

Employer Collusion and Employee Training

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Motivation: no-poach agreements

The New York Times | <https://nyti.ms/2mad0ES>

7 Fast-Food Chains to End 'No Poach' Deals That Lock Down Low-Wage Workers

By Rachel Abrams

July 12, 2018

Seven major restaurant chains, including Arby's, Carl's Jr., McDonald's and Jimmy John's, agreed to drop a hiring practice that critics say may be keeping tens of thousands of fast-food workers locked in low-wage jobs.

Under agreements with Washington State announced on Thursday, the companies pledged to remove so-called no-poach clauses from their contracts with franchisees. Auntie Anne's, Buffalo Wild Wings and Cinnabon also agreed to drop the clauses.

The provisions prohibit workers at, for example, one Carl's Jr. franchise from going to another Carl's Jr. They do not stop those workers from taking jobs at restaurants run by a different chain.

In addition to stripping the clauses from existing franchise contracts in Washington, the seven chains have also vowed not to enforce them nationwide. The clauses cannot be included in new and renewed contracts either.

No-poach clauses have drawn scrutiny over whether they hold down pay for restaurant employees — one of the largest segments of the United States work force — and also contribute to a broader wage stagnation that continues to plague the economy long after the end of the recession.

Many types of franchise businesses impose the clauses, but they may be most prevalent in the restaurant industry. The fast-food sector, in particular, relies overwhelmingly on independently owned and operated franchise stores.

Motivation: no-poach agreements

Unlike noncompete clauses, which job-seekers can review before signing hiring documents, no-poach provisions are buried in contracts between restaurant chains and franchisees, which independently own and operate the majority of stores. Workers at these stores may not even know they are bound by the restrictions until they try to land new jobs.

Franchise owners say the clauses help protect their investments of time and money in training employees. But a job offer from a prospective employer is often the best leverage with a current boss, and some economists worry that the provisions hinder people's ability to exercise that leverage.

Last year, two Princeton economists, Alan Krueger and Orley Ashenfelter, published a study in which they estimated that no-poach clauses affected about 70,000 individual restaurants in the United States, or more than a quarter of fast-food outlets.

Motivation: no-poach agreements

December 2020 charge against wage fixing by employers (Health Care Staffing Company) - Statement by the Department of Justice (Antitrust Division)

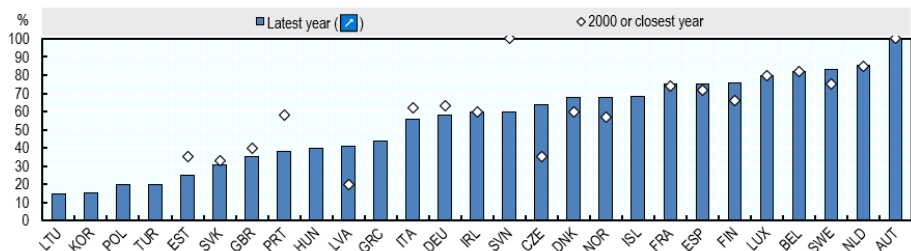
- 'The charges announced today are an important step in rooting out and deterring employer collusion that cheats American workers of free market opportunities and compensation'
- 'Employers who conspire to fix the wages of workers or restrict their mobility by allocating labor markets will be prosecuted to the fullest extent of the law.'

<https://www.justice.gov/opa/pr/former-owner-health-care-staffing-company-indicted-wage-fixing>

Motivation: employers' associations in Europe

- Employers' associations (EAs) provide 'sectoral public goods' (CB, training, representation, etc)...
- ... but may also promote *collusion* amongst affiliated firms
 - Potential dimensions: product and input markets, non-affiliated firms

A. Employer organisation density by country
Percentage of employees in the private sector, 2000 or closest year^a and latest year available^b



This paper: focus on tacit no-poaching agreements (NPAs)

- Agreements that EA firms do not hire employees from each other
 - Anecdotal evidence of such NPAs (but no research so far; difficult to have direct evidence)
- NPAs may reduce wage-bills and worker turnover costs (fewer outside offers and replacements)
- Potential silver lining: NPAs can incentivise *training*

- Research questions: Is there less worker mobility between same-EA firms? Do EA workers receive more training?
- Model of worker training and mobility
- Analysis of matched data from Portugal, 2009-2011
- Empirical findings consistent with model and **EAs NPA/training roles**:
 - EA workers are less likely to move to another firm *of the same EA*
 - EA workers tend to receive (much) more training than other workers
 - Overall separations are lower in EA firms
 - EA workers are not paid (much) more than non-EA workers

