

MEASUREMENT OF MARKET CONCENTRATION FACED BY LABOR POOLS: THEORY AND EVIDENCE FROM FAST FOOD CHAINS IN RHODE ISLAND WITH NO-POACHING CLAUSES



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Collusion in the Labor Market: Intended and Unintended Consequences

By Tirza J. Angerhofer & Roger D. Blair



Monopsony Power and COVID-19: Should We Appoint Exempt Monopsonists to Deal With the Crisis?

By John Roberti & Kelse Moen



No Poaching Agreements and Antitrust Enforcement

By Christine Piette Durrance



Hospital Consolidation and Monopsony Power in the Labor Market for Nurses

By Christina DePasquale



Labor Practices Can Be an Antitrust Problem Even When Labor Markets Are Competitive

By David Balan



Measurement of Market Concentration Faced by Labor Pools: Theory and Evidence From Fast Food Chains in Rhode Island With No-Poaching Clauses

By Daniel S. Levy & Timothy J. Tardiff



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CPI Antitrust Chronicle June 2020

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I. INTRODUCTION

There has been significant recent interest in no-poaching clauses of franchise agreements, in the press,² the courts,³ enforcement agencies,⁴ and the U.S. Congress.⁵ These no-poaching clauses restrict an owner of a franchise (“franchisee”) from hiring employees from another franchisee within the same brand. There is no restriction against hiring across franchise brands.

Franchise owners may have an incentive to hire experienced/trained employees from other franchise locations, rather than train them, because the franchise restaurants are independently owned and have an incentive to maximize their own profit.⁶ Therefore, a potential benefit of no-poaching clauses is the increased incentive they provide employers to provide experience, training and other forms of human capital to relatively unskilled/inexperienced workers, which the employer may benefit from in later stages of an employee’s tenure. Weighing against this potential benefit are the anticompetitive effects caused by concentrating the control of jobs within the franchise brand, thereby reducing employee bargaining power.^{7,8}

2 See for example, Rachel Abrams, “Why Aren’t Paychecks Growing? A Burger-Joint Clause Offers a Clue.” *The New York Times* (New York), September 27, 2017, available at <https://www.nytimes.com/2017/09/27/business/pay-growth-fast-food-hiring.html>. Also see Kellie Lerner, Meegan Hollywood & Robert Gore, “No-poachers Find Themselves in Hot Water.” *Bloomberg Law*, August 29, 2018, available at <https://www.robinskaplan.com/~media/pdfs/no%20poachers%20find%20themselves%20in%20hot%20water.pdf?la=en>.

3 See, for example, *Deslandes v. McDonalds*, Memorandum Opinion and Order, U.S. District Court for the Northern District of Illinois, Eastern Division, Case No. C 4875, June 25, 2018.

4 See, for example, United States Department of Justice, “Public Workshop on Competition in Labor Markets” September 23, 2019; Jeff Stein, “States Launch Investigation Targeting Fast-Food Hiring Practices,” *The Washington Post* (Washington D.C.), July 9, 2018, describing State Attorneys General in 10 states and the District of Columbia that were investigating no-poaching clauses; Washington State Attorney General (WSAG), July 12, 2018 *AG Ferguson Announces Fast-Food Chains Will End Restrictions On Low-Wage Workers Nationwide*, at <https://www.atg.wa.gov/news/news-releases/ag-ferguson-announces-fast-food-chains-will-end-restrictions-low-wage-workers>.

5 U.S. Congressional Hearing, Judiciary Committee, Antitrust and Economic Opportunity: Competition in Labor Markets, October 29, 2019.

6 In most branded franchises, a franchisee is permitted to own more than one franchise location within the brand. For the purposes of this paper, following Krueger and Ashenfelter, we assume that each franchise location is owned by a different owner. While empirical concentration measures will be altered by the number of locations a single franchisee owns, a no-poaching clause will not cause further concentration among restaurants owned by the single owner.

7 Alan B. Krueger and Orley Ashenfelter, *Theory and Evidence on Employer Collusion in the Franchise Sector*, Working Paper #614, Princeton University, Industrial Relations Section, September 2017, available at <http://arks.princeton.edu/ark:/88435/dsp014f16c547g>; Alan Krueger and Eric A. Posner, *A Proposal for Protecting Low Income Workers from Monopsony and Collusion*, The Hamilton Project, February 2018, available at http://www.hamiltonproject.org/assets/files/protecting_low_income_workers_from_monopsony_collusion_krueger_posner_pp.pdf.

8 In addition, some restrictions on labor mobility may be viewed as abhorrent even if voluntary and potentially beneficial to workers.

