, *Estimating Labor Market Power* (Nat'l Bureau of Econ. Rsch., Working Paper No. 30365, 2022).

<sup>51</sup> *Id.* at 35.

<sup>52</sup> Chen Yeh, Claudia Macaluso, & Brad Hershbein, *Monopsony in the US Labor Market*, 112 AM. ECON REV. 2099 (2022).

<sup>53</sup> *Id.* at 2099.

<sup>54</sup> *Id.* at 2114.

<sup>55</sup> *Id.* at 2099.



who can do one haircut per hour, Salon B might pay only slightly more than Salon A—say \$21 per hour—to attract hairdressers. This means that the hairdressers at Salon B are receiving a wage that is far less than the \$40 value of their marginal product. Superficially, this might look like a sign of labor-market power.

But where the price difference is attributable to non-labor factors—such as the salon’s luxury branding, posh environment, and free drinks—the apparent markdown might, in fact, reflect the salon owner’s return on investment, rather than its power to set wages. This is why some economists view markdowns as a “residual”—the leftover value after accounting for other factors.<sup>56</sup> In the real world, we do not know whether an apparent markdown comes from labor-market power due to weak competition, or whether it is a return to something the owner contributes that the economist does not see.

In fact, some evidence suggests that a significant portion of markdowns may be just that: a return to some technology the firm has rather than labor-market power. Kirov and Traina look at markdowns in U.S. manufacturing over time and find that workers received the full value of their output in 1972, but only about half in 2014.<sup>57</sup> They argue that this increase in markdowns was driven largely by rapid productivity growth due to technological advancements, not by slower wage growth. The authors find that markdowns were strongly correlated with measures of information technology, management practices, and automation. This suggests that the growing gap between worker pay and productivity might be more about technological change than about employers’ bargaining power—a very different issue than the monopsony problem that antitrust law could (potentially) address.

All of this is not to say that labor-economics tools are unsuitable for antitrust policy or enforcement. Rather, it highlights the need for further research and legal precedent to establish how these tools can be effectively adapted to meet the evidentiary standards and analytical frameworks of antitrust law. While proponents of increased labor-antitrust enforcement may be eager to apply insights from labor economics to antitrust cases, it is crucial to recognize that this translation is not always straightforward and may require careful consideration of the underlying assumptions and their implications for antitrust analysis.

In short, there is a gap between existing direct evidence on labor-market power and the needs of antitrust policy and enforcement. Labor economics generally relies on models that are not germane to antitrust enforcers, while the models that are common in antitrust enforcement might not fully capture the dynamics of labor markets. Further research and dialogue between labor economists and

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<sup>56</sup> See Steven Berry, *Market Structure and Competition Redux*, Presentation at Fed. Trade. Comm’n Micro Conference (Nov. 2017), available at [https://www.ftc.gov/system/files/documents/public\\_events/1208143/22\\_-\\_steven\\_berry\\_keynote.pdf](https://www.ftc.gov/system/files/documents/public_events/1208143/22_-_steven_berry_keynote.pdf); See also Brian Albrecht, *Markups as Residuals*, ECONOMIC FORCES (Nov. 17, 2022), [www.economicforces.xyz/p/markups-as-residuals](http://www.economicforces.xyz/p/markups-as-residuals).

<sup>57</sup> See Kirov & Traina, *supra* note 42.

antitrust experts is needed to develop a consistent and reliable framework to analyze labor-market power in antitrust cases. Until then, the inapt assumptions and limitations of the models presented to antitrust authorities and courts call their predictive value into question.

Ultimately, the direct evidence from labor-elasticity estimates and other measures of labor-market power remains limited in scope and varies widely across studies. While these studies provide valuable insights, they are far from conclusive, and do not yet approach the level of evidence and analysis typically relied upon in the IO literature to assess product-market competition. Courts and policy-makers are likely to expect a more robust and consistent body of evidence before making significant changes to antitrust enforcement in labor markets. The disputes over direct evidence on labor-market power underscore the need for further research and highlight the challenges of applying antitrust tools to labor markets based on the current state of knowledge. Antitrust enforcers should take policy insights gleaned from labor-economics studies with a grain of salt, as they may be of limited use when informing antitrust policy decisions.

#### **F. Indirect Evidence: Are Labor Markets ‘Relatively Narrow’?**

The 2023 Merger Guidelines assert that labor markets can be “relatively narrow” and that “the level of concentration at which competition concerns arise may be lower in labor markets than in product markets, given the unique features of certain labor markets.”<sup>58</sup> The academic literature, however, presents a more nuanced picture that casts doubt on some of these claims. This section provides an abbreviated review of that literature. A more thorough explanation is provided in the Appendix.<sup>59</sup>

Given the limited direct evidence discussed in the previous section, as well as the difficulties entailed in collecting and applying it, it is not surprising that many scholars have turned to *indirect* measures of market power to fill the evidentiary gap. There are, however, significant issues with these indirect measures, as they often rely on concentration metrics, such as the Herfindahl-Hirschman Index (HHI), which are more readily available, but considerably less reliable than direct estimates of market power.<sup>60</sup>

While all indirect data sources have limitations, some are more comprehensive and reliable than others. The most comprehensive data is administrative data. While these differ on the levels of concentration, depending on how narrowly the market is defined, they consistently document falling

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<sup>58</sup> 2023 Merger Guidelines, *supra* note 3.

<sup>59</sup> See *infra* Appendix.

<sup>60</sup> In order to evaluate concentration, the relevant market must be defined. For labor markets, the relevant market is usually defined as both the job description (*e.g.*, nurse) and the location of the job (*e.g.*, Portland area). Using this, one can calculate some measure of concentration, such as the HHI. Economics papers tend to report HHI as a percentage, instead of as a cardinal number out of 10,000, as used in the merger guidelines. For example, an HHI of 1,800 would be written as “0.18.”

concentration levels in local labor markets, where most job search and hiring occurs.<sup>61</sup> These studies have the advantage of comprehensive coverage of employers and workers, but often define labor markets based on industry codes, rather than occupations, which may not fully capture the relevant competitors for specific types of labor.

On the other hand, the administrative data concern all employer establishments.<sup>62</sup> The administrative data directly measure employment levels and shares, instead of being restricted to online vacancies as a proxy for employment.<sup>63</sup> This distinction matters, because employment shares are the natural counterpart of market shares—a cornerstone of antitrust enforcement. Concentration measures based on vacancies will be systematically higher than those based on employment, because not all firms will hire in any particular period (in addition to any other issues with the data sample). Using the most direct comparison available, the governmental microdata finds an average HHI roughly one-tenth as large as that found using vacancy data.<sup>64</sup>

Unfortunately, no dataset is perfect, even the administrative data. For example, many rely on employment data organized by North American Industry Classification System (NAICS) codes for market definition, which are organized by *establishment*, not by occupation. For example, all Wal-Mart employees at a store are labeled as NAICS 4521 (Department Stores), instead of being broken out by different occupations (Standard Occupational Classifications or “SOC”) for different vacancies.<sup>65</sup> That makes their results better interpreted as local industrial-concentration measures, instead of true labor-market concentration measures.

For pure concentration measures, this may not matter too much. Berger, Herkenhoff, and Mongey argue that “there is little practical difference in defining a market at the occupation-city level rather than the industry-city level as these two measures are highly correlated.”<sup>66</sup> But at the more granular level of antitrust enforcement, the difference between measures may be significant. In particular,

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<sup>61</sup> See, e.g., Kevin Rinz, *Labor Market Concentration, Earnings, and Inequality*, 57 J. HUM. RES. S251 (Supp. 2022); David Autor, Christina Patterson, & John Van Reenen, *Local and National Concentration Trends in Jobs and Sales: The Role of Structural Transformation*, 5 (Nat’l Bureau of Econ. Rsch., Working Paper No. 31130, 2023) at 7 (“The employment-based HHI fell by 2.3 points, from 33.3 in 1992 to 31.0 in 2017, which stands in contrast to the 3.4 point rise in the sales HHI. Our estimates for local employment concentration echo those of Rinz (2022), who uses the LBD.”) (emphasis in original).

<sup>62</sup> Rinz, *id.* at S256.

<sup>63</sup> See Azar, Marinescu, & Steinbaum, *supra* note 38.

<sup>64</sup> Handwerker & Dey directly compare the concentration measures in their data to the 26 occupations studied by Azar, Marinescu, & Steinbaum. They find an HHI in the private sector of 0.0383, compared to 0.3157 in Azar, Marinescu, & Steinbaum. See Elizabeth Weber Handwerker & Matthew Dey, *Some Facts About Concentrated Labor Markets in the United States*, 63 INDUS. REL. 132, 135 (2023); Azar, Marinescu, & Steinbaum, *supra* note 38.

<sup>65</sup> A firm may have multiple establishments, and the data allow different NAICS codes for each establishment, so, in some cases and to some extent, different types of workers can be separated out if they work in different locations.

<sup>66</sup> Berger, Herkenhoff, & Mongey, *supra* note 49, at 1169 (citing Elizabeth Handwerker & Matthew Dey, *Megafirms and Monopsonists: Not the Same Employers, Not the Same Workers* (Unpublished)).

many workers may be able to easily substitute between employers located in different industries. An accountant, for instance, might be just as qualified to work for a bank as for a hotel or a tech company. This cross-industry substitution is obscured by market definition undertaken at the NAICS level.

With these caveats about market definition, what does the administrative data show about concentration? Rinz uses the Longitudinal Business Database, covering nearly all private-sector employers, to estimate labor-market concentration from 1976 to 2015.<sup>67</sup> At the beginning and end of the time period studied, unsurprisingly, Rinz finds rural labor markets to be more concentrated than urban markets.<sup>68</sup> He finds that the average local HHI, defined by commuting zones and four-digit NAICS industries, decreased from 0.16 in 1976 to 0.12 in 2015, indicating a shift toward less-concentrated local markets. Local concentration fell in all population quintiles.<sup>69</sup>

By contrast, national HHI increased modestly over the same period, driven by large firms entering more local markets.<sup>70</sup> Similarly, Lipsius documents falling local concentration from 1976 to 2015, using alternative market definitions based on five-digit NAICS codes and urban areas, rather than commuting zones.<sup>71</sup> Despite these definitional differences, the average local HHI remains consistently low, ranging from 0.14 to 0.17 depending on the year and market definition. Berger, Herkenhoff, & Mongey further corroborate these findings with a different way of averaging HHI measures across markets.<sup>72</sup> They estimate an average local HHI of 0.17 for the year 2014, with even lower concentration levels when analyzing individual sectors like manufacturing and services. The average local HHI levels documented in these studies are below the 1,800 (or 0.18) threshold associated with highly concentrated markets in the 2023 Merger Guidelines.<sup>73</sup>

Studies using job vacancies, rather than employment data, tend to find higher market concentration, but this may partly be driven by their omission of job openings that are not published online (or at all). Indeed, the most well-cited papers on labor-market concentration use online job postings to

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<sup>67</sup> Rinz, *supra* note 61.

<sup>68</sup> *Id.* at S264 (“In both years, the areas that are most concentrated tend to be rural. In particular, the Great Plains region has a relatively large number of highly concentrated commuting zones in both 1976 and 2015. The least concentrated markets tend to be in urban areas.”).

<sup>69</sup> Kevin Rinz, *Labor Market Concentration, Earnings Inequality, and Earnings Mobility*, National Bureau of Economic Research Summer Institute (Jul. 23, 2019) (slides obtained from author).

<sup>70</sup> Rinz, *supra* note 61 at S253.

<sup>71</sup> See Ben Lipsius, *Labor Market Concentration Does Not Explain the Falling Labor Share*, Working Paper (2018), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3279007](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3279007).

<sup>72</sup> See Berger, Herkenhoff, & Mongey, *supra* note 49.

<sup>73</sup> See 2023 Merger Guidelines, *supra* note 3.

measure concentration.<sup>74</sup> These studies can define labor markets more granularly, but they may not capture all employers and job openings, particularly those that are not advertised online. This focus on vacancies rather than employment may not always reflect the actual options available to workers, as not all job vacancies are advertised (online).<sup>75</sup>

While the 2023 Merger Guidelines suggest that labor markets warrant a lower concentration threshold for competition concerns, they do not provide a clear basis for this assertion or specify what that threshold should be. The indirect evidence from local labor-market concentration metrics does not support the notion that labor markets are inherently more problematic than product markets, from a concentration perspective. Instead, these low and falling concentration levels suggest that many local labor markets are relatively competitive and do not necessarily require a lower concentration threshold for merger analysis. While the guidelines' recognition of labor markets' unique features is important, this acknowledgment should be coupled with a more precise and empirically grounded approach to defining concentration thresholds.

More fundamentally, regardless of the data source used, market-definition issues remain. The variety of concentration estimates stemming from different geographic units and shifting occupational groupings demonstrates the lack of clarity around reasonable market boundaries. Worker mobility also introduces questions about appropriate geographic scope. While some labor markets may be highly concentrated, it does not follow that relevant antitrust labor markets are often relatively narrow. Establishing narrowness, in the antitrust sense, requires specific proof that additional employer options do not provide meaningful competitive discipline against potential wage reductions—something these papers do not do.

The upshot is that antitrust enforcers will need to rely on case-specific evidence, rather than broad claims of high concentration levels and narrow labor markets. Concentration measures have long been considered imperfect indicators of market power in antitrust policy and IO debates.<sup>76</sup> While high concentration may be suggestive of market power, it is not conclusive evidence. Many factors other than concentration can affect wages, such as differences in firm productivity, local labor-market conditions (e.g., urban vs. rural), and institutional factors like unionization rates.

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<sup>74</sup> See, e.g., Azar, Marinescu, and Steinbaum, *supra* note 38; Jose Azar, Iona Marinescu, Marshall Steinbaum, & Bledi Taska, *Concentration in US Labor Markets: Evidence from Online Vacancy Data*, 66 LABOR ECON. 101886 (2020).

<sup>75</sup> For a more detailed discussion of these papers and their limitations, see Appendix Section II, *infra*.

<sup>76</sup> See Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J. L. & ECON. 1 (1973). See also, e.g., Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 951 (Richard Schmalensee & Robert Willig, eds., 1989); William N. Evans, Luke M. Froeb, & Gregory J. Werden, *Endogeneity in the Concentration-Price Relationship: Causes, Consequences, and Cures*, 41 J. INDUS. ECON. 431 (1993); Berry, *supra* note 56; Nathan Miller, et al., *On the Misuse of Regressions of Price on the HHI in Merger Review*, 10 J. ANTITRUST ENF. 248 (2022).

Moreover, there is good evidence that employer concentration does not lead to depressed wages.<sup>77</sup> For example, Kirov and Traina find that rising markdowns (the gap between worker productivity and wages) are more strongly associated with technology-related factors, such as automation and managerial practices, than with employer concentration.<sup>78</sup> Moreover, they caution that:

These results suggest the workhorse assumptions behind some of the labor-market power literature might need reevaluation, particularly work that uses cross-sectional variation to infer trends in labor-market power. *Concentration is likely an inappropriate measure of labor-market power in this case.*<sup>79</sup>

Their critique underscores the limitations of relying heavily on concentration metrics to assess labor-market competition, especially when making claims about trends over time. As Berry, Gaynor, and Scott Morton write:

A main difficulty in [the monopsony power literature] is that most of the existing studies of monopsony and wages follow the structure-conduct-performance paradigm; that is, they argue that greater concentration of employers can be applied to labor markets and then proceed to estimate regressions of wages on measures of concentration. For the same reasons we discussed above, studies like this may provide some interesting descriptions of concentration and wages *but are not ultimately informative about whether monopsony power has grown and is depressing wages.*<sup>80</sup>

This is not to say that indirect evidence of market power is entirely without value. These studies can provide useful background information to guide antitrust policy. Moreover, antitrust law itself often relies on indirect measures of market power, such as concentration ratios and HHIs. In the case of antitrust enforcement, however, these measures are typically derived from carefully defined relevant markets. Defining the relevant market for labor is a complex task that requires considering such factors as job characteristics, worker skills, worker mobility, and geographic scope. There is currently little consensus among labor economists about the best way to define labor markets for antitrust purposes.