- NPAs in US fast-food sector [Ashenfelter and Krueger (2018)]
- Training in imperfect labour markets [Acemoglu and Pischke (1999)]
- Inter-firm worker mobility [Buchinsky et al (2010)]
- New monopsony research [Azar, Marinescu, Steinbaum (2020)]
- EAs, collective bargaining, monopsony, training in Portugal [Martins (2018, 2020a,b,c)]

Theory: Introduction to model

The model:

- allows for an outside offer with some probability
- outside matches might be more productive

Results:

- more training when outside offers are limited
- mobility is lower when outside offers are limited
- limiting outside offers doesn't mean wages will be lower
- not a dominant strategy to be in an EA (with lower mobility)
- restricting outside offers may be bad from a societal point of view
- addresses broader question: when would a group of firms benefit from having a mutual no-poaching arrangement?

Partial Equilibrium Setup

- 2 periods; agents risk neutral; no discounting
- Firm hires one worker in period 1; offers at least \underline{U}
- Invests in training a in period 1 at cost $c(a)$
- Worker has productivity a in period 2
- Wage contract (w_1, w_2)
- With probability ϕ the worker receives a single outside offer in period 2 (EA membership \implies lower ϕ)
- Worker's productivity in new match is $a + \theta$, where θ is outside “match quality” and has distribution F on $[\underline{b}, \bar{b}]$ with $\underline{b} < 0$ and $\bar{b} > 0$
- Worker has bargaining power β in potential new match, with outside option existing wage w_2

[Outside Offers details]

[Maximisation Problem]

Wages are unconstrained

Theorem

For any values of ϕ, β and any F , training is at the efficient level.

In particular, a does not vary with ϕ .

Intuition: Any benefit to higher a the worker gets from higher outside offers can be captured by the firm by cutting w_1 to offset (may require very low/negative w_1)

Minimum wage preventing firm cutting period 1 wage

The firm cannot recoup benefits that the worker gets from outside offers by cutting w_1

This implies that the firm sets w_2 too low – at the level it needs to just satisfy the worker's participation constraint, which reduces the marginal return from investment in training whenever the worker gets an outside offer – more surplus is lost to outside firms. Since that occurs more often for firms not in the EA, this leads to lower training in non-EA firms.

Theorem

If the minimum wage constraint is binding in period 1, then training is below the efficient level. Moreover if θ (outside match quality) is uniformly distributed, then training is decreasing in ϕ

Institutional aspects:

- Sectoral collective bargaining covers 86% of private-sector employees
 - Minimum wages can cover up to 40% of employees
- CB conducted by 300+ EAs (43% affiliation rate) with trade unions
- Formal NPAs are illegal (cannot be enforced in labour courts)
 - Competition law considers business associations from price setting angle but not labour perspective (except professional bodies)
- Firms mandated to provide 35 hours of training to each employee per year (but several exceptions apply)

Matched employer-employee panel (all firms and all their employees)

- QP - *Quadros de Pessoal*, Ministry of Employment
- 2009: EA affiliation of each firm
- **2010-2011**: wages and training of each employee (at each firm)

Inter-firm mobility data based on actual + *potential but not realised* mobility:

- Actual: all (100k) workers that change firms between 2010 and 2011
- Potential/not realised: (0.1%-5%) samples of not realised combinations between firms with actual mobility
 - Identified from population nature of matched data

Actual and not realised mobility types: an illustration

- Worker 1 moves from firm A in Oct 2010 to firm B in Oct 2011
- Worker 2 moves from firm C in Oct 2010 to firm D in Oct 2011
- Actual mobility spells: $A_t \rightarrow B$ and $C_t \rightarrow D$
 - Tenure in new firm must be zero
 - Large flows (25+ employees) dropped (displacements)
- Potential (but not realised) mobility spells: $A_t \rightarrow D$ and $B_t \rightarrow C$
 - Only (sample of) 'sending' and 'receiving' firms (not eg $B_t \rightarrow A$)
 - 37k (15k) firms in 'sending' ('receiving') group

Inter-firm mobility equation

LPM/Poisson estimation (extensive/intensive margins):

$$y_{i,j} = \beta_1 \text{SameEA}_{i,j} + \beta_2 \text{BothEA}_{i,j} + \beta_3 \text{SameRegion}_{i,j} + \beta_4 \text{SameCBA}_{i,j} + \beta_5 \text{SameIndustry}_{i,j} + \alpha_i + \delta_j + u_{i,j} \quad (1)$$