There has been little empirical research examining the effects of no-poaching clauses on workers, or even the market concentration they cause. Although Krueger and Ashenfelter's ("K&A") paper that focuses on the effects of no-poaching clauses within franchise agreements has not been published, it is cited by journalists,⁹ State Attorneys General,¹⁰ economic¹¹ and legal publication,¹² the U.S. Congress,¹³ and private litigants¹⁴ as the empirical support that no-poaching clauses reduce workers' wages by significantly concentrating control of employment positions in the hands of owners of franchises. This broad reliance on K&A for actions with potentially important effects on labor and employers calls for serious economic evaluation of the working paper.

K&A did not measure the effect of no-poaching agreements directly on wages or employment, but instead used a standard Herfindahl-Hirschman Index¹⁵ ("HHI") to measure the extent of concentration in labor markets for a subset of the fast food industry, "quick service restaurants" ("QSR"), in Rhode Island ("RI"). K&A claims that the contractual hiring restriction within brands functionally converts all franchises within a brand into a single employer: "Franchisees are not permitted to hire from each other, which is equivalent to making the group of franchisees belonging to a chain a single employer in this labor market."¹⁶ The first part of the statement in K&A is correct; franchisees typically may not hire from within the brand under a no-poaching clause. However, the second part of that claim in K&A is incorrect; no-poaching clauses do not make all franchisees within a brand into a single employer, because an employee of a given franchise within a brand can still seek employment at every location of all other franchise brands with no-poaching clauses, even if restricted within his/her current franchise brand. K&A's claim that the no-poaching clause makes all franchise employers within a brand into a single employer is *not* based on empirical findings, the theoretical models K&A cite, or the employment limitations imposed on employees of franchises with no-poaching agreements. Rather, K&A's additional labor mobility restriction, not the actual no-poaching clauses, creates the central result in K&A that is so heavily cited, a large increase in concentration. Without this unsupported assumption, K&A's evidence of the significant concentrative effects of no-poaching clauses in franchise agreements vanishes.¹⁷

This paper evaluates the effect of no-poaching agreements and whether there even is a relevant *single* measure of concentration for workers in labor markets under no-poaching clauses. This paper addresses the theoretical need for a different measure of concentration that reflects the concentration faced by various employee groups. We evaluate the underlying theoretical support in K&A that leads to their claim that no-poaching agreements cause franchisees within a brand to function as a single employer within the market. Finally, we compare the performance of our new, alternative measure of market concentration to that proposed in K&A in the same labor market K&A analyzed, QSR employees in RI. The results from the measure of concentration applicable to no-poaching agreements alter the empirical conclusions about market concentration in K&A.¹⁸

9 See for example, Rachel Abrams and Kellie Lerner, et al. note 2.

10 See reliance on K&A, for example, in The Washington State Attorney General's Announcement, "AG Ferguson's initiative to end no-poach clauses nationwide continues with five additional chains" December 5, 2018 at <https://www.atg.wa.gov/news/news-releases/ag-ferguson-s-initiative-end-no-poach-clauses-nationwide-continues-five>.

11 See, for example, Berry, Steven, Gaynor, Martin & Scott Morton, Fiona. 2019. "Do Increasing Markups Matter? Lessons from Empirical Industrial Organization," *Journal of Economic Perspectives* 33(3) 44:68 and Shapiro, Carl, 2019. "Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets," *Journal of Economic Perspectives* 33(3) 69-93.

12 See, for example, Lindsay, Michael A. 2019. "McDonald's and Medicine: Developments in the Law of No-Poaching and Wage-Fixing Agreements." *Antitrust* 33(2) 18-28.

13 See note 5.

14 See note 3.

15 HHI is the sum of the squares of the market shares. The Horizontal Merger Guidelines ("HMG"), p. 18 classifies markets with HHIs greater than 2500 as highly concentrated. When two firms merge, the HHI increases by twice the product of their market shares. The HMG (p. 18) explains that in highly concentrated markets "an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power." US Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines, August 19, 2010, available at <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>.

16 K&A 2017, p. 12.

17 Krueger & Posner (2018) rely on K&A's evidence to support their proposal that no-poaching clauses enhance employer market power to such an extent that they should be classified as *per se* violations of antitrust law.

18 This paper focuses on the effect of no-poaching clauses on market concentration. However, there is an extensive literature about the potentially beneficial effects of contracting that allows for greater investment in human capital, which may be facilitated by contracts that allow employees to commit to limitations in their own labor mobility in exchange for greater investment in their own training and skills. See for example Gary S. Becker, *Human Capital Theory*, (Columbia, New York), 1964. Gary S. Becker, "The Economic Way of Looking at Life," *Nobel Prize Lecture*, December 9, 1992, P. 44.