Ultimately, the indirect evidence from concentration metrics does not support the merger guidelines' strong claims about ubiquitous labor-market narrowness or the need for a lower concentration threshold in merger analysis. While concentration trends are not uniform across all markets and

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<sup>77</sup> Some papers find lower wages in markets with higher employer concentration, but do not differentiate rural from urban labor markets. Rural and urban labor markets can differ significantly in terms of their economic structures, job opportunities, and wage levels. Any regression of wages on concentration is likely picking up something unrelated to concentration directly. See Benmelech, Bergman, & Kim, *supra* note 49.

<sup>78</sup> Kirov & Traina, *supra* note 42.

<sup>79</sup> *Id.* at 46 (emphasis added).

<sup>80</sup> Steven Berry, Martin Gaynor, & Fiona Scott Morton, *Do Increasing Markups Matter? Lessons from Empirical Industrial Organization*, 33 J. ECON. PERSP. 44, 57 (2019) (emphasis added).

data sources, the weight of the evidence points toward falling local concentration and increasing labor-market competition over time (if concentration is a proxy for competition). Antitrust authorities should engage with this evidence and provide a stronger empirical basis for their policy recommendations, rather than relying on unsubstantiated assumptions about the inherent narrowness of labor markets.

#### **IV. The Problems of Addressing Labor-Market Power Under Antitrust Law**

The empirical literature that attempts to measure labor-market power remains unsettled and limited, and provides, at best, only indirect evidence of economy-wide monopsony power. But even if robust measures of labor monopsony were available, applying antitrust laws to remedy monopsony power would still face conceptual hurdles. Economic theory indicates important differences between monopoly and monopsony power that complicate simple policy translation.

While antitrust statutes technically apply equally both upstream and downstream,<sup>81</sup> the economics of monopoly versus monopsony raise thorny theoretical issues regarding dynamic efficiency, merger efficiencies, market definition, and more that may differ between the two. Just as the empirical questions remain far from settled, the theory provides little straightforward guidance on how to address these concerns.

U.S. antitrust agencies have nevertheless long sought to reinvigorate anti-monopsony enforcement. Before concluding that labor-monopsony enforcement should be a priority for antitrust enforcers, both the evidentiary limitations *and* conceptual challenges warrant careful consideration by enforcers, scholars, and the courts.

On the surface, it may appear that monopsony is simply the “mirror image” of monopoly.<sup>82</sup> There are, however, several important differences between monopoly and monopsony, as well as several complications that monopsony analysis raises that significantly distinguishes it from monopoly analysis. Most fundamental among these, monopsony and monopoly markets do not sit at the same

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<sup>81</sup> The antitrust statutes do not distinguish buy-side and sell-side behavior, besides the partial exception in Section 6 of the Clayton Act, which provides that workers do not violate antitrust laws when they organize unions. See 15 U.S.C. § 17 (“The labor of a human being is not a commodity or article of commerce. Nothing contained in the antitrust laws shall be construed to forbid the existence and operation of labor... organizations, instituted for the purposes of mutual help..., or to forbid or restrain individual members of such organizations from lawfully carrying out the legitimate objects thereof...”). In practice, however, it seems the agencies have historically treated labor markets differently. See, e.g., Naidu, Posner, & Weyl, *supra* note 22.

<sup>82</sup> See, e.g., Roger G. Noll, *Buyer Power and Economic Policy*, 72 ANTITRUST L.J. 589, 589 (2005) (“[B]uyer power arises from monopsony (one buyer) or oligopsony (a few buyers), and is the mirror image of monopoly or oligopoly.”); *id.* at 591 (“Asymmetric treatment of monopoly and monopsony has no basis in economic analysis.”).

place in the supply chain.<sup>83</sup> This matters, because all supply chains end with final consumers. Accordingly, from a policy standpoint, it is essential to decide whether antitrust ultimately seeks to maximize output and welfare at that (final) level of the distribution chain (albeit indirectly); whether intermediate levels of the distribution chain (e.g., an input market) should be analyzed in isolation; or whether effects in both must be somehow aggregated and balanced.

This has important ramifications for antitrust enforcement against monopsonies. As we explain below, competitive conditions of input markets have salient impacts on prices and output in product markets. Given this, any evaluation of monopsony must consider the “pass through” to the final product market. There is, however, no such “mirror image” complication in the consideration of final-product monopoly markets. Along similar lines, treating the assessment of mergers in input markets as the simple mirror image of product-market mergers presents important problems for how authorities address merger efficiencies, as traditional efficiencies and increased buyer power are often two sides of the same coin. Finally, it is unclear how authorities should think about market definition—a cornerstone of modern antitrust policy—in labor markets, in particular.

The upshot is that, while monopsony concerns have become more prevalent in academic and policy discussions, the agencies should be extremely hesitant as they move forward. Some have argued that “[m]ergers affecting the labor market require some rethinking of merger policy, although not any altering of its fundamentals.”<sup>84</sup> As we discuss below, however, while the economic “fundamentals” undergirding merger policy may not change for labor-market mergers, the “rethinking” required to properly assess such mergers does entail fundamental changes that have not yet been adequately studied or addressed. As many have pointed out, there is only a scant history of merger enforcement in input markets in general, and even less in labor markets.<sup>85</sup> It is premature to offer guidelines that purport to synthesize past practice and the state of knowledge, when neither is well-established.

### **A. Theoretical Differences Between Monopoly and Monopsony**

Before getting to the practical differences of a monopoly case versus a monopsony case, consider the theoretical differences between identifying monopsony power and monopoly power.<sup>86</sup> Suppose, for now, that a merger either generates efficiency gains or market power, but not both. In a monopoly case, if there are efficiency gains from a merger, the quantity sold in the output market will increase. With sufficient data, the agencies will be able to see (or estimate) the efficiencies directly in the

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<sup>83</sup> Of course, monopoly markets in intermediate products (i.e., products sold not to end users, but to manufacturers who use them as inputs for products that are, in turn, sold to end users) may indeed sit in the same place in the supply chain as the typical monopsony market. Some, but not all, of the complications associated with monopsony analysis are relevant to these monopoly situations, as well.

<sup>86</sup> For purposes of this discussion, “monopoly” refers to any merger (or other conduct) that would increase market power by a seller in a product market, and “monopsony” refers to any merger (or other conduct) that would increase market power by a buyer in an input market (including a labor market).



output market. Efficiency gains result in either greater output at lower unit cost, or else product-quality improvements that increase consumer demand. In contrast, if the merger simply enhances monopoly power without efficiency gains, the quantity sold will decrease, either because the merging parties raise prices or quality declines. The empirical implication of the merger is seen directly in the market in question.

The monopsony case is, however, rather more complicated. Ultimately, we can be certain of the effects of monopsony only by looking at the output market, not the input market where the monopsony power is claimed. To see this, consider again a merger that generates either efficiency gains or market (now monopsony) power. A merger that creates monopsony power will necessarily reduce the prices and quantity purchased of inputs like labor and materials. But this same effect (reduced prices and quantities for inputs) would also be observed if the merger is efficiency enhancing. If there are efficiency gains, the merged entity may purchase fewer of one or more inputs than the parties did pre-merger. For example, if the efficiency gain arises from the elimination of redundancies in a hospital merger, the hospital will buy fewer inputs, hire fewer technicians, or purchase fewer medical supplies.

We have seen there are scale efficiencies associated with a hospital merger. As work from the FTC's Bureau of Economics explains, there can be scale efficiencies associated with "surgical procedures that exhibit a volume-outcome relationship."<sup>87</sup> Typically, these are high-risk, complex procedures. "By consolidating such procedures at fewer hospitals, or by sending experienced personnel from one hospital to another, a system potentially can reap the benefits of increased scale."<sup>88</sup> That is, reassignment of personnel and/or consolidation of procedures (and attendant personnel) at fewer hospitals can facilitate more efficient, and higher quality, provision of services, even as it may decrease labor demand in certain geographic markets. This may even reduce the wages of technicians or the price of medical supplies, even if the newly merged hospitals do not exercise any market power to suppress wages.<sup>89</sup>

Decisionmakers cannot simply look at the quantity of inputs purchased in the monopsony case as the flip side of the quantity sold in the monopoly case, because the efficiency-enhancing merger can look like the monopsony merger in terms of the level of inputs purchased. The court can only differentiate a merger that generates monopsony power from a merger that increases productive efficiencies by looking at the *output market*. Once we look at the output market, as in a monopoly case, if the merger is efficiency-enhancing, there will be an increase in output-market quantity. If the

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<sup>87</sup> Keith Brand, Martin Gaynor, Patrick McAlvanah, David Schmidt, & Elizabeth Schneirov, *Economics at the FTC: Office Supply Retailers Redux, Health Care Quality Efficiencies Analysis, and Litigation of an Alleged Get Rich Quick Scheme*, 45 REV. INDUS. ORG. 325 (2014).

<sup>88</sup> *Id.*

<sup>89</sup> Some efficiency-enhancing mergers will be identifiable, of course. For example, if the merger raises quantities and prices for all inputs, that must be efficiency enhancing. The problem, as always, is with the hard cases.

merger increases monopsony power, by contrast, the firm perceives its marginal cost as higher than before the merger and will reduce output.<sup>90</sup>

In short, the assumption that monopsony analysis is simply the mirror image of monopoly analysis does not hold.<sup>91</sup> In both types of mergers—those that possibly generate monopoly and those that possibly generate monopsony—agencies and courts cannot look solely at the input market to differentiate them from efficiency-enhancing mergers; they must also look at the output market. Therefore, it is impossible to discuss monopsony power coherently without considering the output market.

This crucial conceptual difference in the theoretical understanding of monopsony versus monopoly has important implications for antitrust enforcement in labor markets. The need to look at output markets to distinguish efficiency-enhancing mergers from monopsonistic ones complicates the analysis and may require a different approach than traditional monopoly cases. Antitrust authorities and courts must carefully consider how a merger affects both output and input markets, and weigh potential efficiencies against anticompetitive effects.

This is particularly challenging under the consumer-welfare standard, which focuses on output-market effects. The potential for countervailing effects on output and input markets creates difficult tradeoffs for enforcers and courts, who must balance the interests of consumers, workers, and overall economic efficiency.

### **B. Monopsony and Merger Efficiencies**

In real-world cases, mergers will not necessarily be either solely efficiency-enhancing or solely monopsony-generating, but a blend of the two. Any rigorous consideration of merger effects must account for both and make some tradeoff between them. It's true that, in some cases, there will be output increases alongside labor-market increases and, in such scenarios, we can look simply at output.<sup>92</sup> In the standard monopsony models in economics, there is no offsetting effect; harm to sellers of inputs (workers) hurts consumers, as well.<sup>93</sup> This was the case in the recent successful action to

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<sup>90</sup> See C. Scott Hemphill & Nancy L. Rose, *Mergers that Harm Sellers*, 127 YALE L.J. 2078 (2018).

<sup>91</sup> In theory, one could force a monopsony model to be identical to monopoly. The key difference is about the *standard* economic form of these models that economists use. The standard monopoly model looks at one output good at a time, while the standard factor-demand model uses two inputs, which introduces a tradeoff between, say, capital and labor. See SONIA JAFFE, ROBERT MINTON, CASEY B. MULLIGAN, AND KEVIN M. MURPHY, CHICAGO PRICE THEORY (2019) at Ch. 10. One could generate harm from an efficiency for monopoly (as we show for monopsony) by assuming the merging parties each produce two different outputs, apples and bananas. An efficiency gain could favor apple production and hurt banana consumers. While this sort of substitution among outputs is often realistic, it is not the standard economic way of modeling an output market.

<sup>92</sup> Herbert Hovenkamp, *Worker Welfare and Antitrust*, 90 U. CHI. L. REV. 511, 529 (2023) (“To the extent that such actions lead to higher prices or reduced product output, labor as well as consumers suffer.”).

<sup>93</sup> Marinescu & Hovenkamp, *supra* note 16 at 1042 (“The key message from economic theory is that as one moves away from the competitive equilibrium towards a situation of monopsony in the labor market, wages and production both generally tend to decrease.”).

block Penguin-Random House from merging with Simon & Schuster.<sup>94</sup> The parties agreed that, if there was harm to the authors, there would be fewer books, thereby harming consumers.<sup>95</sup> There was no need to think about offsetting harms. That's the easy case.

But what about other cases where the effects are not so clearcut? The question of how guidelines should address monopsony power is inextricably tied to consideration of merger efficiencies—particularly given the point above that identifying and evaluating monopsony power will often depend on its effects in downstream markets.

This reality raises some thorny problems for monopsony-merger review that have not been well-studied to date:

Admitting the existence of efficiencies gives rise to a subsequent set of difficult questions central to which is “what counts as an efficiency?.” A good example of why the economics of this is difficult is considering the case in which a horizontal merger leads to increased bargaining power with upstream suppliers. The merger may lead to the merging parties being able to extract necessary inputs at a lower price than they otherwise would be able to. If so, does this merger enhance competition in a possible upstream market? Perhaps not. However, to the extent that the ability to obtain inputs at a lower price leads to an increase in the total output of the industry, then downstream consumers may in fact benefit. Whether the possible increase in the total surplus created by such a scenario should be regarded as off-setting any perceived loss in competition in a more narrowly defined upstream market is a question that warrants more attention than it has attracted to.<sup>96</sup>

With monopoly mergers, plaintiffs must show that a transaction will reduce competition, leading to an output reduction and increased consumer prices. This finding can be rebutted by demonstrating cost-saving or quality-improving efficiencies that lead to lower prices or other forms of increased consumer welfare. In evaluating such mergers, agencies and courts must weigh the upward pricing pressure from reduced competition against the downward pricing pressure associated with increased efficiencies and the potential for improved quality.

As we have explained above, this analysis becomes more complicated when a merger raises monopsony concerns. In a simple model, the monopsony merger would increase market power in the input market (e.g., labor), leading to a lower price paid for the input and a smaller quantity used of the input relative to pre-merger levels. Assuming no change in market power in the final product market,

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<sup>94</sup> See *United States v. Bertelsmann SE & Co. KGaA, et al.*, *supra* note 24.

<sup>95</sup> *Id.* at 23 (“The defendants do not dispute that if advances are significantly decreased, some authors will not be able to write, resulting in fewer books being published, less variety in the marketplace of ideas, and an inevitable loss of intellectual and creative output.”)

<sup>96</sup> John Asker & Volker Nocke, *Collusion, Mergers, and Related Antitrust Issues*, in 5 HANDBOOK OF INDUSTRIAL ORGANISATION 177, 221-22 (Kate Ho, Ali Hortasçu & Alessandro Lizzeri eds., 2021).

these cost savings would result in lower prices paid by consumers. Should such efficiency effects “count” in evaluating mergers alleged to lessen competition in input markets? It is surely too facile a response to assert that such efficiency effects would be “out of market” and thus irrelevant. If that were the case, the legality of a merger would turn arbitrarily on the choice of input or output market, while flatly ignoring evident and quantifiable effects in an equally affected market. No sensible approach to antitrust would countenance this arbitrariness.<sup>97</sup>

Some would argue these are the types of efficiencies that merger policy is meant to encourage. Others may counter that policy should encourage technological efficiencies, while discouraging efficiencies stemming from the exercise of monopsony power.

But this raises another complication: How do agencies and courts distinguish “good” efficiencies from “bad?” Is reducing the number of executives pro- or anticompetitive? Is shutting down a factory or health-care facility made redundant post-merger pro- or anticompetitive? Trying to answer these questions places agencies and courts in the position of second guessing not just the effects of business decisions, but also the *intent* of those decisions (to a first approximation, the observed outcomes are identical). But intent is far from dispositive in determining the competitive effects of business conduct, and it may be misleading.<sup>98</sup> Even worse, it can create a Catch-22 where an efficiencies *defense* in the product market is turned into an efficiencies *offense* in the input market—e.g., a hyper-efficient merged entity may outcompete rivals in the product market, possibly leading to monopsony in the input market. In ambiguous cases, this means the outcome may depend on whether it is challenged on the input or output side of the market. It even implies that overcoming a challenge by successfully identifying efficiencies in one case creates the predicate for a challenge based on effects on the other side of the market.