II. NO-POACHING CLAUSES: HOW THEY WORK AND WHOM THEY AFFECT

Franchise no-poaching clauses restrict owners of restaurants from hiring employees of other restaurants within the same franchise brand. K&A provide a number of examples of no-poaching clauses, including the following from McDonald's:

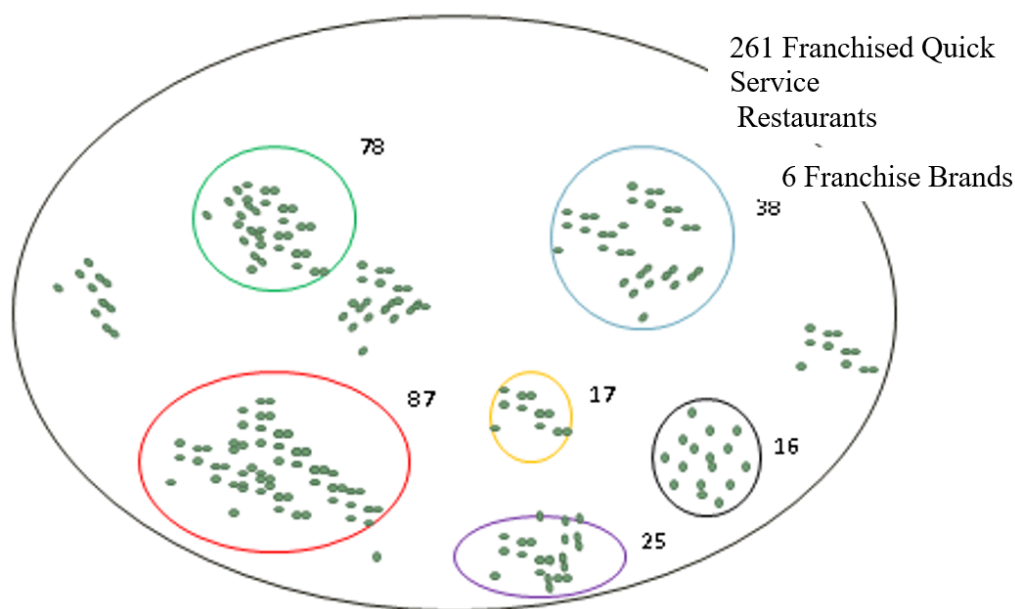
Interference With Employment Relations of Others.

During the term of this Franchise, Franchisee shall not employ or seek to employ any person who is at the time employed by McDonald's, any of its subsidiaries, or by any person who is at the time operating a McDonald's restaurant or otherwise induce, directly or indirectly, such person to leave such employment. This paragraph 14 shall not be violated if such person has left the employ of any of the foregoing parties for a period in excess of six (6) months.¹⁹

The independent franchise owner is not restricted from hiring any employee except those already employed within her/his own branded franchise. Conversely, the employee can seek employment from every individual location of other franchise brands.²⁰ Employees, of course, can also seek employment outside the franchised QSR industry.

The following three figures further illustrate the effects on employees of no-poaching clauses: (1) concentration for restaurants *without* no-poaching clauses, (2) *actual* concentration *with* no-poaching clauses, and (3) concentration *with* no-poaching clauses under K&A's assumptions that each brand should be treated as a single employer. Figure 1 depicts a hypothetical set of restaurants *without* no-poaching clauses.

Figure 1: Measured Concentration *Without* No-Poaching.



Each colored circle represents a group of restaurants within a franchise brand within a market.²¹ Each green dot is an individual restaurant. Some restaurants are not part of a branded franchise. The number proximate to each colored circle represents the number of restaurants within the franchise brand. Absent no-poaching clauses, any employee within each of these restaurants could seek employment at all restaurants. Making the simplifying assumptions of K&A, that each restaurant has the same number of employees and that the relevant market is only those restaurants and employees working within branded franchises QSRs, the standard HHI measure is 38.3 ($=10,000/261$), if the 261 franchised QSRs in the hypothetical example above are a separate market.

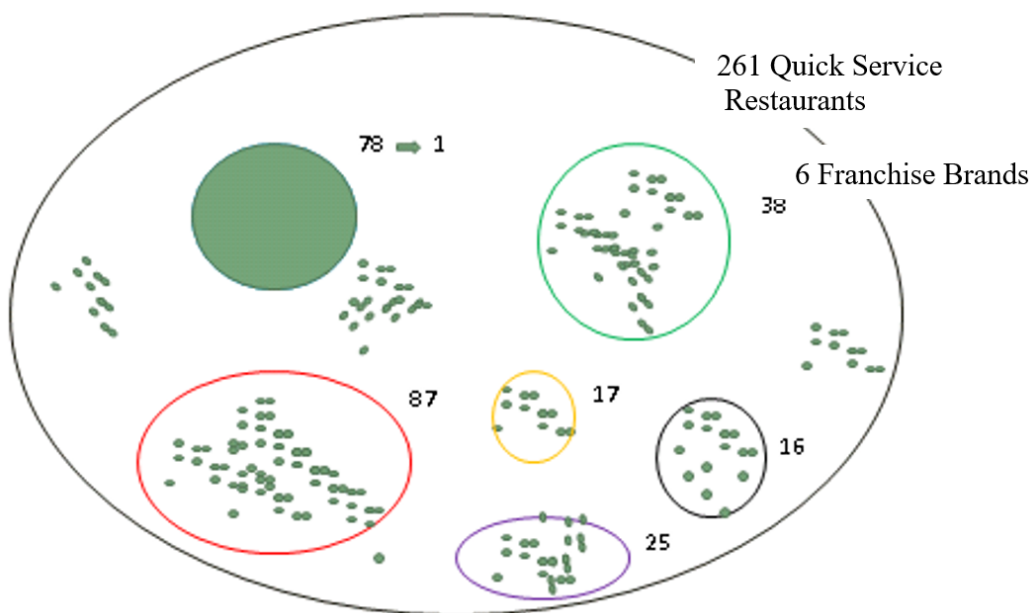
¹⁹ K&A, 2017, p. 3.

²⁰ Although not central to the discussion below, with a 6-month hiatus in employment within the brand, many franchise agreements place no restrictions on hiring employees from within the franchise brand.

²¹ There is no intention to depict geographic placement in Figure 1.

Figure 2 depicts the effect of the no-poaching clause on the employees of the restaurants within one of those branded franchises.

Figure 2: Measured Concentration *With* No-Poaching Clause.



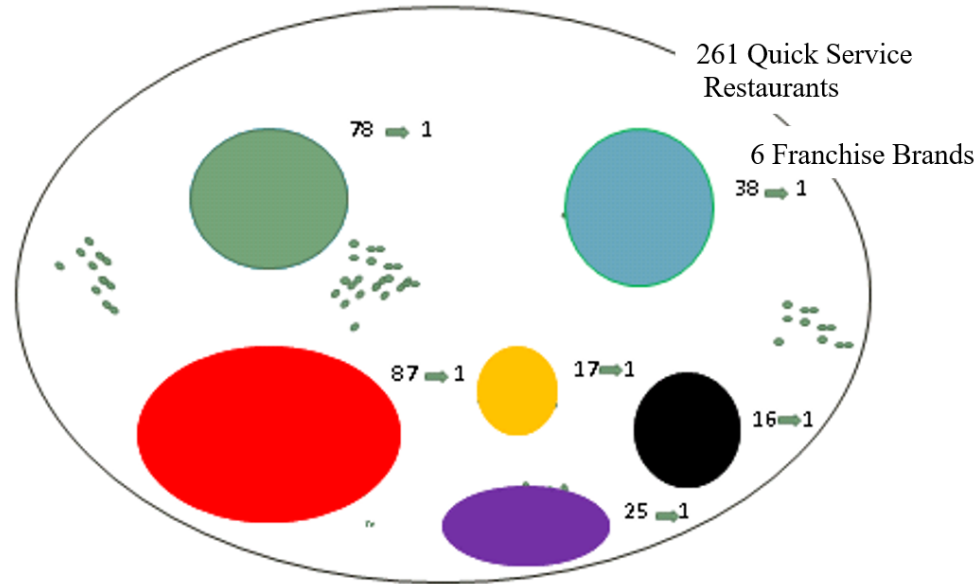
With a no-poaching clause, the employees at a franchise of the brand depicted in green no longer have the option to seek employment at the other 77 franchise restaurants in the green brand. However, these green brand employees may obtain work at any of the other 183 individual restaurant franchises of the other brands where they are not currently employed. In this example, the concentration in the market based on the number of alternative employers increases from $HHI = 38.3$ to $HHI = 919.98$, for the employees of the green brand.²²

The employees at other franchise restaurants face a different change in concentration. Employees at the yellow franchise with 17 locations face a change in HHI from 38.3 to 40.06. The smaller number of restaurants in the yellow brand means the franchise no-poaching clause has a smaller effect on concentration of number of employers for employees there.

However, K&A view no-poaching clauses as having an additional restriction on employee mobility beyond that stated or enforced in franchise no-poaching clauses, which “make a franchise brand into single employer.” The effect of such an assumption is depicted in Figure 3, where each of the franchise brands changes from multiple restaurant employment opportunities to a single potential employer controlling multiple jobs.