Hemphill and Rose argue that “harm to input markets suffices to establish an antitrust violation.”<sup>99</sup> But surely, this cannot be a general principle, at least not if markdowns are seen as a form of

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<sup>97</sup> But see *United States v. Bertelsmann SE & Co. KGaA, et al.*, *supra* note 24, at 28 (“Thus, even if alternative submarkets exist at other advance levels, or if there are broader markets that might be analyzed, the viability of such additional markets does not render the one identified by the government unusable.”). Of course, in that case, the parties (and the court) *did* identify downstream harms. See *id.* at 23.

<sup>98</sup> See generally, Geoffrey A. Manne & E. Marcellus Williamson, *Hot Docs vs. Cold Economics: The Use and Misuse of Business Documents in Antitrust Enforcement and Adjudication*, 47 ARIZ. L. REV. 609, 619 (2005).

<sup>99</sup> Hemphill & Rose, *supra* note 90. The authors make a useful distinction between mergers that generate classical monopsony and those that increase buyer leverage. As explained below, however, increased buyer bargaining leverage is just a transfer from sellers to buyers. If it truly has no effect on output, as supposed for Hemphill & Rose, it is not anticompetitive. If antitrust is to weigh in on splitting the surplus and conclude that a merger that leads to more of the surplus going to the buyer is anticompetitive, the courts would be implicitly saying that either the division before the merger was optimal or that more surplus going to sellers is always better. While people may have an intuition that more surplus going to sellers of labor (*i.e.*, workers) is better, do we have the same intuition for all types of sellers? Moreover, would we be willing to apply the same logic to mergers to monopoly? If so, and mergers that increase buyer leverage are bad and mergers that increase seller leverage are bad (again with no effect on output), are we concluding all mergers are bad, full stop?

anticompetitive harm. To see why, consider a merger that has no effect on either monopoly or monopopoly power; it solely improves the merging parties' technology by removing redundancies. For example, suppose the merged firms require fewer janitors. By assumption, this merger lowers consumer prices and increases consumer and total welfare. But proponents of the Hemphill and Rose view would likely call it an antitrust violation, because it harms the input market for janitors. Fewer janitors will be hired, and janitors' wages may fall (even though, by assumption, there is no monopsony power pushing down wages).

This likely explains why Marinescu and Hovenkamp recognize that assessing a monopsony claim requires looking at both input and output markets:

To have a chance of succeeding, *an efficiency case for a merger affecting a labor market must show that post-merger reorganization will decrease the need for workers and will not lower total production. Both of these requirements are essential.* A merger that decreases the need for workers may represent nothing more than an exercise of monopsony power, but in that case, *ceteris paribus*, it will also reduce production. By contrast, a merger that eliminates duplication can also reduce the need for workers, but production will not go down. Indeed, it should go up to the extent that the post-merger firm has lower costs.<sup>100</sup>

The complications only multiply once we move beyond a classical, wage-posting monopsony. For example, many labor-market models include some form of wage bargaining.<sup>101</sup> Labor economists believe this captures important aspects of labor markets that are not purely about wage-posting.<sup>102</sup> With bargaining—as compared to classical monopsony—when firms achieve more product-market power, they generate higher profits and, therefore, more potential surplus to be split between employers and employees.<sup>103</sup> Workers (at least those who keep their jobs), may welcome greater monopoly power, as they are able to extract higher wage rents, which would not be the case for a firm earning thin or no margins in an extremely competitive product market. Consequently, this generates the opposite implication at the firm level: more product market power puts upward, not downward, pressure on wages. Yet, presumably, no one would argue that courts should allow mergers

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<sup>100</sup> Marinescu & Hovenkamp, *supra* note 16, at 1040 (emphasis added).

<sup>101</sup> Such bargaining models have been awarded Nobel prizes. See Peter Diamond, *Wage Determination and Efficiency in Search Equilibrium*, 49 REV. ECON. STUD. 217 (1982); CHRISTOPHER A. PISSARIDES, *EQUILIBRIUM UNEMPLOYMENT THEORY* (2017).

<sup>102</sup> See, e.g., Richard Rogerson, Robert Shimer, & Randall Wright, *Search-Theoretic Models of the Labor Market: A Survey*, XLIII J. ECON. LIT. 959,961 (2005) (“Bargaining is one of the more popular approaches to wage determination in the literature...”).

<sup>103</sup> See, e.g., John Van Reenan, *Labor Market Power, Product Market Power and the Wage Structure: A Note* 224 (Program on Innovation and Diffusion, Working Paper No. 085, 2023), <https://poid.lse.ac.uk/PUBLICATIONS/abstract.asp?index=10529>, (“Here, when firms achieve more product market power there are higher profits and therefore more of a potential surplus to be split between employers and employees. Workers (at least those who keep their jobs), may welcome greater monopoly power as they are able to extract higher wage rents, which would not be the case for a firm earning thin or no margins in an extremely competitive product market. Consequently, this generates the opposite implication at the firm level - more product market power generates higher, not lower, wages.”).

simply because they raises wages. But then the reverse should also be true: courts should not block mergers simply because they lower wages.

Far from being a theoretical curiosity, bargaining is of first-order importance when we are thinking about unions and labor markets. In its *Kroger/Albertsons* complaint, for example, the FTC defines the relevant labor market as “union grocery labor” and alleges that the merger would harm competition specifically for these workers.<sup>104</sup> But through their collective-bargaining agreements, unions exercise monopoly power in labor negotiations that likely counterbalances any attempted exercise of monopsony power by the merged firm.<sup>105</sup> If there is no increase in monopsony power, but there is an increase in monopoly power, the union will bargain to split that profit and increase wages.

How likely is this outcome? One local union endorsed the merger and divestiture package, arguing that “[e]mployees of Kroger and C&S will be better off than employees of other potential buyers.”<sup>106</sup> Of course, it is possible that most unions do not believe wages will increase; after all, delegates of the UFCW unanimously voted to oppose the merger.<sup>107</sup> And yet, rather than citing concern over monopsony power or lower wages, the union delegates’ stated reason for their opposition was lack of transparency.<sup>108</sup> The point is not to draw a conclusion about this particular merger’s likely effects on wages; it is to point out the complex tradeoffs inherent in applying antitrust to labor markets.

And there are further complications. When dynamic effects are taken into account, for example, even apparent harms confined to the seller side of an input market may turn into benefits:

[T]he presence of larger buyers can make it more profitable for a supplier to reduce marginal cost (or, likewise, to increase quality). This result stands in stark contrast to an often expressed view whereby the exercise of buyer power would stifle suppliers’ investment incentives. In a model with bilateral negotiations, a supplier can extract more of the profits from an investment if it faces more powerful buyers, though the supplier’s total profits decline. Furthermore, the presence of more powerful buyers creates additional

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<sup>104</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2, at ¶ 63 (“Union grocery labor is a relevant market in which to analyze the probable effects of the proposed acquisition.”).

<sup>105</sup> Indeed, increased bargaining power is the purpose of a union. Whether the coordination leads to equivalent, lesser, or greater bargaining power than that of employers in a given case depends on many specifics. But the whole point of both the union and the labor antitrust exemption is to facilitate the exercise of this increased bargaining power on the labor side.

<sup>106</sup> Lynn Petrak, *Local Union Supports Kroger-Albertsons Merger*, PROGRESSIVE GROCER (Feb. 21, 2024), <https://progressivegrocer.com/local-union-supports-kroger-albertsons-merger>.

<sup>107</sup> Press Release, *America’s Largest Union of Essential Grocery Workers Announces Opposition to Kroger and Albertsons Merger*, UNITED FOOD AND COMMERCIAL WORKERS (May 5, 2023), <https://www.ufcw.org/press-releases/americas-largest-union-of-essential-grocery-workers-announces-opposition-to-kroger-and-albertsons-merger>.

<sup>108</sup> See Petrak, *supra* note 106.

incentives to lower marginal cost as this reduces the value of buyers' alternative supply options.<sup>109</sup>

Of course, none of this is to say that creation of monopsony power should categorically be excluded from the scope of antitrust enforcement. But it is quite apparent that this sort of enforcement raises complicated tradeoffs that are elided or underappreciated in the current discourse, and manifestly underexplored in the law.<sup>110</sup>

### C. Determining the Relevant Market for Labor

Even in the most basic monopoly cases, agencies and courts face enormous challenges in accurately identifying relevant markets. These challenges are multiplied in input markets—especially labor markets—in which monopsony is alleged. Many inputs are highly substitutable across a wide range of industries, firms, and geographies. For example, changes in technology—such as the development of PEX tubing and quick-connect fittings—allow laborers and carpenters to perform work previously done exclusively by plumbers. Technological changes have also expanded the relevant market in skilled labor. Remote work during the COVID-19 pandemic, for example, demonstrates that many skilled workers are not bound by geography and compete in national—if not international—labor markets.

When Whole Foods attempted to acquire Wild Oats, the FTC defined (and the court accepted) the relevant market as “premium natural and organic supermarkets,” as a way to exclude larger firms, such as Walmart and Kroger, from the relevant product market.<sup>111</sup> But even if one were to accept the FTC's product-market definition, it is unlikely that anyone would consider *employment* at a “premium natural and organic supermarket” as a distinct input market.<sup>112</sup> Even the narrowest industries considered in the economics literature would never be defined that narrowly. This is because the skillset required to work at Whole Foods overlaps considerably with the skillset demanded by myriad other retailers and other employers, and *virtually completely* overlaps with the skillset needed to work at Kroger or another grocer.

As noted above, the FTC's complaint in *Kroger/Albertsons* defines the relevant labor market as “union grocery labor” in “local CBA areas” (i.e., the geographic areas covered by each collective-bargaining

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<sup>109</sup> Roman Inderst & Christian Wey, *Countervailing Power and Dynamic Efficiency*, 9 J. EUR. ECON. ASS'N 702, 715 (2011).

<sup>110</sup> For further discussion of the problems of reconciling upstream and downstream market effects when labor markets are taken into account, see Section V, *infra*.

<sup>111</sup> *FTC v. Whole Foods Mkt., Inc.*, 548 F.3d 1028, 1063 (D.C. Cir. 2008). See also Geoffrey Manne, *Premium, Natural, and Organic Bullsh\*\*t*, TRUTH ON THE MARKET (Jun. 6, 2007), <https://truthonthemarket.com/2007/06/06/premium-natural-and-organic-bullst> (“In other words, there is a serious risk of conflating a ‘market’ for business purposes with an actual antitrust-relevant market.”).

<sup>112</sup> Unsurprisingly, there is no SOC code that corresponds to such a market definition, and the FTC did not allege it. See *Occupational Employment and Wage Statistics, May 2023 Occupation Profiles*, BUREAU OF LABOR STATISTICS (last visited Apr. 23, 2024), [https://www.bls.gov/oes/current/oes\\_stru.htm#41-0000](https://www.bls.gov/oes/current/oes_stru.htm#41-0000).

agreement’s jurisdiction).<sup>113</sup> While the alleged product-market definition aligns with the FTC’s approach in past supermarket mergers, the labor-market definition is novel and does not appear to have a direct precedent in prior cases.<sup>114</sup> By focusing on unionized workers in specific localized areas, the FTC is implicitly arguing that the merger’s potential anticompetitive effects on labor are limited to these narrow categories of workers.

This approach to labor-market definition diverges from much of the economic literature on labor monopsony, which often defines markets based on industry or occupation codes that may not capture the full scope of competition for workers.<sup>115</sup> The FTC’s narrow market definition may reflect the practical challenges of bringing a labor-monopsony case under existing antitrust frameworks. But it also risks overlooking the fluid and dynamic nature of labor markets, where workers may have employment options across different industries, occupations, and geographies.<sup>116</sup>

We can see the difficulty with pursuing a labor-monopsony case by recognizing that the usual anti-trust tools—such as merger simulation—cannot be easily applied to the labor market. Unlike the DOJ’s recent success in blocking Penguin-Random House from merging with Simon & Schuster on grounds that the merger would hurt authors with advances above \$250,000,<sup>117</sup> the labor market for most employees is much larger than the two merging companies. This fact alone likely renders the DOJ’s successful challenge in that case more of an aberration than a model for future labor-market enforcement actions, as is sometimes claimed.<sup>118</sup>

Indeed, the relevant market often cannot be narrowed down to even a handful of readily identifiable companies. For the vast majority of workers, a great number of potential employers would remain following a merger. This “potential competition”—the range of feasible employers that present an outside option to the merged companies’ present employees—limits the merged firm’s ability to exercise monopsony power in its labor negotiations. While we are not aware of publicly available data

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<sup>113</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2, at ¶ 63.

<sup>114</sup> See Brian Albrecht, Dirk Auer, Eric Fruits, & Geoffrey A. Manne, *Food-Retail Competition, Antitrust Law, and the Kroger/Albertsons Merger*, INT’L. CTR. FOR LAW & ECON. WHITE PAPER 2023-10-17 (2023), <https://laweconcenter.org/resources/food-retail-competition-antitrust-law-and-the-kroger-albertsons-merger>.

<sup>115</sup> See generally Section A, *infra*.

<sup>116</sup> See, e.g., Amos Golan, Julia Lane, & Erika McEntarfer, *The Dynamics of Worker Reallocation within and across Industries*, 74 *ECONOMICA*. 1 (2007). (“About 27% of workers who had previously exhibited a substantial degree of attachment to their employer reallocate in a given year. About two-thirds of this reallocation is job-to-job reallocation, split roughly evenly between, within and across broadly defined industries.”)

<sup>117</sup> See *United States v. Bertelsmann SE & Co. KGaA*, *et al.*, *supra* note 24.

<sup>118</sup> See, e.g., Press Release, *Justice Department Obtains Permanent Injunction Blocking Penguin Random House’s Proposed Acquisition of Simon & Schuster*, US DEP’T OF JUSTICE (Oct. 31, 2022), <https://www.justice.gov/opa/pr/justice-department-obtains-permanent-injunction-blocking-penguin-random-house-s-proposed> (“The decision is also a victory for workers more broadly,” said AAG Kanter. “It reaffirms that the antitrust laws protect competition for the acquisition of goods and services from workers.”). Notably, both the complaint and the court’s decision also noted (rightly or wrongly) downstream effects in the product market. See *id.* at 23.



that would more comprehensively illustrate worker flows among different companies (and industries), such flows of retail workers into and out of roughly adjacent labor markets make intuitive sense. As economist Kevin Murphy has explained:

If you look at where people go when they leave a firm or where people come from when they go to the firm, often very diffuse. People go many, many different places. If you look at employer data and you ask where do people go when they leave, often you'll find no more than five percent of them go to any one firm, that they go all over the place. And some go in the same industry. Some go in other industries. Some change occupations. Some don't. You look at plant closings, where people go. Again, not so often a big concentration of where they go to. If you look at data on where people are hired from, you see much the same patterns. That's kind of a much more diffuse nature.<sup>119</sup>

In any particular merger—such as between Kroger and Albertsons, for example—an overwhelming majority of Kroger workers' next best option (*i.e.*, what they would do if a store closed) will not be at an Albertsons store, but something completely outside of the market for grocery-store labor (or even outside the retail-food industry more broadly). Where that is the case, the merger would not take away those workers' next best option, and the merger cannot be said to increase labor-monopsony power to the extent necessary to justify blocking it.<sup>120</sup>

Fundamentally, the labor-economics literature has offered little guidance to date on how to define markets in labor cases. As explained above, concentration varies greatly, depending on the exact definition of the relevant market, especially the geographic market.<sup>121</sup> It is virtually impossible to know what outside options to include in the relevant market, and it may not always be possible to identify even where such potential employers are located (*e.g.*, are commuting zones, for example, better proxies for the relevant geographic labor market than metropolitan areas?). These market-definition issues are far more acute in monopsony cases than in traditional monopoly cases, both because the intrinsic question of substitutes is more complicated and because there is far less precedent to guide parties and enforcers.