²² $919.98 = ((78/261)^2 + (1/261)^2 * (261-78)) \times 10,000$, which is in the range considered unconcentrated by the DOJ/FTC. HMG (2010), p. 15.

Figure 3: Measured Concentration Under K&A Interpretation of No-Poaching Clauses.



Under the K&A interpretation of no-poaching clauses, no-poaching clauses at the restaurants in the six hypothetical branded franchises prevent all employees not only from negotiating with multiple other restaurants within the same franchise brand, but also from negotiating with all but one representative at each of the other franchise brands. According to K&A, employees at the green franchise now face only six total possible employers. Therefore, instead of 87 restaurants in the red franchises, employees at all of the other franchise brands can only approach one potential employer in the red franchises, and similarly for each of the other branded franchises, moving the HHI from 38.3 without no-poaching clauses to 2,388.0 for all employees in the branded franchise market with no-poaching clauses in this example.²³ In K&A's RI example, discussed further below, the HHI moved from 38.3 to 1,678. However, this added restriction by K&A, limiting employee mobility across franchise brands, is not part of franchise agreements within the no-poaching clause or anywhere else.

As demonstrated in Figure 2, there is no overall market concentration relevant to employees across all restaurants because each group has distinctly different employment opportunities within the same product and geographic market. Instead, we need a different measure of concentration for the employees of each group of employees depicted in the figures. The relevant index is no longer a market-wide HHI, but rather a labor group-specific ("LI") set of indexes as shown in Table 1 for this set of employees or laborers at the 261 restaurants with no-poach clauses.

Table 1: Labor Group-Specific Concentration Indices

Number of Restaurants of 261	Franchise Share of Market	HHI without No-Poaching	LI with No-Poaching
16	0.061	38.31	73.55
17	0.065	38.31	78.24
25	0.096	38.31	126.39
38	0.146	38.31	244.71
78	0.299	38.31	919.98
87	0.333	38.31	1136.65

²³ $2,388.0 = 10,000 \times [(78/261)^2 + (87/261)^2 + (38/261)^2 + (17/261)^2 + (25/261)^2 + (16/261)^2]$. This result differs from K&A's result because the numbers in Figures 1 through 3 are purely illustrative. Note that neither this result nor K&A's result account for the stand-alone restaurants available to workers currently employed at franchisees.

To summarize, the *actual* restrictions in no-poaching clauses moves HHI/LI from 38.3 to between 73.55 and 1,136.65 in this example. In contrast, K&A's *additional* restriction can improperly increase measured concentration from levels that antitrust authorities view as unconcentrated, 38.3, to the low end of moderately concentrated, 1,678 in K&A's RI example, which K&A call highly concentrated.²⁴

III. WHY THE STANDARD HHI DOES NOT REFLECT RELEVANT IMPACT OF NO-POACHING CLAUSES: THEORETICAL LINK BETWEEN COMPETITION AND CONCENTRATION RATIOS

K&A reference the Cournot model as the theoretical justification for using the HHI as an indicator of potential market power.²⁵ The Cournot model shows that as the number of employers in a market falls, causing the number of employees available to each employer to increase, employers will reduce wages. K&A do not use the Cournot model to demonstrate that the no-poaching clauses would cause otherwise independent franchisees within a franchise brand to function as a single firm. They simply use the Cournot model, with the unfounded assertion that no-poaching agreements make all franchise owners within a brand into functionally a single employer.

Even without a direct justification from a theoretical model, the HHI is sometimes used as a potential ancillary measure of market power. The DOJ/FTC has used the HHI as an indicator of concentration. Other scholarly research investigates the relationship between the HHI and market power without explicitly determining whether the market being analyzed is consistent with a Cournot model.²⁶ Furthermore, authors have noted that the validity of the Cournot model in "single-period" models where the oligopolists do not learn from past decisions may not apply broadly. They have also mentioned that the Cournot model is used as a heuristic even when it does not fit the features of the market perfectly.²⁷ Although the Cournot model in K&A is not used to demonstrate that a no-poaching clause will convert competitors within a franchise brand into a single coordinated actor, it is still instructive to determine whether no-poaching clauses would indeed transform competitors into functionally fewer market actors in a way that increases the supply of workers to each profit maximizing employer, as K&A suggest.