#### **D. Labor Markets Are Not Spot Markets**

The merger guidelines stress that labor markets are not simple spot markets where each side calls out a price and the two make an exchange when bid/ask prices align. As the guidelines state, “labor markets often exhibit high switching costs and search frictions due to the process of finding,

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<sup>119</sup> Transcript: *Public Workshop on Competition in Labor Markets*, ANTITRUST DIV. OF THE U.S. JUSTICE DEP'T (Sep. 23, 2019), available at <https://www.justice.gov/atr/page/file/1209071/download>.

<sup>120</sup> See Albrecht, Auer, Fruits, & Manne, *supra* note 114.

<sup>121</sup> See *infra* Section III.B (“More fundamentally, regardless of the data source that is used, market definition issues remain. The variety of concentration estimates stemming from different geographic units and shifting occupational groupings demonstrates the lack of clarity around reasonable market boundaries.”).

applying, interviewing for, and acclimating to a new job.”<sup>122</sup> Moreover, “finding a job requires the worker and the employer to agree to the match. Even within a given salary and skill range, employers often have specific demands for the experience, skills, availability, and other attributes they desire in their employees.”<sup>123</sup>

The typical employment contract is often more complicated than the typical end-user purchase agreement. Employment contracts are, indeed, not spot contracts, and thus contain a temporal dimension often absent from the product markets at-issue in monopoly cases. The terms of employment contracts are also rarely purely monetary, and the value of any given employment contract (and especially of aggregated “employment data”) may not be reflected in the nominal “price” (*i.e.*, wage) of the agreement. Various benefits, deferred compensation, location, start date, moving costs and the like can dramatically complicate identifying the value of employment contracts. Complicating matters further is that the value of these terms to any given employee may vary widely, as people’s preferences for employment terms are significantly idiosyncratic. All of which makes the analysis of observable employment terms inordinately complicated and assessments of market power fraught with error.

There are, however, additional relevant aspects of labor markets that distinguish them from spot markets and that warrant consideration in antitrust analysis. One crucial factor is that employment relationships frequently involve mutual investments by both parties that develop over time. Employers often make substantial investments to build workers’ firm-specific skills through training, knowledge sharing, and opportunities to form client relationships.<sup>124</sup> Some of these skills are general and portable across firms, while others are firm specific and have limited value to other employers.

Firm-specific investments can increase workers’ productivity at their current firms, but also make it more costly for them to switch jobs, potentially giving employers some labor-market power. This “lock in” effect exists because the worker’s current role is more valuable due to firm-specific investments and, in some cases, this increased value cannot be ported to a new employer.

In other cases, however, employers can and do invest in training that provides workers with general—and thus transferable—skills.<sup>125</sup> In such examples, there is a risk that those workers will leave for a competitor before the employer can fully recoup its investment. A higher wage may be justified for a subsequent employer, as the employee comes with the added value provided by the former

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<sup>122</sup> 2023 Merger Guidelines, *supra* note 3, at 27.

<sup>123</sup> *Id.*

<sup>124</sup> For a recent summary, see Carl Sanders & Christopher Taber, *Life-Cycle Wage Growth and Heterogeneous Human Capital*, 4 ANN. REV. ECON. 399 (2012).

<sup>125</sup> See, e.g., Edward Lazear, *Firm-Specific Human Capital: A Skill-Weights Approach*, 117 J. POL. ECON. 914 (2009) (noting that “no skills need be truly ‘firm specific’ in the sense of there being no other firm at which they have value. On the contrary, the skills appear to be general because in isolation they are used at a number of firms in the market. But the weights differ by firm”). See also Jesper Bagger, François Fontaine, Fabien Postel-Vinay, & Jean-Marc Robin, *Tenure, Experience, Human Capital, and Wages: A Tractable Equilibrium Search Model of Wage Dynamics*, 104 AM. ECON. REV. 1551 (2014).

employer (e.g., training, knowledge of competitively valuable information, relationships with potential customers). This “holdup” problem can lead firms to underinvest in worker training, even when such training would be socially beneficial.

To mitigate this risk, firms and workers may seek contractual solutions that incentivize workers to stay long enough for the firm to earn a return on its investment. These arrangements could include promises of future wage increases, promotions, or other benefits that are contingent on the worker remaining with the firm. In turn, these contractual mechanisms create a new problem: once the investment is made and the worker has acquired valuable skills, they may be “locked in” to their current employer through the promise (implicit or explicit) of future wage gains or other benefits.

Of course, to the extent these arrangements give firms some ex-post market power, they are accompanied by terms implicitly or explicitly sharing the benefits with employees. But if a merger enhances employers’ ability to make such productivity-enhancing investments, it could simultaneously increase labor-market power while generating efficiencies, which may be shared with employees in ways that are difficult to identify or to value. Assessing the competitive effects of such a merger requires identifying and weighing these competing effects, which may be extremely difficult.

The FTC’s complaint against the proposed Kroger/Albertsons merger provides a concrete example of how antitrust enforcers must grapple with these issues in practice.<sup>126</sup> In defining the relevant labor markets, the FTC focuses on “union grocery labor” in “local CBA areas” (i.e., the geographic areas covered by each collective-bargaining agreement’s jurisdiction).<sup>127</sup> By narrowing the market to unionized workers covered by specific CBAs, the FTC appears to be making a form of lock-in argument. The complaint alleges that “[u]nion grocery workers can move between grocery employers covered by their union while retaining their pension and healthcare benefits, as well as other valuable workplace benefits and protections provided by the CBAs. If a union grocery worker leaves for a non-union employer, however, the worker will lose any non-vested CBA benefits and protections.”<sup>128</sup> In other words, the CBA-specific benefits function similarly to firm-specific investments in tying workers to a particular set of employers, or a contractual solution to the holdup problem involving promised future benefits, potentially giving those employers monopsony power.

From an antitrust perspective, assessing such a merger’s effect on firm-specific investments is complex. Will the merger increase or decrease employers’ incentive to provide worker training? How should antitrust balance potential productivity gains against increased labor-market power over workers? Efficiency arguments by merging parties should be met with appropriate skepticism, but such investments may be more than a rounding error in calculating overall effects. Indeed, the concept

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<sup>126</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2.

<sup>127</sup> *Id.* at ¶ 63.

<sup>128</sup> *Id.*

of firms investing in building worker skills is more than just a theoretical curiosity; there is clear empirical evidence that these investments occur, affect human capital, and have effects on wages.<sup>129</sup> These dynamic investment effects are first-order factors in labor markets, but are not easily captured in a static monopsony framework. Further study on these tradeoffs within merger analysis is essential.

The complications caused by the importance of investment in workers show up in antitrust contexts beyond merger enforcement, such as the FTC's noncompete rulemaking.<sup>130</sup> The FTC recognized as much, noting that "[t]here is some empirical evidence that non-competes increase investment in human capital of workers, capital investment, and R&D investment,"<sup>131</sup> and citing numerous studies indicating such effects.<sup>132</sup> Of course, the commission nevertheless adopted a rule banning all noncompete agreements outright, despite this recognition.

All of this makes the simple monopsony model difficult to apply and map to the actual competition that occurs in the market. For example, to estimate labor-supply elasticities, many papers take a traditional monopsony model that assumes a spot market where the buyer sets a price and lets as many people buy as are willing.<sup>133</sup> Such analysis can be informative, but it may say little about the competitive effects of various practices in real-world antitrust markets.

The point is not to establish the proper model of human-capital formation. Instead, it is simply to point out that human-capital development is of first-order importance in labor markets. How should antitrust treat it? Contrary to the impression from the merger guidelines (and the short shrift given this point in the proposed NCA rules), not every feature of the labor market simply points toward a need for more enforcement.

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<sup>129</sup> See, e.g., Robert Topel, *Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority*, 99 J. POL. ECON. 145 (1991).

<sup>130</sup> See Non-Compete Clause Rule, Final Rule, *supra* note 1, at 283. See also *Comments of Scholars of Law & Economics and ICLE in the Matter of Non-Compete Clause Rulemaking*, *supra* note 20, at 29.

<sup>131</sup> Non-Compete Clause Rule, Final Rule, *id.*, at 283.

<sup>132</sup> See *id.* at 283-86 (citing Evan Starr, *Consider This: Wages, Training, and the Enforceability of Covenants Not to Compete*, 72 INDUS. & LABOR REL. REV. 783 (2019) (finding that moving from mean NCA enforceability to no NCA enforceability would decrease the number of workers receiving training by 14.7% in occupations that use NCAs at a relatively high rate); Jessica Jeffers, *The Impact of Restricting Labor Mobility on Corporate Investment and Entrepreneurship*, Working Paper (Sep. 7, 2022), <https://ssrn.com/abstract=3040393> (finding that knowledge-intensive firms invest 32% less in capital equipment following decreases in the enforceability of NCAs); Matthew S. Johnson, Michael Lipsitz, & Alison Pei, *Innovation and the Enforceability of Non-Compete Agreements*, NBER WORKING PAPER SERIES (Jul. 2023) (finding that greater non-compete enforceability increases R&D expenditure). At least one more study finding similar results was previously cited in the proposed Non-Compete Clause Rule (see *supra* note 126, at 3505), but not included in the final rulee. See Matthew S. Johnson & Michael Lipsitz, *Why Are Low-Wage Workers Signing Noncompete Agreements?*, J. HUMAN RESOURCES 0619-10274R2 (May 12, 2020) (finding that hair salons that use NCAs train their employees at a higher rate and invest in customer attraction through the use of digital coupons at a higher rate, both by 11 percentage points)).

<sup>133</sup> Naidu, Posner, & Weyl, *supra* note 22.

## V. Monopsony and the Consumer-Welfare Standard

As discussed in the previous sections, using antitrust enforcement to thwart potential monopsony harms is a task full of evidentiary difficulties and complex, poorly understood tradeoffs. Perhaps more problematically, it is also unclear whether (and, if so, how) such an endeavor is consistent with the consumer-welfare standard—the lodestar of antitrust enforcement, at least as it is currently understood and implemented by courts.<sup>134</sup>

Marinescu & Hovenkamp assert that:

Properly defined, the consumer welfare standard applies in exactly the same way to monopsony. Its goal is high output, which comes from the elimination of monopoly power in the purchasing market.... [W]hen consumer welfare is properly defined as targeting monopolistic restrictions on output, it is well suited to address anticompetitive consequences on both the selling and the buying side of markets, and those that affect labor as well as the ones that affect products. In cases where output does not decrease, the anticompetitive harm to trading partners can also be invoked.<sup>135</sup>

And Hemphill & Rose state that:

Overall, then, a trading partner welfare approach accords well with the case law and economic reasoning, and under this approach, a merger that results in increased classical monopsony power may be condemned on account of harm to the input market.<sup>136</sup>

But this is far from self-evident. There are at least two problems with this reasoning.

To start, the assertion that harm to input providers that does not result in reduced product output is actionable is based on a tenuous assertion that a mere pecuniary transfer is sufficient to establish anticompetitive harm.<sup>137</sup> This is problematic, because such “harms” actually *benefit* consumers in the baseline model. In the extreme example, all of the benefits of a better negotiating position are passed on to consumers, and the firm is more of a direct intermediary trading on behalf of consumers, rather than a monopolistic reseller.<sup>138</sup>

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<sup>134</sup> See especially Section I.B, *infra*.

<sup>135</sup> Marinescu & Hovenkamp, *supra* note 16, at 1062-63. See also Hovenkamp, *Worker Welfare and Antitrust*, *supra* note 92, at 521.

<sup>136</sup> Hemphill & Rose, *supra* note 90, at 2092.

<sup>137</sup> As Marinescu & Hovenkamp note (attributing the point to Hemphill & Rose), “[i]n this case, there is merely a transfer away from workers and towards the merging firms. Yet... such a transfer is a harm for antitrust law as it results from a reduction in competition.” *Id.* at 1062 (citing Hemphill & Rose, *id.*, at 2104-05).

<sup>138</sup> See, e.g., *Kartell v. Blue Shield of Mass., Inc.*, 749 F.2d 922 (1st Cir. 1984). See also Steven C. Salop, *Question: What Is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard*, 22 LOY. CONSUMER L. REV. 336, 342 (2010) (“However, Judge Breyer treated Blue Cross essentially as an agent for the customers it insured, rather than as an

The main justification for ignoring these cross-market effects (as with all market-definition exercises) is primarily a pragmatic one (although it is rather weakened in light of modern analytical methods).<sup>139</sup> But particularly in the context of inputs to a specific output market, these cross-market effects are inextricably linked and hardly beyond calculation. As the enforcement agencies have previously recognized, “[i]nextricably linked out-of-market efficiencies, however, can cause the Agencies, in their discretion, not to challenge mergers that would be challenged absent the efficiencies.”<sup>140</sup>

The assertion that pecuniary transfers of bargaining power are actionable is also inconsistent with the fundamental basis for antitrust enforcement, which seeks to mitigate *deadweight loss*, but not mere pecuniary transfers that do not result in *anticompetitive* effects.<sup>141</sup>

Second, it is unclear whether the consumer-welfare standard applies to input markets. At its heart, the consumer-welfare standard focuses on the effects that a(n) (incipient) monopolist’s behavior may have on *consumers*. And courts have extended this welfare calculation to all direct purchasers affected by anticompetitive behavior. Less clear is whether courts have consistently extended (or would

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intermediary firm that purchased inputs and sold outputs as a monopolistic reseller. The court apparently assumed (perhaps wrongfully) that Blue Cross would pass on its lower input costs to its customers in the form of lower insurance premiums.”).

<sup>139</sup> See Jan M. Rybnicek & Joshua D. Wright, *Outside In or Inside Out?: Counting Merger Efficiencies Inside and Out of the Relevant Market*, in 2 WILLIAM E. KOVACIC: AN ANTITRUST TRIBUTE—LIBER AMICORUM (Nicolas Charbit & Elisa Ramundo, eds., 2014) at 10 (“Despite the incorporation of efficiencies analysis into modern merger evaluation, and the advances in economics that allow efficiencies to be identified and calculated more accurately than at the time of *Philadelphia National Bank*, antitrust doctrine in the United States still supports a regime that fails to take into account efficiencies arising outside of the relevant market.”).

<sup>140</sup> U.S. DEP’T. OF JUSTICE & FED. TRADE COMM’N, COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES (2006) at 57. See also Gregory J. Werden, *Cross-Market Balancing of Competitive Effects: What Is the Law, and What Should It Be?*, 43 J. CORP. L. 119, 121 (2017) (“Since 1997, however, the Horizontal Merger Guidelines have asserted the inextricably linked exception.”); U.S. DEP’T. OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (2010) at § 10, n.14 (“In some cases, however, the Agencies in their prosecutorial discretion will consider efficiencies not strictly in the relevant market, but so inextricably linked with it that a partial divestiture or other remedy could not feasibly eliminate the anticompetitive effect in the relevant market without sacrificing the efficiencies in the other market(s). Inextricably linked efficiencies are most likely to make a difference when they are great and the likely anticompetitive effect in the relevant market(s) is small so the merger is likely to benefit customers overall.”).