Although space does not allow a complete exposition here, we show elsewhere (Levy-Tardiff; 2018) that employees' loss in access to part of the labor market from within the franchise brand is mitigated by the added availability of jobs in other branded firms, where those employees have reduced employment opportunity at locations within the brand at which they are currently employed.²⁸ In some cases, the no-poaching agreement has no impact on the extent of competition in the labor market. As the number of restaurants within a franchise brand increases, the no-poaching clause can shift the residual supply curve and can have an effect on concentration. However, those theoretical effects are smaller than those presented in K&A. Levy-Tardiff also discusses the effect of franchise no-poaching clauses in dynamic models of labor supply. However none of these models supports the claim in K&A that franchise no-poaching clauses functionally make all locations of each brand into a single employer.

This does not mean that some mechanism like no-poaching clauses can't impact competition or that the HHI may not provide a useful empirical metric to study market concentration from no-poaching clauses. It simply means that at least some common forms of the Cournot model and some dynamic models cited by K&A do not imply that no-poaching clauses make franchisees within a brand function as a single company. It also means that these models do *not* suggest that no-poaching clauses necessarily have large impacts on employee wages, absent firm-specific human capital acquisition.

Even if not motivated by a Cournot model, the effect of no-poaching clauses on concentration of job opportunities is still of interest, if only because regulators use such measures to identify potentially damaging reductions in competition. In addition, market concentration is of interest because K&A uses the HHI as the empirical evidence of increased market power afforded employers by no-poaching clauses, and K&A is so

²⁴ K&A, 2017, p. 13.

²⁵ Robert E. Dansby & Robert D. Willig, "Industry Performance Gradient Indexes," *American Economic Review* 69(3) 249-260. The authors (p. 249) caution that how a firm responds to competitors' decisions can be an important consideration: "Since different modes of firms' conduct lead to different indexes, the choice among concentration index formulae should be based on an assessment of the behavior of the industry's firms. We find that the potential improvement in welfare performance is as sensitive to mode of conduct and other industry data as it is to market shares." K&A offered no such assessment.

²⁶ Weiss, Leonard W (ed), *Concentration and Price*, (Cambridge, MA: The MIT Press, 1989).

²⁷ Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization*, Second Edition, (New York, Addison Wesley, 1994), p. 238.

²⁸ Levy, Daniel S. & Tardiff, Timothy J., *Measurement of Market Concentration Faced by Labor Pools: Theory and Evidence from Fast Food Chains in Rhode Island with No-Poaching Clauses* (September 14, 2018), ("Levy-Tardiff"), available at <https://ssrn.com/abstract=3247932> or <http://dx.doi.org/10.2139/ssrn.3247932>.

frequently cited by press, regulators and private litigants, as mentioned above. If employees, who once had hundreds of potential employers to seek work from, instead have only a few due to no-poaching, and if those contractual relationships have no plausible or counterbalancing benefit to employees,²⁹ the contract may be harmful to employees.³⁰

IV. COMPARISON OF LI AND HHI CONCENTRATION MEASURES: QUICK SERVICE RESTAURANTS IN RHODE ISLAND

K&A's "empirical example" of the effect of no-poaching clauses on labor market concentration in the RI QSR market was based on data from a company called FRANData, containing number of locations and use of no-poaching clause for each major franchise brand. There were 18 QSR RI major franchise brands with a total of 261 locations. Based on the simplifying assumption that all QSR locations employ the same number of employees,³¹ K&A reported that absent the no-poaching clauses, the relevant HHI in RI would be 38.3.³² Each employee has the opportunity to approach the same number of potential employers competing for their services, including their employer plus 260 others. Since each employee faces the same number of potential QSR employers competing for their services, each employee is impacted by the same concentration in the market, $HHI = 38.3$. By any standard this is an unconcentrated market.³³

K&A calculated an HHI, ("H*") = 1,678³⁴ for the market concentration with no-poaching clauses. To obtain this H*, K&A assumed, as discussed above, that the "the restaurants affiliated within each franchise chain refrained from hiring each other's workers..."³⁵ and presumed the additional limitation, not found in no-poaching clauses, that employees of a restaurant of one franchise brand can only approach one representative of each other franchise brand.

A. Effect of No-Poaching Clause Based on Market Competition

We can implement a correction to the HHI in K&A by accurately reflecting the number of competing employers that employees see in the market. To perform this corrected calculation, we collected the number of restaurant locations for each of the QSR franchise brands in K&A. Using FRANData's Franchise Registry, we determined which of the major restaurant chains listed by K&A (Appendix Table) were considered QSRs. We combined this information with "Active" restaurant data from the RI Department of Health website³⁶ containing all of the active "Food Service" licenses in the state. We found 262 licenses that were 1) part of a branded franchise in the Appendix Table of K&A and 2) labeled as a Quick Service Restaurant according to FRANData. These restaurants represented 20 different branded franchises, broadly similar to the K&A findings of 261 restaurants across 18 branded franchises. Sixteen of the 20 brands, covering 151 of the 262 restaurants, had a franchise contract that contained a no-poach clause.³⁷ Our data from the RI Department of Health differs slightly from K&A's because (1) K&A relied on data from a commercial franchise data collection company, FRANData for RI location and (2) our data is newer: information current on the RI Department of Health webpage as of July 17, 2018.