<sup>141</sup> See, e.g., *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477, 487 (1977) (“Every merger of two existing entities into one, whether lawful or unlawful, has the potential for producing economic readjustments that adversely affect some persons. But Congress has not condemned mergers on that account; it has condemned them only when they may produce anticompetitive effects.”). See also ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* (2021) at 110 (“Those who continue to buy after a monopoly is formed pay more for the same output, and that shifts income from them to the monopoly and its owners, who are also consumers. This is not dead-weight loss due to restriction of output but merely a shift in income between two classes of consumers. The consumer welfare model, which views consumers collectively, does not take this income effect into account.”).

extend) this notion of anticompetitive harm to all “trading partners” in input markets.<sup>142</sup> This goes to the very heart of the consumer-welfare standard:

[I]f only consumers matter, then a buying cartel should be perfectly legal and indeed should be encouraged. Monopsony power would not matter in antitrust cases, because the fact that sellers are harmed is irrelevant under a consumer surplus standard. I know of no proponent of the consumer surplus standard who endorses buyer cartels, or who believes that monopsony is not harmful. Instead, proponents of a consumer surplus rule tend to argue that buyer cartels and monopsony are exceptions to the otherwise sensible rule of maximizing consumer surplus. However, the need for these exceptions illustrates the lack of a coherent logic for the consumer surplus standard.<sup>143</sup>

Other scholars appear too ready to accept that there is a “coherent logic” of the consumer-welfare standard that unquestionably contemplates upstream trading-partner welfare because their interests align with those of consumers:

A useful definition of “consumer welfare” is that antitrust should be driven by concerns for trading partners, including intermediate and final purchasers, and also sellers, including sellers of their labor. These all benefit from high output, high quality, competitive prices, and unrestrained innovation. Higher output and lower prices are good indicators of competitive benefit, and there is little practical difference between the way courts talk about antitrust harm and the idea of “consumer welfare.”<sup>144</sup>

As we explain above, however, this coincidence of interest is far from complete, and lower wages could be consistent with both efficiency and monopsony.<sup>145</sup> As the FTC summarized in closing the investigation of a merger between two pharmacy benefit managers, “[a]s a general matter, transactions that allow firms to reduce the costs of input products have a high likelihood of benefitting consumers, since lower costs create incentives to lower prices.”<sup>146</sup> “Higher output and lower prices

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<sup>142</sup> See, e.g., Herbert Hovenkamp & Fiona Scott Morton, *The Life of Antitrust’s Consumer Welfare Model*, PROMARKET (Apr. 10, 2023), <https://www.promarket.org/2023/04/10/the-life-of-antitrusts-consumer-welfare-model> (“A useful definition of ‘consumer welfare’ is that antitrust should be driven by concerns for trading partners....”).

<sup>143</sup> Dennis Carlton, *Does Antitrust Need to Be Modernized?*, 21 J. ECON. PERSP. 155, 158 (2007).

<sup>144</sup> Hovenkamp & Scott Morton, *supra* note 34.

<sup>145</sup> See also Hemphill & Rose, *supra* note 90, at 2106. Hemphill & Rose distinguish monopsony power from increased buyer leverage, which does not result in a deadweight loss but is simply a redistribution from sellers to buyers. Leverage will be partially passed through to consumers as lower prices. Standard monopsony increases in bargaining power will not generate lower prices, since “[a]n increase in monopsony power increases the firm’s perceived marginal cost and reduces output. Far from lowering output prices, the increased monopsony power raises price in output markets (if the firm faces downward sloping demand for its output) or else leaves it unchanged.”

<sup>146</sup> *Statement of the Federal Trade Commission Concerning the Proposed Acquisition of Medco Health Solutions by Express Scripts, Inc.*, FTC File No. 111-0210 (Apr. 2, 2012) at 7, available at [https://www.ftc.gov/sites/default/files/documents/closing\\_letters/proposed-acquisition-medco-health-solutions-inc.express-scripts-inc./120402expressmedcostatement.pdf](https://www.ftc.gov/sites/default/files/documents/closing_letters/proposed-acquisition-medco-health-solutions-inc.express-scripts-inc./120402expressmedcostatement.pdf).

[may be] good indicators of competitive benefit,” but it seems problematic to assume they reflect a clear benefit to workers if they result from lower wages. Indeed:

Larger buyers may also be able to reduce their purchasing costs at the expense of suppliers.... The concept of buyer power as an efficiency defence rests squarely on such a presumption. What is more, the argument also posits that the exercise of buyer power will not only have distributional consequences, but also increase welfare and consumer surplus by reducing deadweight loss. As we spell out in detail below, welfare gains may arise both at the upstream level, i.e., in the transactions between the more powerful merged firm and its suppliers, as well as at the downstream level, where the creation of buyer power may translate into increased rivalry and lower prices. *The extent to which final consumers ultimately benefit is of particular importance if antitrust authorities rely more on a consumer standard when assessing mergers. If total welfare is the standard, however, distributional issues are not directly relevant and any pass-on to consumers is thus only relevant in as much as it contributes to total welfare.*<sup>147</sup>

This raises an obvious question: can the consumer-welfare standard (and thus antitrust authorities and courts) reach a finding of anticompetitive harm if *consumers* (at least, in the narrow market under investigation) are ultimately charged lower prices?

Consider Judge Breyer’s *Kartell* opinion. As Steve Salop explains:

The famous *Kartell* opinion written by Judge (now Justice) Stephen Breyer provides an analysis of a buyer-side “cartel” (comprised of final consumers and their “agent” insurance provider, Blue Cross) that also is consistent with the true consumer welfare standard.... Buyer-side cartels generally are inefficient and reduce aggregate economic welfare because they reduce output below the competitive level.... However, a buyer-side cartel, comprised of *final consumers* generally would raise true consumer welfare (i.e., consumer surplus) because gains accrued from the lower prices would outweigh the losses from the associated output reduction, even though the conduct inherently reduces total welfare (i.e., total surplus)....

... Judge Breyer treated Blue Cross essentially as an *agent* for the customers it insured, rather than as an intermediary firm that purchased inputs and sold outputs as a monopolistic reseller. The court apparently assumed (perhaps wrongfully) that Blue Cross would pass on its lower input costs to its customers in the form of lower insurance premiums....

... In permitting Blue Cross to achieve and exercise monopsony power by aggregating the underlying consumer demands for medical care—i.e., permitting Blue Cross to act as the agent for final consumers—the *Kartell* court implicitly opted for the true consumer welfare standard. Blue Cross’s assumed monopsony conduct on behalf of its subscribers would thus lead to higher welfare for its subscribers despite reduced efficiency and lower

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<sup>147</sup> Roman Inderst & Greg Shaffer, *Buyer Power in Merger Control*, in ABA ANTITRUST SECTION HANDBOOK, ISSUES IN COMPETITION LAW AND POLICY (Wayne Dale Collins, ed. 2008) at 1611, 1612-13 (emphasis added).



aggregate economic welfare. Thus, this result represents a clear (if only implicit) judicial preference for the true consumer welfare standard rather than the aggregate economic welfare standard.<sup>148</sup>

By this logic, it seems, the relevant “consumer” welfare in antitrust analysis—including that of mergers that increase *either* monopoly or monopsony power—is that of the *literal* consumer: the final product’s end-user. But this contrasts quite sharply with the standard mode of analysis in monopsony cases as the mirror image of monopoly, in which the merging parties’ trading partner (whether upstream or downstream) is the relevant locus of welfare analysis.

Indeed, extended to other current potential cases, this mode of analysis raises a distinct problem for the agencies. Consider, for example, a hypothetical case against Kroger-Albertsons that did not mention the product market and in which the merger was alleged to increase monopsony power, but not monopoly power. Should such a challenge fail regardless of the effect on input providers because Kroger can be considered “an *agent* for the customers it [sells to]”? There is, as Salop seems to suggest,<sup>149</sup> some merit in such an approach, but it is certainly not how similar cases have been evaluated in the past.

Indeed, the rule of reason arguably contemplates some sort of balancing of effects across markets.

Critically, the balancing required by the rule of reason is neither quantitative nor precise. In *California Dental Association*, the Supreme Court described a court’s task as reaching a “conclusion about the principal tendency of a restriction” on competition. If a restraint suppresses competition in one market and promotes competition in a related market, the *Chicago Board of Trade* and *Sylvania* statements of the rule of reason can be read to hold that legality turns on which effect predominates in a qualitative sense.<sup>150</sup>

The U.S. Supreme Court’s *Alston* case highlights this dynamic, and in a case involving labor-market monopsony, no less. Despite the NCAA’s undisputed monopsony power in the “market for athletic services” (an upstream labor market), the Court considered its proffered procompetitive justification

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<sup>148</sup> Salop, *supra* note 138, at 342 (“Efficiency benefits count under the true consumer welfare standard, but only if there is evidence that enough of the efficiency benefits pass through to consumers so that consumers (*i.e.*, the buyers) would directly benefit on balance from the conduct.”).

<sup>149</sup> It is worth noting that, although the analogy between Blue Cross and Kroger here seems quite apt and powerful, there can be little doubt that Salop would not condone this mode of analysis in a case against Kroger. Whether (if correct) that is a function of one person’s idiosyncratic preferences or an expression of the complication inherent in assessing consumer welfare in monopsony cases is uncertain.

<sup>150</sup> Werden, *Cross-Market Balancing of Competitive Effects*, *supra* note 140, at 129. The referenced language from *Chicago Board of Trade* and *Sylvania* is: “The true test for legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.” *Chi. Bd. of Trade v. U.S.*, 246 U.S. 231, 238 (1918); “Under this rule, the factfinder weighs all of the circumstances of a case in deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition.” *Cont’l T.V. v. GTE Sylvania*, 433 U.S. 36, 49 (1977).

of preserving amateurism in college sports—an effect avowedly in the downstream, output market.<sup>151</sup> As the Court described the proceedings below:

The NCAA’s only remaining defense was that its rules preserve amateurism, which in turn widens consumer choice by providing a unique product—amateur college sports as distinct from professional sports. Admittedly, this asserted benefit accrues to consumers in the NCAA’s seller-side consumer market rather than to student-athletes whose compensation the NCAA fixes in its buyer-side labor market. But, the NCAA argued, the district court needed to assess its restraints in the labor market in light of their procompetitive benefits in the consumer market—and the district court agreed to do so.<sup>152</sup>

Tellingly, the district court’s rejection of the NCAA’s procompetitive justification turned on the lack of connection between it and the challenged conduct in the input market. “As the court put it, the evidence failed ‘to establish that the challenged compensation rules, in and of themselves, have any direct connection to consumer demand.’”<sup>153</sup> The plain implication is that, where restraints in one market are sufficiently connected to benefits in another market, those benefits will be considered—and may turn out to justify—the challenged restraints.<sup>154</sup>

There is perhaps no easy answer to the difficulty of assessing harm in upstream markets when downstream markets benefit. At first blush, excluding deadweight losses that stem from monopsony power (or, at least, forcing plaintiffs to show that downstream purchasers are also harmed) seems like legalistic reasoning largely incompatible with the welfarist ancestry of the consumer-welfare standard.<sup>155</sup> Indeed, the consumer-welfare standard is largely premised on the assumption that increased output is desirable, and deadweight losses are harmful to society, regardless of their second-order effects.

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<sup>151</sup> *Nat’l Collegiate Athletic Ass’n v. Alston*, 141 S. Ct. 2141, 2154 (2021).

<sup>152</sup> *Id.* at 2152.

<sup>153</sup> *Id.*

<sup>154</sup> To be clear, the legal process for evaluating this tradeoff is not a strict balancing, but a “less-restrictive alternative” test—exactly as the Court laid out and applied in *Amex*. See *id.* at 2162 (“The court then proceeded to what corresponds to the third step of the *American Express* framework, where it required the student-athletes ‘to show that there are substantially less restrictive alternative rules that would achieve the same procompetitive effect as the challenged set of rules.’”).

<sup>155</sup> See, e.g., Gregory J. Werden, *Monopsony and the Sherman Act: Consumer Welfare in a New Light*, 74 ANTITRUST L.J. 707, 735 (2007) (“Predatory pricing that excludes competitors and results in monopsony is condemned by the Sherman Act, just as the Act condemns predatory pricing that excludes competitors and obtains a monopoly.... Protecting consumer welfare is the principal goal of the Sherman Act, but it is only a goal: The Sherman Act protects the people by protecting the competitive process. The competitive process could not be undermined any more clearly than it is when competing buyers conspire to eliminate the competition among themselves, and it matters not one whit under the Sherman Act whether the conspiracy threatens the welfare of conspirators’ customers or the welfare of end users. It is enough that the conspiracy threatens the welfare of the trading partners exploited by the conspiracy. Harm to them implies harm to people protected by the Sherman Act.”).

There is no tension here when output and labor both benefit from an action; sometimes, output reduction goes directly with labor harms.<sup>156</sup> But what about the cases that are not so neat? It seems odd to depart from this focus on output as the lodestar of antitrust just because a supplier, rather than a consumer, is being harmed.

Faced with what may potentially be intractable economic questions, antitrust courts have, for the sake of administrability, often decided to limit antitrust analysis to what economics generally refer to as partial-equilibrium analysis.<sup>157</sup> This largely explains, *e.g.*, why only direct purchasers can claim antitrust damages.<sup>158</sup> Perhaps it also explains why the Court in *Ohio v. American Express* chose to simply ignore potential harm to cash purchasers in limiting the market in that case to the “market for credit-card transactions,” even though the district court found that Amex’s conduct would increase retail prices for cash consumers.<sup>159</sup>

But much to some commentators’ chagrin,<sup>160</sup> the Court in *Amex* did take account of cross-market effects—in that case, by combining both sides of a two-sided market into a single market—and noted that failing to do so would lead to error.<sup>161</sup> While the Court limited its holding to two-sided, “simultaneous transaction” markets,<sup>162</sup> it is difficult to escape the realization that the logic of the holding—and the arbitrariness of considering effects on one side in isolation—would apply as well to the analysis of upstream and downstream trading partners:

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<sup>156</sup> See discussion *supra*, text at notes 11 and 92.

<sup>157</sup> See, *e.g.*, Sean P. Sullivan, *Modular Market Definition*, 55 U.C. DAVIS L. REV. 1091, 1118 (2021) (“One traditional purpose of market definition has been to act like a microscope trained upon a specific area of concern. The full, interconnected web of commerce—of all possible products and technologies and consumptive uses and trading partners—is simply too big and too overwhelming to provide useful context for antitrust analysis.”).

<sup>158</sup> See *Illinois Brick Co. v. Illinois*, 431 U.S. 720, 731-32 (1977) (“The principal basis for the decision in *Hanover Shoe* was the Court’s perception of the uncertainties and difficulties in analyzing price and output put decisions... and of the costs to the judicial system and the efficient enforcement of the antitrust laws of attempting to reconstruct those decisions in the courtroom.”); *Hanover Shoe, Inc. v. United Shoe Machinery Corp.*, 392 U.S. 481, 493 (1968).

<sup>159</sup> *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2287 (2018) (“Accordingly, we will analyze the two-sided market for credit-card transactions as a whole to determine whether the plaintiffs have shown that Amex’s anti-steering provisions have anticompetitive effects.”). See also *U.S. v. Am. Express Co.*, 88 F. Supp. 3d 143, 216-17 (E.D.N.Y. 2015) (“Merchants facing increased credit card acceptance costs will pass most, if not all, of their additional costs along to their customers in the form of higher retail prices.... [C]ustomers who do not carry or qualify for an Amex card are nonetheless subject to higher retail prices at the merchant, but do not receive any of the premium rewards or other benefits conferred by American Express on the cardholder side of its platform.... Thus, in the most extreme case, a lower-income shopper who pays for his or her groceries with cash... is subsidizing, for example, the cost of the premium rewards conferred by American Express on its relatively small, affluent cardholder base in the form of higher retail prices.”).

<sup>160</sup> See, *e.g.*, Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 YALE L.J. 2142 (2018).

<sup>161</sup> *Id.* (“For all these reasons, ‘[i]n two-sided transaction markets, only one market should be defined.’ Any other analysis would lead to ‘mistaken inferences’ of the kind that could ‘chill the very conduct the antitrust laws are designed to protect.’”) (cleaned up and citations omitted).

<sup>162</sup> *Id.* at 2286.

Absent consideration of both sides of a platform, the analysis will arbitrarily include and exclude various sets of users and transactions, and incorrectly assess the extent and consequences of market power. Indeed, evidence of a price effect on only one side of a two-sided platform can be consistent with either neutral, anticompetitive, or procompetitive conduct. Only when output is defined to incorporate the two-sidedness of the product, and where price and quality are assessed on both sides of a sufficiently interrelated two-sided platform, is it even possible to distinguish between procompetitive and anticompetitive effects.<sup>163</sup>

The upshot is that, with some notable exceptions (such as the case of two-sided markets in *Amex*), antitrust courts have been reluctant to analyze competitive effects in adjacent markets. Alas, it is unclear where that line is appropriately drawn, or whether it has been drawn somewhat arbitrarily in the past.

What might seem like an arbitrary decision appears more reasonable, of course, when one considers the sheer complexity of the task at-hand. Economic behavior will often have second-order effects that run in an opposite direction to its first-order or “partial equilibrium” ones. A coal monopoly may cause buyers to opt for cleaner energy sources; a conservation cartel may maximize the long-term value of scarce resources.<sup>164</sup> Yet surely there are cases where out-of-market effects are “inextricably linked” to in-market effects, and where extending the analysis would not create insurmountable burdens. A practical approach—and one consistent with the broad scope of the rule of reason—would at least consider out-of-market effects when they are a direct and identifiable consequence of conduct challenged in a separate market.

The question is further complicated in merger cases where the Clayton Act’s “any line of commerce” language seems to limit merger analysis to a single market, and where the Court’s holding in *Philadelphia National Bank* clearly reiterates this apparent constraint.<sup>165</sup> But those legal rules do not address the economic propriety of so limiting merger analysis, and neither is predicated on the complexity of undertaking the requisite economic analysis. Indeed, whatever the merits of such an

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<sup>163</sup> Geoffrey A. Manne, *In Defence of the Supreme Court’s “Single Market” Definition in Ohio v American Express*, 7 J. ANTITRUST ENF. 104, 110 (2019).

<sup>164</sup> See Jonathan H. Adler, *Conservation Through Collusion: Antitrust as an Obstacle to Marine Resource Conservation*, 61 WASH. & LEE L. REV 3, 78 (2004) (“The purported aim of antitrust law is to improve consumer welfare by proscribing actions and arrangements that reduce output and increase prices. Conservation aims to improve human welfare by maximizing the long-term productive use of natural resources, an aim that often requires limiting consumption to sustainable levels. While such conservation measures might increase prices in the short-run, when successful they enhance consumer welfare by increasing long-term production and ensuring the availability of valued resources over time.”)

<sup>165</sup> See Clayton Act, 15 U.S.C. § 18 (2018); *U.S. v. Philadelphia Nat’l Bank*, 374 U.S. 321 (1963). See also Daniel A. Crane, *Balancing Effects Across Markets*, 80 ANTITRUST L.J. 397, 397 (2015) (noting that *PNB* is usually read to hold that “it is improper to weigh a merger’s procompetitive effects in one market against the merger’s anticompetitive effects in another.”). See also Merger Guidelines, *supra* note 3, at 27.

approach at the time *Philadelphia National Bank* was decided, both the law and the economics have moved past them:

Despite the incorporation of efficiencies analysis into modern merger evaluation, and the advances in economics that allow efficiencies to be identified and calculated more accurately than at the time of *Philadelphia National Bank*, antitrust doctrine in the United States still supports a regime that fails to take into account efficiencies arising outside of the relevant market. Only a handful of federal court cases since *Philadelphia National Bank* raise the issue of out-of-market efficiencies, and those that address the merits quickly dispatch such efficiencies as being precluded by the Supreme Court precedent. In light of the advances in the ability to identify and measure efficiency benefits, the federal courts should update antitrust doctrine to support a serious and committed treatment of out-of-market efficiencies in merger analysis.<sup>166</sup>

In part reflecting this change in approach, the Court in *Baker Hughes* held that “[t]he Supreme Court has adopted a totality-of-the-circumstances approach to the statute [Section 7], weighing a variety of factors to determine the effects of particular transactions on competition.”<sup>167</sup> And lower courts have been increasingly willing to consider efficiencies in evaluating the application of Section 7 to proposed mergers.<sup>168</sup> It is even arguable that the district court in *New York v. Deutsche Telekom* (reviewing the T-Mobile/Spring merger) credited out-of-market efficiencies in approving the merger.<sup>169</sup>

Moreover, as with virtually all legislative language, the Clayton Act’s language is not as clear as some make it out to be. The phrase “in any line of commerce” need not be interpreted to constrain the permissible zone of analysis, or to condemn effects in a single “line of commerce” regardless of its effects in another. Rather, the phrase’s most obvious meaning is to indicate that no area of commercial activity is exempted from the Clayton Act. Indeed, the use of the word “line” to refer to the

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<sup>166</sup> Rybnicek & Wright, *supra* note 139, at 10.

<sup>167</sup> *U.S. v. Baker Hughes Inc.*, 908 F.2d 981, 984 (D.C. Cir. 1990).

<sup>168</sup> See, e.g., *Saint Alphonsus Med. Ctr.-Nampa v. St. Luke’s Health Sys.*, 778 F.3d 775, 790 (9th Cir. 2015) (“[A] defendant can rebut a prima facie case with evidence that the proposed merger will create a more efficient combined entity and thus increase competition.”); *FTC v. Tenet Health Care*, 186 F.3d 1045, 1054-55 (8th Cir. 1999) (“[Courts should consider] evidence of enhanced efficiency in the context of the competitive effects of the merger... [as] the merged entity may well enhance competition.”).

<sup>169</sup> Although its decision was not limited to the acceptance of “innovation” effects, the court rejected the contention that such “efficiencies” would not accrue to consumers in the relevant market, instead accepting that innovation itself was a cognizable efficiency. See *New York v. Deutsche Telekom AG*, 439 F. Supp. 3d 179, 215-16 (S.D.N.Y. 2020) (“Scott Morton stated that because these speeds are far beyond the levels that consumers now require, and because the value of speed to consumers diminishes the more that speeds exceed the level that consumers can practically use, there is no reliable way to determine how consumers would value speeds higher than roughly 250 mbps.... This argument is too limiting. The same may have been said about airplane speeds and pilotless flying machines in 1920. It unduly discounts the rate at which technological innovation, new products, and consumer applications develop to take advantage of enhanced capabilities, and the extent to which this merger might specifically help accelerate that process.”).

indicated area rather than “market” seems clearly to indicate general categories of business that are to be included in the law’s prescriptions, rather than specific markets for identifying effects.

In other words, “it is plain that Section 7 does not limit the range of ‘lines of commerce’ that can trigger a merger’s prohibition.”<sup>170</sup> But it is by no means clear that Section 7 proscribes liability when a merger “lessen[s] competition” in a single *market*, regardless of whether it may enhance competition elsewhere in the same “line of commerce.”<sup>171</sup> As the Court suggested in *Amex*, the relevant “line of commerce” may incorporate distinct markets that need not exist on the same side of a given transaction. Indeed, modern “business ecosystem” theories suggest that conglomerate businesses with widely different “markets,” interrelated by an overarching business model that “inextricably links” them, may constitute something like a single “line of commerce,” despite the superficial distinctions between the components that comprise them.<sup>172</sup>

The question remains whether antitrust law has a comparative advantage in dealing with more “systemic” issues (like worker welfare, environmental effects, or even the “amateurism” offered by the NCAA in *Alston*), or whether other legal frameworks are better adapted. Put differently, antitrust law’s main strength might be that it is mostly a consumer-oriented body of law that focuses on a single tractable problem: the prices consumers and other direct purchasers pay for goods. If that is true, then other bodies of law (such as, *e.g.*, labor and environmental laws) may be better suited to deal with broader harms. Indeed, in the case of each of these fields, there exists a massive regulatory

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<sup>170</sup> Basel J. Musharbash & Daniel A. Hanley, *Toward a Merger Enforcement Policy That Enforces the Law: The Original Meaning and Purpose of Section 7 of the Clayton Act*, Working Paper (2024) at 58-59, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4745310](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4745310).

<sup>171</sup> Indeed, as Musharbash & Hanley go on to note, the phrase “in any line of commerce” does not map onto the traditional conception of market definition used in merger analysis and defined by substitutability of products: “[A] ‘line of commerce’ is a category of business occupation which is defined by characteristics that separate or distinguish it from other categories of business occupation. Under this definition, the fact that a group of business occupations offer substitute products from the perspective of consumers certainly could, at least in theory, qualify them as a “line” of commerce, but nothing in the phrase signifies that such substitutability is the *only* permissible basis for identifying a line of commerce. Indeed, using other characteristics that reasonably distinguish one business occupation from another – such as distinct products or services, peculiar know-how and operations, or divergent supply chains and distribution channels – to identify a line of commerce would be more consistent with the phrase’s textual import. For the word line was ordinarily used to identify, with varying degrees of generality, the type of business a party was engaged in, not the markets it sold to or participated in.” *Id.* at 61.

<sup>172</sup> See, *e.g.*, Viktoria H. S. E. Robertson, *Antitrust Market Definition for Digital Ecosystems*, CONCURRENCES No. 2-2021 (2021) at 5, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3844551](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3844551) (“However, the picture would not be complete without also considering the macro level of the digital ecosystem, which is needed in order to understand the various competitive constraints (or the absence of such constraints) that are at work. The difficulty for market definition is to account for the various layers of competition that are present in the market realities of digital ecosystems in order to allow for the substantive analysis of a specific market behaviour or concentration. The challenge lies in providing an approach that does justice to the complexity of these markets, but without unnecessarily adding to that complexity.”).

apparatus specifically designed to implement government standards. Under the law as it stands, where antitrust law and a regulatory regime conflict, antitrust must give way.<sup>173</sup>

We do not purport to have a satisfactory answer to this complicated question. In fact, it is probably fair to say that one does not exist. Antitrust law can either depart from its welfarist underpinnings—a large loss for its economic consistency—or it can follow those principles toward difficult problems that may ultimately impair its administrability. At this juncture, it is not clear there is a compromise that would enable enforcers to thread the needle to solve this complex conundrum. And if such a solution exists, it has yet to be articulated in a convincing manner that may lead to actionable insights for enforcers or courts. But it is crucial to note that some cross-market analysis may be unavoidable under a welfarist approach if antitrust is going to continue to attempt to address potential harms in upstream markets, including labor markets.

Given all of this, the FTC and DOJ's update of their merger guidelines to address monopsony harms, while clearly important, also appears to be premature, compared to the state of the economic literature, and potentially unactionable (or, at least, incoherent as stated) under the consumer-welfare standard. This is not to say the antitrust-policy world should simply ignore monopsony harms, but rather that more research, discussion, and case law are needed before definitive guidelines can be written. Ultimately, it may well be that legislative change is needed before any such guidelines will be enforceable before the courts.

## **VI. A Path Forward: An Agenda for Antitrust and Labor Markets**

The previous sections have highlighted the empirical and conceptual challenges that complicate the application of antitrust law to labor monopsony. While the growing interest in this area presents opportunities for research and policy innovation, it is important to approach these issues with a mix of enthusiasm and skepticism. The current state of economic knowledge and antitrust doctrine suggests that we are not yet ready for a major expansion of enforcement in labor markets. This, however, does not mean that antitrust has no role to play or that the status quo is optimal. Rather, it suggests

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<sup>173</sup> See *Credit Suisse Securities (USA) v. Billing*, 551 U.S. 264, \*19-20, \*1-2 (2007) (holding that where “(1) an area of conduct [is] squarely within the heartland of... regulations; (2) [there is] clear and adequate... authority to regulate; (3) [there is] active and ongoing agency regulation; and (4) [there is] a serious conflict between the antitrust and regulatory regimes..., [such] laws are ‘clearly incompatible’ with the application of the antitrust laws...[.]” thus “implicitly precluding the application of the antitrust laws to the conduct alleged”). See also *Philadelphia Nat. Bank*, 374 U.S. at 398-74 (Harlan, J. *dissenting*) (“Sweeping aside the ‘design fashioned in the Bank Merger Act’ as ‘predicated upon uncertainty as to the scope of § 7 of the Clayton Act,’ the Court today holds § 7 to be applicable to bank mergers and concludes that it has been violated in this case. I respectfully submit that this holding, which sanctions a remedy regarded by Congress as inimical to the best interests of the banking industry and the public, and which will in large measure serve to frustrate the objectives of the Bank Merger Act, finds no justification in either the terms of the 1950 amendment of the Clayton Act or the history of the statute.”).

the need for a thoughtful and incremental approach that prioritizes the development of better analytical tools, evidence-based policymaking, and inter-disciplinary collaboration.

The recent FTC complaint against the proposed Kroger/Albertsons merger underscores the importance of the issues raised in this paper, as well as the ongoing challenges that antitrust authorities face when assessing labor-market effects in merger cases.<sup>174</sup> While the complaint reflects an increased focus on labor issues in merger enforcement, it also highlights the complexities of defining markets, assessing competitive effects, and weighing efficiency claims in this context. The Kroger/Albertsons case provides a real-world example of how the FTC is grappling with these issues in practice, but also raises questions about the rigor of its proposed market definitions, the sufficiency of evidence required, and the theories of harm proposed.

Perhaps most notably, although the complaint proposes two distinct markets, one on either side of the supermarket business (“union grocery labor” on the one hand, and “the retail sale of food and other grocery products,” on the other), it fails to note that both are simultaneously intrinsic to the operation of supermarkets. It also fails to offer any suggestion for how a court should respond if, for example, harm is found in one market but not the other. Of course, as noted, the complaint does not even contemplate the possibility that its alleged theory of harm in the labor market could result in procompetitive effects in the retail market.<sup>175</sup>

As labor-market concerns continue to arise in antitrust cases, it will be critical for the FTC and other enforcers to develop more robust analytical frameworks and evidentiary standards to support their claims, and for courts and policymakers to provide clearer guidance on how labor-market harms should be assessed under existing legal standards. While the FTC’s increased focus on labor issues is noteworthy, the *Kroger/Albertsons* complaint also demonstrates that the agency’s approach needs to be further refined and clarified.

One key priority should be to develop more direct, antitrust-relevant measures of labor-market power. While some recent studies have proposed measures such as labor-supply elasticity<sup>176</sup> and wage markdowns,<sup>177</sup> these tools have not been widely validated in antitrust contexts. Moreover, as discussed earlier, these measures may be sensitive to assumptions about the nature of competition.<sup>178</sup> Further refinement and testing of these measures, with a focus on their robustness and applicability to antitrust cases, is needed.

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<sup>174</sup> Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2.

<sup>175</sup> See *supra*, notes 137-140 and accompanying text.

<sup>176</sup> See, e.g., Naidu, Posner & Weyl, *supra* note 22.

<sup>177</sup> See, e.g., Yeh, et al., *supra* note 52; Kirov & Traina, *supra* note 42.

<sup>178</sup> *Id.*



In addition, scholars should continue to study the effects of specific mergers and practices on labor-market outcomes, using more sophisticated research designs that can isolate causal impacts. While some recent studies have taken steps in this direction,<sup>179</sup> much more work is needed to build a body of evidence that can inform antitrust enforcement. In particular, studies that can disentangle the effects of labor-market concentration from other factors, such as firm-specific investments and productivity differences, would be valuable.

Scholars and policymakers should also continue to refine models of dynamic competition and firm-specific investments in labor markets, with an eye toward their implications for antitrust enforcement. As discussed earlier, standard static models of monopsony may not fully capture the complexities of labor-market competition, such as the role of search frictions, bargaining, and human-capital investments. Some recent papers have started to incorporate these features,<sup>180</sup> but more work is needed to develop tractable models that can guide enforcement decisions. It remains to be seen to what extent the FTC's lock-in argument in the *Kroger/Albertsons* complaint will be supported with such models.<sup>181</sup>

Another key priority should be to clarify the goals and legal standards for antitrust enforcement in labor markets. The consumer-welfare standard, which has long guided antitrust policy, becomes difficult to apply when a merger or practice may harm workers but benefit consumers.<sup>182</sup> While some have argued for a “worker-welfare standard” that would prioritize the interests of workers,<sup>183</sup> it is not clear whether this would be consistent with the goals of antitrust law, nor how it would be reconciled with simultaneous findings of countervailing consumer effects.<sup>184</sup> Policymakers, courts, and scholars should continue to grapple with these normative questions and work toward developing a coherent and administrable framework for weighing labor-market effects in antitrust cases.