Table 2 lists the number of locations for each branded QSR franchise from the list we generated and whether the Appendix Table in K&A listed the branded QSR franchise as having a no-poaching clause.

²⁹ Becker, (1964, 1992) note 18.

³⁰ For analysis of wages impacted by franchise no-poaching clauses see Daniel S. Levy *et al*, *No-Poaching Clauses, Job Concentration and Wages* (January 23, 2020). Available at <https://ssrn.com/abstract=3524700> or <http://dx.doi.org/10.2139/ssrn.3524700>.

³¹ K&A make a number of simplifications to perform this calculation as we will discuss in more detail below, related to the availability of jobs for QSR restaurant employees at restaurants excluded from the analysis, jobs outside the state but within a few miles of Rhode Island QSR restaurants and jobs for QSR employees in other industries.

³² $38.3 = 261 * (100 * (1 / 261))^2 = 10,000/261$.

³³ HMG, 2010, p. 19. K&A do not use the HHI cut-offs used in the HMG 2010 (p. 19), which lists an HHI of under 1,500 as an unconcentrated market.

³⁴ K&A's "H*" is the same as HHI, which was defined earlier (and in the DOJ/FTC Horizontal Merger Guidelines). In this section, we use the K&A notation.

³⁵ K&A, p. 13.

³⁶ <http://health.ri.gov/lists/licenses/>. Retrieved July 17, 2018.

³⁷ The 80 percent (16 out of 20) of Rhode Island franchises with no-poaching clauses is identical to K&A's Table 1b percentage. Despite the fact that some franchises do not have no-poaching clauses, K&A's calculations treated all Rhode Island franchises as having these clauses.

Table 2: Number of Restaurant Locations and LIs for QSRs in Rhode Island by No-Poaching Status

QSR ¹ Chain Name	No-Poach Clause?	Number of Locations ²	LI for Worker if Poaching Allowed	LI for Worker in Reality
A&W	Yes	1	38.17	38.17
AFC	Yes	8	38.17	46.33
AUNTIE ANNE'S	Yes	2	38.17	38.46
BURGER KING	Yes	27	38.17	140.43
CHICK-FIL-A	No	1	38.17	38.17
DOMINO'S PIZZA	Yes	24	38.17	118.58
FIVE GUYS BURGERS AND FRIES	Yes	5	38.17	41.08
JERSEY MIKE'S	Yes	5	38.17	41.08
KFC	No	16	38.17	38.17
LITTLE CAESARS	Yes	7	38.17	44.29
MCDONALD'S	Yes	31	38.17	173.65
MOE'S SOUTHWEST GRILL	Yes	3	38.17	39.04
PANERA BREAD	Yes	8	38.17	46.33
PAPA JOHN'S	Yes	2	38.17	38.46
PIZZA HUT	Yes	3	38.17	39.04
POPEYES LOUISIANA KITCHEN	Yes	6	38.17	42.54
SONIC	Yes	1	38.17	38.17
SUBWAY	No	78	38.17	38.17
TACO BELL	No	16	38.17	38.17
WENDY'S	Yes	18	38.17	82.75
Total		262		
Laborer Total Average Index ("LTI")			38.17	58.05
Laborer Total Weighted Index ("LTI- Weighted")			38.17	76.06

¹ Restaurant types from FRANdata, <https://franchiseregistry.com>.

² Rhode Island Department of Health Licensee List, <http://health.ri.gov/lists/licensees>. Retrieved July 17, 2018.

Based on our data, we calculate the measure of employer concentration facing employees currently at each branded QSR franchise. For those workers not employed in the QSR industry and for those employees of branded QSR franchises that do not have no-poaching clauses, the no-poaching clauses have no impact on the number of employers that compete for those potential employees' services: the market concentration they face is unchanged. Based on our data the $H^* = 38.17$, absent no-poaching clauses,³⁸ almost identical to the K&A calculation. Table 2 also lists our new measure of the laborer group-specific index of concentration ("LI" defined above) with no-poaching agreements prohibited, and the LI given the state of no-poaching clauses for each franchise brand, in 2018.

³⁸ As described earlier, the K&A calculation of an H^* of 1,678 assumes (incorrectly) that all chains have no-poach agreements that reduce employment opportunities across locations of all brands. Our data produces an H^* of 1,385 with the assumptions in K&A (2017). On September 26, 2019, the authors requested from Orley Ashenfelter, the data and the programs used to create the calculations in K&A. Orley Ashenfelter did not respond.