Finally, it is important to foster dialogue and collaboration between antitrust and labor experts to develop a shared understanding of the issues at-stake. Economists, lawyers, and policymakers approaching these issues from different perspectives must find common ground and a common language to assess concerns about labor-market power.

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<sup>179</sup> See, e.g., David Arnold, *Mergers and Acquisitions, Local Labor Market Concentration, and Worker Outcomes*, unpublished manuscript (April 2, 2021), available at <https://darnold199.github.io/madraft.pdf>.

<sup>180</sup> See, e.g., Bagger, et al., *supra* note 125.

<sup>181</sup> See Complaint, *In the Matter of Kroger/Albertsons*, *supra* note 2, at ¶ 63.

<sup>182</sup> See Section V, *infra*.

<sup>183</sup> See, e.g., Hovenkamp, *Worker Welfare and Antitrust*, *supra* note 92, at 543 (“Consumer welfare—when it is properly defined—and worker welfare travel in tandem. When a practice harms consumers by raising prices and reducing output, it harms labor as well. There is no a priori reason for thinking that worker harm is less severe than consumer harm. A properly designed antitrust policy must focus on both sets of interests.”).

<sup>184</sup> See *infra*, Section V.

While these challenges are significant, there are reasons for cautious optimism. The increased attention to labor-market power from scholars, policymakers, and the public has created a unique opportunity to reexamine long-held assumptions and explore new approaches. By pursuing an agenda that emphasizes empirical rigor, legal clarity, and interdisciplinary collaboration, we can make progress toward more competitive labor markets. This will not happen overnight, just as the development of the consumer-welfare standard and the integration of antitrust with economic theory did not happen overnight. By staying focused on the ultimate goal of promoting the welfare of both workers and consumers, and being willing to adapt to new evidence and insights, we can move closer to an anti-trust regime that is suited to the realities of the modern labor market.

Given that these complex tradeoffs still lack anything approaching definitive resolution in research or precedent, antitrust authorities would best serve the integrity of enforcement standards by exercising restraint. The disregard of difficult tradeoffs and the premature or overzealous application of questionable theories both risk distorting competition and innovation incentives more than protecting them. This is not an argument against addressing labor-market power entirely through uncertain means, as further co-evolution of economic and legal understanding may resolve some quandaries. It is, however, an argument that threading the needle to expand prohibitions into input markets requires a cautious, studious approach—especially when they conflict with the consumer interests that antitrust ultimately aims to safeguard.

## **Appendix: Detailed Discussion of Labor-Market Concentration Research and Its Implications for Antitrust**

The 2023 Merger Guidelines assert that labor markets can be “relatively narrow” and that “the level of concentration at which competition concerns arise may be lower in labor markets than in product markets, given the unique features of certain labor markets.”<sup>185</sup> The academic literature presents a more nuanced picture, however, and casts doubt on these claims. This section provides a more thorough review of the literature discussed in Section III.B, *infra*.

By examining the strengths and limitations of each approach, we aim to provide a balanced assessment of what the current evidence can (and cannot) tell us about the extent of labor-market power in the U.S. economy. Our review suggests that, while some labor markets may indeed be highly concentrated, the evidence does not support a blanket characterization of labor markets as “narrow.” Antitrust authorities should carefully consider the specific contours of the relevant labor market in each case, drawing on multiple data sources and methodologies. The broad pattern does not support general presumptions that mergers systematically make already-narrow labor markets dramatically more concentrated over time. If anything, concentration data indicate that labor markets are growing more competitive.

### **I. Administrative Data**

The narrative of rising employer dominance and increasing labor-market concentration has been challenged by recent research using comprehensive administrative data. These studies generally find that, while national labor-market concentration has been rising, local concentration levels have declined or remained stable over recent decades.

Papers leveraging datasets like the Longitudinal Business Database, which covers nearly all private-sector employers, point to falling concentration within local labor markets, such as commuting zones and urban areas. Rinz<sup>186</sup> and Lipsius<sup>187</sup> both used this data and estimated decreasing local concentration from 1976-2015, even as national measures increased. Their explanation is the entry of large firms into more local markets over time.

Autor, Patterson, and Van Reenen reinforce these findings using Economic Census data across major sectors. They estimated local-employment concentration fell from 0.35 in 1992 to 0.30 in 2017,

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<sup>185</sup> See 2023 Merger Guidelines, *supra* note 3.

<sup>186</sup> Rinz, *supra* note 61.

<sup>187</sup> Lipsius, *supra* note 71.

contrary to rising national concentration.<sup>188</sup> This divergence was partly driven by employment shifts away from the highly concentrated manufacturing sector toward more competitive services sectors.

Focusing on just manufacturing, Benmelech, Bergman, and Kim found relatively stable average local concentration from 1978-2016 in the Longitudinal Business Database.<sup>189</sup> Importantly, their wage data allowed them to examine concentration's direct earnings impact, suggesting a 3% wage decrease when moving from a low to high concentration market, or 9-14% using mergers as an instrument. This correlation, even with an instrument, should be interpreted with caution.

Modeling by Berger, Herkenhoff, and Mongey highlighted weighting concentration by payroll, rather than employment.<sup>190</sup> Though producing lower estimates, their approach still showed the diverging national/local trends.

While mixed, this literature consistently finds declining or stable local-labor market concentration when leveraging government-collected microdata. This casts doubt on claims of pervasive local-monopsony power and suggests national trends may be more relevant for assessing competitiveness. These findings have antitrust-policy implications regarding employer concentration and merger effects.

The papers that use administrative data find a trend that contradicts the popular narrative. They generally find a decline in local-labor market concentration, alongside a rise at the national level. Such findings suggest that employer dominance in the labor market may not be as pervasive or detrimental at the local level as it is nationally, complicating the narrative of widespread monopsony power in labor markets.

### **A. Rinz (2022) and Lipsius (2018)**

First, let us consider papers that use administrative data, generally considered to be the best when available. Rinz uses administrative data from the Longitudinal Business Data and finds that local labor-market concentration has been declining, while national concentration has been increasing.<sup>191</sup> Lipsius uses the same dataset and finds the same result, but focuses on connecting labor-market concentration to changes in labor share of income.<sup>192</sup> Both papers have data on employment at the firm level for the years 1976-2015, so they are able to study the evolution over time. The data cover the near universe of non-farm, private establishments with employees.

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<sup>188</sup> Autor, Patterson, & Reenen, *supra* note 61.

<sup>189</sup> Benmelech, Bergman, & Kim, *supra* note 49.

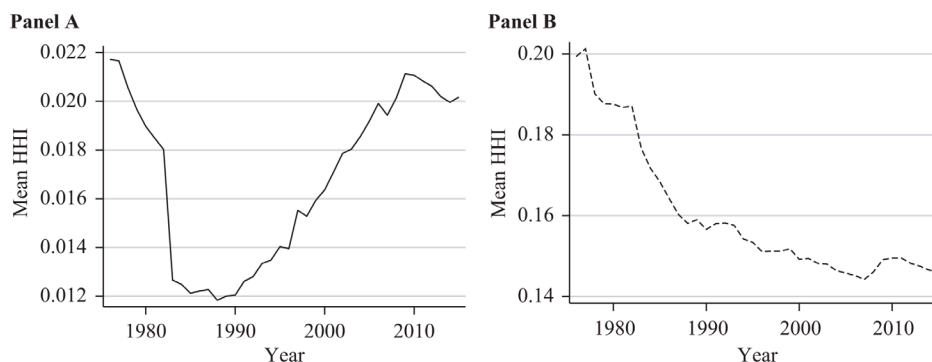
<sup>190</sup> *Id.*

<sup>191</sup> Rinz, *supra* note 61.

<sup>192</sup> Lipsius, *supra* note 71.

The two papers use different levels of aggregation. Rinz uses four-digit NAICS for the job description and commuting zones for the location. Lipsius used 5-digit NAICS codes and urban areas, which are smaller than commuting zones but based on economic integration instead of political lines, such as counties.

Rinz assesses concentration using HHI measures. He finds that, at the national level, HHI declined roughly 40 percent from 1976 to 1983, stayed flat through the 1980s and has risen since. When divided into commuting zones, however, he finds a falling trend in concentration. The difference in trends has various explanations, but the simplest is that large firms are entering more and more labor markets. For example, when Wal-Mart enters a small town with one retail store, national concentration may rise, even though the town's concentration falls.



**Figure 1**  
*Trends in Industrial Concentration, 1976–2015*

Source: Longitudinal Business Database 1976–2015

Note: Figure plots the mean Herfindahl-Hirschman Index across national four-digit NAICS industries in Panel A and commuting zone-level four-digit NAICS industries in Panel B, with industries standardized according to Fort and Klimek (2018), for each year, 1976–2015. Means are calculated using total market employment as weights.

Source: Rinz (2022)<sup>193</sup>

## B. Autor, Patterson, & Van Reenen (2023)

Recent work by Autor, Patterson, and Van Reenen provides additional evidence on trends in local labor-market concentration using establishment-level data from the Economic Census.<sup>194</sup> Autor, *et al.* analyze six broad sectors—manufacturing, retail trade, wholesale trade, services, utilities/transportation, and finance—that comprise roughly 80% of U.S. employment and GDP. The authors have data covering the period from 1982–2017 for manufacturing, retail, wholesale, and services, and going back to 1992 for the others. They define markets by county and by six-digit NAICS industry, and find that employment-based HHI fell from 0.35 in 1992 to 0.30 in 2017.<sup>195</sup> Similar results hold

<sup>193</sup> Rinz, *supra* note 61, at S259.

<sup>194</sup> Autor, Patterson & Reenen, *supra* note 61.

<sup>195</sup> *Id.* at 13.

for three- and four-digit NAICS.<sup>196</sup> This contrasts with the rise in national employment concentration over the same period, which rose by 1.7 points for employment (from 0.025 in 1992 to 0.042 in 2017).<sup>197</sup> The authors also show substantial divergence between national and local concentration trends over the longer 1982 to 2017 period for the four sectors with available data. Moreover, the local-employment HHI exhibits a consistent downward trend over most five-year intervals between 1992 and 2017. Overall, the results point to a robust fall in local employment concentration that runs counter to the rise in national concentration.

Some of this trend is structural. A key element of Autor *et al.*'s analysis is distinguishing between changes occurring within industries, versus those across industries. The divergence between national and local employment-concentration trends is largely attributable to the reallocation of economic activity from more-concentrated manufacturing industries to less-concentrated service industries. In fact, the authors show that, holding industry structure fixed at 1992 levels, local employment concentration would have risen by about 9%, rather than falling by 5%.<sup>198</sup> This between-industry reallocation had a smaller dampening effect on sales concentration, since the shift from manufacturing to services was greater for employment than sales. At the same time, Autor *et al.* find that concentration has risen within detailed industries and localities for both employment and sales.

### C. Benmelech, Bergman, & Kim (2022)

Diving into manufacturing, specifically, Benmelech, Bergman, and Kim uses administrative, micro-level data on manufacturing establishments (“plants”), covering the period 1978-2016.<sup>199</sup> To calculate concentration measures, they use the Longitudinal Business Database (as did Rinz and Lipsius).<sup>200</sup> They use four-digit standard industry-classification codes (the predecessor of NAICS codes). For concentration measures, their data shares all the costs and benefits of the Longitudinal Business Database discussed above.

For manufacturing, they find the average levels of concentration have remained relatively stable, with employment-weighted HHI being 0.569 for the period 1978-1987 and 0.587 for 2008-2016.<sup>201</sup> One should be careful when extrapolating from manufacturing to the whole U.S. economy, given that manufacturing has been declining and the forces changing manufacturing may not apply to the rest of the economy. According to the U.S. Bureau of Labor Statistics, the percentage of employment

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<sup>196</sup> *Id.* at 24, Figure A4.

<sup>197</sup> *Id.* at 6.

<sup>198</sup> *Id.* at 2

<sup>199</sup> Benmelech, Bergman, and Kim, *supra* note 49.

<sup>200</sup> *Id.*

<sup>201</sup> *Id.* at 202.

in manufacturing sector dropped from roughly 22% in 1980 to slightly more than 10% in 2012 (Lipsius 2018, p. 4).

They supplement the concentration measures with two data sets: the Census of Manufacturers, which covers all plants in years ending in 2 and 7, and the Annual Survey of Manufacturers, which covers about 50,000 plants with a threshold of 250-1000 employees for the non-Census years. Other smaller firms are sampled randomly. The Annual Survey of Manufacturers is mandatory reporting, subject to fines for misreporting. They collected data on many things, such as value of shipments. For our discussion, the important thing is that they collect data on actual wages and labor hours, compared to simply posted wages. Moreover, since they are looking at manufacturing, they have better estimates of productivity of firms, as they have better data on inputs and outputs at the plant level. In their baseline regression, moving from a market that is one standard deviation below the median to one standard deviation above is associated with a 3% decline in wages.

Moreover, they are able to use mergers and acquisitions to instrument for concentration to potentially estimate a causal effect of concentration on wages. Using their instrumental-variable approach, they estimate that moving from a market that is one standard deviation below the median to one standard deviation above is associated with a decline in wages of between 9% and 14%.

#### **D. Berger, Herkenhoff, & Mongey (2022)**

Berger, Herkenhoff, and Mongey estimate a general-equilibrium model to measure labor-market power.<sup>202</sup> In the process, their model suggests a certain way to average HHI across markets. They start with LBD at the 3-digit industry level within commuting zones, but they are still left with the problem of how to weight different markets. Instead of weighting by employment level or vacancies level, they weight by market-level payroll, which lowers concentrations slightly, although the trend remains the same.

They find that local concentration is declining over the full period, while national-concentration measures are more complicated. For tradeable sectors, national concentration is falling. For non-tradeable sectors, after falling in the early 1980s, it has slowly risen. But non-tradeables are larger, so the overall national concentration measure has also been rising since the mid 1980s.

In the data (model) weighted average concentration measured in terms of employment is 0.15 (0.16) and in terms of payroll is 0.17 (0.17). In the data (model) unweighted average concentration measured in terms of employment is 0.45 (0.32) and in terms of payroll is 0.48 (0.33).

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<sup>202</sup> Berger, Herkenhoff, & Mongey, *supra* note 49.

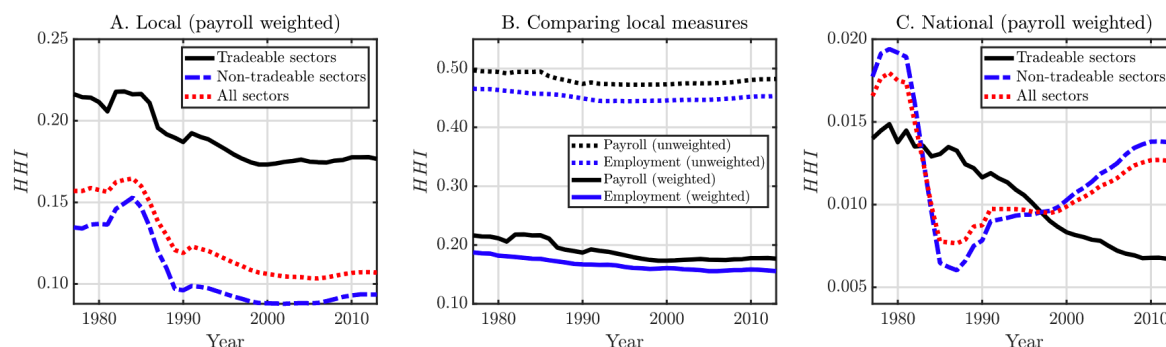


Figure 10: Measures of labor market concentration, 1977 to 2013

**Notes:** Data is plotted using a centered 5-year moving average in all panels. Panel A plots the payroll weighted average of the wage-bill Herfindahl computed at the commuting zone  $\times$  NAICS3,  $HHI_t^{wn} = \int_0^1 s_{jt} hhi_{jt}^{wn} dj$ . Panel A includes three lines for tradeables (NAICS2 codes of 11,21,31,32,33,55), non-tradeables (all other NAICS2 codes), and the whole economy. Panel B compares the tradeable payroll weighted and unweighted CZ $\times$ NAICS3 wage-bill Herfindahl:  $hhi_{jt}^{wn}$ . Panel B also compares the employment weighted and unweighted CZ $\times$ NAICS3 employment Herfindahl:  $hhi_{jt}^n$ . Panel C plots the national payroll weighted wage-bill Herfindahl. National Herfindahls are computed at the NAICS3 level, ignoring geography, then weighted by industry payroll.

Source: Berger, Herkenhoff, & Mongey (2022)<sup>203</sup>

## E. Handwerker & Dey (2023)

Handwerker and Dey use microdata from the Occupational Employment and Wage Statistics, mapped to the Quarterly Census of Employment and Wages, which records quarterly employment levels for each establishment in the United States that reports to state-level Unemployment Insurance departments.<sup>204</sup> They define markets by 6-digit SOC by metropolitan area. They also look by industry, instead of occupation. They focus on the case where they weight markets by payroll shares, following the theory of Berger, Herkenhoff, and Mongey.<sup>205</sup>

They find an average HHI that is relatively stable and low. They also only look at the private sector and weight by employment, so their results are more directly comparable to some other papers. For example, they directly compare the concentration measures in their data to the 26 occupations of Azar, Marinescu, and Steinbaum.<sup>206</sup> Handwerker and Dey find an HHI in the private sector of one-tenth that found in Azar, Marinescu, and Steinbaum (0.0383 vs. 0.3157).<sup>207</sup> This is the clearest example of how the different data sources matter for concentration numbers.

<sup>203</sup> *Id.*

<sup>204</sup> Handwerker & Dey, *supra* note 64.

<sup>205</sup> Berger, Herkenhoff, & Mongey, *supra* note 49.

<sup>206</sup> Azar, Marinescu, and Steinbaum, *supra* note 38.

<sup>207</sup> Handwerker & Dey, *supra* note 64, at 135.



**TABLE 2** Average levels of labor market concentration measures by year.

	2003	2006	2009	2012	2015	2018	Average
A: Concentration of local area × occupation markets							
Average HHI of payrolls, averaged across all occupations, all MSAs							
All sectors	0.0562	0.0535	0.0562	0.0548	0.0527	0.0512	0.0540
Private sector only	0.0362	0.0347	0.0360	0.0361	0.0354	0.0348	0.0355
Average HHI of payrolls, markets with 100 or more employees, averaged across all occupations, all MSAs							
All sectors	0.0509	0.0484	0.0509	0.0495	0.0477	0.0465	0.0489
Private sector only	0.0314	0.0302	0.0312	0.0314	0.0311	0.0306	0.0310
Average HHI of employment, averaged across all occupations, all MSAs							
All sectors	0.0515	0.0494	0.0522	0.0509	0.0491	0.0479	0.0501
Private sector only	0.0335	0.0322	0.0339	0.0340	0.0333	0.0328	0.0333
Average HHI of employment, 26 occupations from Azar et al (2022) “Labor Market Concentration,” all MSAs							
All sectors	0.0357	0.0354	0.0390	0.0404	0.0399	0.0393	0.0383
B: Concentration of local area × industry markets							
Average HHI of payrolls, averaged across all industries, all MSAs							
All sectors	0.1719	0.1660	0.1707	0.1677	0.1622	0.1590	0.1660
No public administration	0.1392	0.1399	0.1421	0.1397	0.1359	0.1336	0.1383
Average HHI of employment, averaged across all industries, all MSAs							
All sectors	0.1670	0.1615	0.1663	0.1625	0.1567	0.1544	0.1612
No public administration	0.1345	0.1355	0.1378	0.1345	0.1304	0.1292	0.1335
Average HHI of employment, manufacturing industries only, all MSAs							
Private sector only	0.2844	0.2843	0.2929	0.2941	0.2918	0.2899	0.2893
C: Employment in employer tax ID numbers with 10,000 or more workers (“megafirms”)							
Fraction of employment in “megafirms” in all MSAs							
All sectors	0.2065	0.2085	0.2145	0.2155	0.2183	0.2256	0.2151
Private sector only	0.1645	0.1686	0.1732	0.1778	0.1827	0.1923	0.1770
Fraction of employment in “megafirms” in occupation × area markets with 100 or more workers, all MSAs							
All sectors	0.2069	0.2091	0.2151	0.2161	0.2189	0.2262	0.2157
Private sector only	0.1658	0.1700	0.1747	0.1793	0.1842	0.1937	0.1784

*Note:* Employer Concentration is measured using a Herfindahl–Hirschman Index (HHI) of payroll by employer within each six-digit occupation for each MSA area in each year of 2003, 2006, 2009, 2012, 2015, and 2018. Occupations are defined at the 6-digit SOC level, although occupations with no entry requirements or few entry requirements are aggregated (except for comparison to the 26 occupations of Azar et al. (2022)). Industries are defined at the 4-digit NAICS level. Employer Concentration data come from the microdata of the Occupational Employment and Wage Statistics, mapped to the full employment data of the Quarterly Census of Employment and Wages in the United States in these years. Observations are at the employer × occupation × year level or at the employer × industry × year level, weighted by employment in each cell.

Source: Handwerker & Dey (2023)<sup>208</sup>

<sup>208</sup> *Id.*

## II. Online Job Vacancies

While the above papers use administrative data, other papers on labor-market concentration use online job vacancies (postings) to measure concentration.

### A. Azar, Marinescu, Steinbaum, & Taska (2020)

Azar, Marinescu, Steinbaum, and Taska use data on job openings from Burning Glass Technologies (BGT), which collects online job-posting data from 40,000 websites.<sup>209</sup> They restrict their analysis to calendar year 2016, which was the most recent year with available data when the paper was first written. They claim the years 2007-2015 show similar concentration measures (footnote 4).

The papers that use job openings, compared to measures of employment levels, claim openings are a better way to gauge how easy it is for searching workers to find a new job.<sup>210</sup> The nearest government-data product to BGT's is the Job Opening and Labor Turnover Survey (JOLTS), which is a nationally representative sample of employers. When comparing BGT's collected job postings to the job postings in JOLTS, the authors estimate that they captured roughly 85% of the job openings in the United States during 2016.

BGT cleans the data to remove double postings and consolidate different spellings for the same employer; *i.e.*, “Bausch and Lomb”, “Bausch Lomb”, and “Bausch & Lomb” are marked as the same employer. After cleaning, 35.9% of employer names are missing, especially if staffing companies do not want to disclose the employer. They assume that all of these with missing employer names are different employers. This means that they have a lower bound on market-concentration measures.

For job description, the BGT dataset uses the Standard Occupational Code (SOC). In the baseline, they consider 200 occupations, which capture 90% of the vacancies in their dataset.<sup>211</sup> For occupations, the authors use six-digit SOC codes for their baseline, but argue that is likely too broad.<sup>212</sup> For location, they use commuting zones, which are geographic definitions based on groups of counties

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<sup>209</sup> Azar, Marinescu, Steinbaum, & Taska, *supra* note 74.

<sup>210</sup> *Id.* at \*2 (According to this perspective, ease of finding when searching may be a better measure of the relevant outside option for workers. More job openings means more feasible outside options which is basically all models means less market power by employers: “we measure concentration using job openings rather than employment because we view vacancies as a better gauge of how likely searching workers (whether employed or unemployed) are to receive a job offer.”).

<sup>211</sup> *Id.* at Table 1.

<sup>212</sup> *Id.* at \*5 (“Using online job board data from CareerBuilder.com, Marinescu and Wolthoff (2019) show that, within a 6-digit SOC, the elasticity of applications with respect to wages is *negative*. Therefore, the 6-digit SOC is too broad of a market according to the [small significant non-transitory reduction in wage test.]”); Ioana Marinescu & Ronald Wolthoff, *Opening the Black Box of the Matching Function: The Power of Words*, 38 J. LAB. ECON. 535 (2020).

and were developed by the U.S. Department of Agriculture (USDA) to capture local economies and labor markets.<sup>213</sup>

In the SOC-6 occupation by commuting zone by quarter, they find an average HHI of 0.44. For reference, the 2010 Horizontal Merger Guidelines defined markets with post-merger HHIs exceeding 2,500 or 0.25 as “highly concentrated,” and held that mergers in such markets that also increase the HHI level by at least 100 points “raise significant competitive concerns and often warrant scrutiny.”<sup>214</sup> Using the 2010 thresholds, they find that 60% of markets were considered “highly concentrated.”<sup>215</sup> They calculate many other measures of concentration, including at different percentiles and how they vary across the country.<sup>216</sup>

### **B. Schubert, Stansbury, & Taska (2024)**

Schubert, Stansbury, and Taska also use BGT data on vacancies, but with data from 2011 through 2019.<sup>217</sup> They define markets by SOC-6, but use metropolitan area as the location. They do not focus on trends in concentration but on the distribution of concentration and its relationship to wages through outside options to other markets. While the median market has an HHI of 0.0882, the 75<sup>th</sup> percentile market has an HHI of 0.2143 and the 95<sup>th</sup> percentile market has an HHI of over 0.8025.<sup>218</sup>

If, however, you weight by level of employment—since many markets have low levels of employment but high levels of concentration—the 50<sup>th</sup> percentile worker works in a market with an HHI of 0.0137; the 75<sup>th</sup> percentile worker in a market with an HHI of 0.0404; and the 95<sup>th</sup> percentile worker in a market with an HHI of 0.1845.<sup>219</sup> That means that under their data and definition of markets, around 5% of workers are in markets that cross the merger-guidelines threshold for a structural presumption (an HHI greater than 1,800 or 0.18, along with an increase of HHI of 100 or 0.01).<sup>220</sup>

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<sup>213</sup> *Id.* at \*4 (“According to the USDA documentation, “commuting zones were developed without regard to a minimum population threshold and are intended to be a spatial measure of the local labor market.” Marinescu and Rathelot (2018) also show that 81% of applications on CareerBuilder.com are within the commuting zone, with the probability of submitting an application strongly declining in the distance between the applicant’s and the job’s zip code.”); Ioana Marinescu & Roland Rathelot, *Mismatch Unemployment and the Geography of Job Search*, 10 AM. ECON. J. MACROECONOMICS 42 (2018).

<sup>214</sup> U.S. DEPT. OF JUST. & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (2010).

<sup>215</sup> Azar, Marinescu, Steinbaum, & Taska, *supra* note 74, at \*13.

<sup>216</sup> Azar, Berry, & Marinescu, *supra* note 50 (The authors argue the SOC-6 by commuting zone is a plausible definition of a market, based on the market supply elasticity they back out from their estimated job vacancy elasticities).

<sup>217</sup> Gregor Schubert, Anna Stansbury, & Bledi Taska, *Employer Concentration and Outside*, Working Paper (2024), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3599454](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3599454).

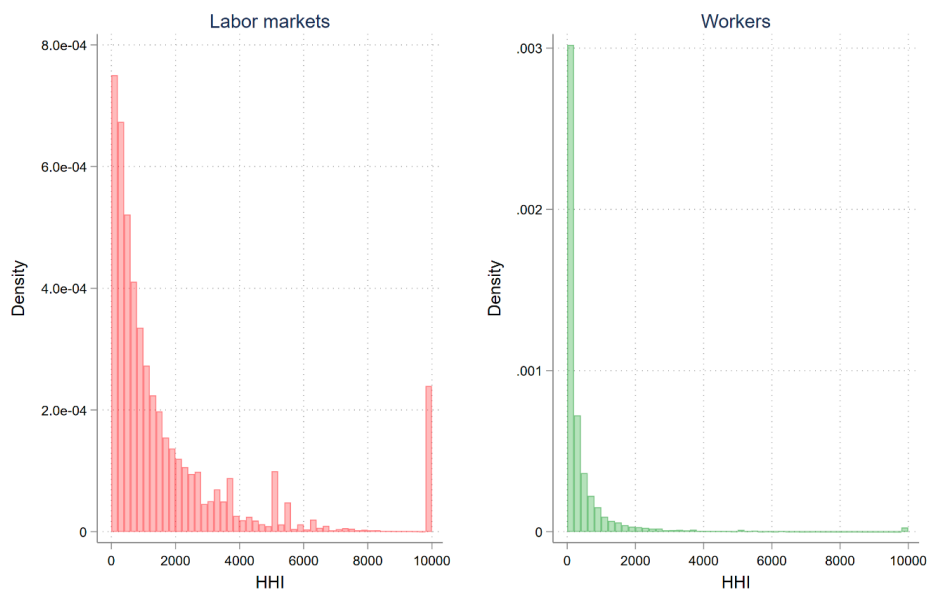
<sup>218</sup> *Id.* at Table 2, Panel A.

<sup>219</sup> *Id.*

<sup>220</sup> Merger Guidelines, *supra* note 3, at 6.

When weighting each labor market equally, instead of by size, they find around 25% of markets are over the new threshold.<sup>221</sup> In contrast, using the same data source (BGT) but defining markets differently, Azar, Marinescu, Steinbaum, and Taska find 60% of markets were above the 2,500 threshold.<sup>222</sup>

Figure 1: Histogram of employer HHI across labor markets and across workers, 2019



Note: HHI is measured using Burning Glass Technologies vacancy data, at the level of a SOC 6-digit occupation by metro area labor market. Our data covers occupation-metro area labor markets which include 117m of the 151m workers in the U.S. labor market in 2019. Left panel shows the distribution of HHIs across occ-metro area labor markets in 2019. Right panel shows the distribution of HHIs across workers in 2019 (i.e. the distribution of HHIs across occ-metro area labor markets, weighted by employment in each of these labor markets).

Source: Schubert, Stansbury, & Taska (2024)<sup>223</sup>

### C. Azar, Marinescu, & Steinbaum (2022)

Azar, Marinescu, and Steinbaum use data from CareerBuilder.com, which is a large online job board.<sup>224</sup> The total number of vacancies on CareerBuilder.com represents 35% of the total vacancies in the US in January 2011, as counted by JOLTS. They consider the SOC-5 definition and pick the 13 most frequent occupations over the 2009 to 2012 window, plus the three most frequent

<sup>221</sup> Schubert, Stansbury, & Taska, *supra* note 217, at Table 2, Panel A.

<sup>222</sup> Azar, Marinescu, Steinbaum, & Taska, *supra* note 74, at 13.

<sup>223</sup> Schubert, Stansbury, & Taska, *supra* note 217.

<sup>224</sup> Azar, Marinescu, and Steinbaum, *supra* note 38.

occupations in manufacturing and construction. They then consider the SOC-6 definition, which further splits the SOC-5, and end up with 26 occupations in total.<sup>225</sup>

Like Azar, Marinescu, Steinbaum, and Taska,<sup>226</sup> they use commuting zones. They also have data on the number of applicants, which allows measures of “tightness” as (number of vacancies)/(number of applications). They calculate an average HHI for vacancies of 0.3157. When they look at the average based on applications, they find a higher HHI of 0.3480.<sup>227</sup> Again, this is significantly higher than the HHI measure found for the same occupations but using the administrative microdata.<sup>228</sup>

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<sup>225</sup> *Id.* at Table 1. The authors argue this market is likely too large. (“Using the vacancies data set from the same source as the one used in this paper, Marinescu and Wolthoff (2020) show that, within a six-digit SOC, the elasticity of applications to a given job posting with respect to posted wages is negative. Therefore, the six-digit SOC is likely too broad to be a labor market, since we would expect applications to increase in response to posted wages in a frictional labor market”) Marinescu & Wolthoff, *supra* note 212.

<sup>226</sup> Azar, Marinescu, Steinbaum, & Taska, *supra* note 74.

<sup>227</sup> Azar, Marinescu, and Steinbaum, *supra* note 38, at Table 2.

<sup>228</sup> See *infra* Appendix Section I.E