Table 2 lists the separate LI market concentration measure for the employees of each branded QSR franchise.³⁹ For example, maintaining K&A's assumption of equal numbers of jobs at each restaurant, employees of the three Pizza Hut locations in RI, which have no-poaching clauses, can seek employment at 259 other restaurants in addition to Pizza Hut. Therefore, the LI measure indicates that Pizza Hut's employees face very little reduction in job opportunities due to the no-poaching limitations based on the K&A's job-geographic market definitions. With Pizza Hut's no-poaching clauses enforced, Pizza Hut employees would experience a level of market concentration of $LI = 39.04$ instead of $LI = H^* = 38.17$ if no-poaching clauses were prohibited. At the other end of the spectrum, the no-poaching clause changes the LI from 38.61 to 173.65 for McDonald's employees by eliminating 30 potential QSR locations from the set of potential employers that a McDonald's employee can turn to for employment within the QSR industry. 173.65 is still a low level of concentration by DOJ/FTC merger standards.⁴⁰ Further, economic studies of HHIs associated with increases in market power sufficient to move prices, such as wages, find significantly larger HHIs.⁴¹

In Table 2, Subway has the largest number of locations, but does not have a no-poaching clause. However, if Subway added a no-poaching clause to its franchise agreement, the LI for Subway employees would increase to $LI = 913.12$, still well below DOJ/FTC's upper bound of 1,500 for "Unconstrained Markets."⁴²

Table 2 also provides two other summary concentration measures, which measure concentration across a geographic market: the Laborer Total Index ("LTI"), which is the simple average LI and the Laborer Total Index-Weighted ("LTI-Weighted"),⁴³ which is the average LI, weighted by the number of locations. While some employees may still face increased limitation as measured by their brand-specific LI and others may face very little, the LTI-Weighted provides an overall measure for the QSRs in the analysis. For the QSRs in this RI analysis the $LTI = 58.05$, and the $LTI\text{-Weighted} = 76.06$.

B. Minimal Market Concentration Provides No Evidence of Competitive Harm from No-Poaching Clauses

The effects of no-poaching clauses shown in Table 2 indicate that there is no evidence that no-poaching clauses in RI significantly alter market concentration or monopsony power, demonstrating that the increase in market concentration that K&A say reflects a "potentially large impact of no-poaching clauses on the competitiveness of this labor market"⁴⁴ is the result of a calculation that does not reflect how no-poaching clauses work. The K&A calculation does not reflect the extent of competition that remains even when no-poaching clauses are enforced. Further, the K&A calculation does not reflect the extent of competition even if companies that do not have no-poaching clauses instituted them across all of their franchise locations. The H^* of 1,678 presented in K&A overstates actual concentration of employment opportunities faced by employees, which at most results in an index of 173.65, even for the employees of the largest QSR in RI with a no-poaching clause in July 2018. In summary, results from applying our methodology to RI's QSRs contradict the K&A assertion of highly concentrated employment conditions for employees of QSR of franchises, and demonstrate that the set of labor group-specific measures of concentration are empirically important in assessing concentration in this market.

39 The calculation of the Laborer Group-specific Index ("LI") is defined above.

40 HMG, 2010, Section 5.3.

41 See for example, Leonard W. Weiss(ed), *Concentration and Price*, (Cambridge, The MIT Press, 1989).

42 HMG, 2010, p. 19.

43 The Laborer Total Weighted Index (LTI-Weighted) is a weighted average of the Laborer-Specific Concentration Index (LI) values for all of the chains, weighted by the number of locations. Each LI value is multiplied by the number of locations for that particular chain, the results are summed, and then divided by the total number of locations.

44 K&A, 2017, p. 13.

V. CONCLUSION

The only papers that have empirically analyzed the effects of franchise no-poaching clauses on concentration and wages are Levy-Tardiff and Levy *et al.*⁴⁵ K&A's highly-cited paper self-admittedly provides only an "empirical example," which, as shown here, provides no real empirical evidence of the effect of no-poaching clauses in any market, not even in RI where K&A draws data for its "empirical example." As discussed in Levy-Tardiff, there could be reasons why no-poaching clauses in the franchise industry could benefit employees or harm them. The overall effect is an empirical issue, which is market dependent, and would likely have to include a direct measurement of the effect of the no-poaching clauses on wages, as performed in Levy *et al.*⁴⁶

45 Levy-Tardiff, 2018, Levy *et al.*, 2020.

46 Levy *et al.* 2020.



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