- Each observation is an actual or a potential (but not realised) match
- $y_{i,j}$: DV=1 if at least one worker from firm i in 2010 is employed by firm j in 2011 (LPM) or count of movers (Poisson)
- $\text{SameEA}_{i,j}$: DV=1 if firms i and j are affiliated in the same EA
- $\text{BothEA}_{i,j}$: DV=1 if firms i and j are both EA affiliated
- $\text{SameIndustry}(\text{Region}, \text{CBA})_{i,j}$: DV=1 if firms i and j are in same industry (region, CBA)
- α_i and δ_j : sending and receiving firm fixed effects
- Clustering SEs at firm levels

Descriptive statistics: inter-firm mobility

Mobility Variable	Actual only		Actual+potential	
	Mean	Std. Dev.	Mean	Std. Dev.
Positive N. of movers (DV)	1.000		0.025	
N. of movers	1.254	1.313	0.032	0.288
Same EA	0.076		0.208	
Same CBA	0.299		0.081	
Same region	0.556		0.107	
Same industry	0.243		0.047	
EA affiliated (2010)	0.514		0.78	
EA affiliated (2011)	0.512		0.782	
EA affiliated (2010 and 2011)	0.287		0.68	
Employees (2010)	838.5	2777.13	64.84	539.747
Employees (2011)	826.1	2675.25	68.17	531.926
N (firm pairs)		79,082		3,106,783

Inter-firm mobility: extensive margin (LPM)

	(1)	(2)	(3)	(4)
Same EA	0.004*** (7.59)	0.011*** (23.27)	-0.023*** (-33.66)	-0.042*** (-55.50)
EA affiliated (2010 and 2011)	-0.038*** (-32.52)	-0.036*** (-36.10)	-0.035*** (-32.68)	-0.032*** (-34.74)
Same CBA			0.054*** (47.10)	0.065*** (61.27)
Same region			0.098*** (80.14)	0.105*** (101.35)
Same industry			0.089*** (51.67)	0.088*** (58.81)
Constant	0.049*** (50.49)	0.047*** (72.32)	0.030*** (34.05)	0.035*** (56.94)
Firm controls x2	X		X	
Firm FE x2		X		X
Observations	3106783	3106783	3106783	3106783

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Inter-firm mobility: intensive margin (Poisson)

	(1)	(2)	(3)	(4)
Same EA	0.201*** (3.67)	0.750*** (15.02)	-0.707*** (-17.10)	-0.657*** (-13.49)
EA affiliated (2010 and 2011)	-1.206*** (-14.54)	-1.111*** (-17.50)	-1.037*** (-12.70)	-0.958*** (-13.70)
Same CBA			1.175*** (36.73)	1.165*** (26.26)
Same region			1.800*** (32.54)	2.116*** (31.78)
Same industry			1.061*** (18.74)	1.154*** (20.07)
Constant	-2.237*** (-107.51)	-1.423*** (-88.52)	-3.318*** (-64.13)	-2.698*** (-57.65)
Firm controls x2	X		X	
Firm FE x2		X		X
Observations	3106783	3106783	3106783	3106783

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Training, separation and wage equations

Training equation (extensive/intensive margins; LPM/Poisson):

$$t_{e,i,t} = \beta_1 EAaffiliated_i + \beta_2 X_{e,i,t} + \beta_t + v_{e,i,t} \quad (2)$$

Separation and wage equations:

$$w_{e,i,t} = \lambda_1 EAaffiliated_i + \lambda_2 t_{e,i,t} + \lambda_3 X_{e,i,t} + \lambda_t + x_{e,i,t} \quad (3)$$

- $t_{e,i,t}$: training DV or hours of worker e in firm i in year t
- $w_{e,i,t}$: separation (different firm or non-QP-employment) DV or log wages of worker e in firm i in (October of) year t (2010 only in separation model)
- $EAaffiliated_i$: DV=1 if firm i is EA affiliated
- $X_{e,i,t}$: Worker and firm control variables; $\beta_t(\lambda_t)$: 2011 DV

Descriptive statistics: workers (2010 and 2011)

Variable	Mean	Std. Dev.	N
Schooling	9.348	4.02	5113319
Age	39.293	11.092	5120851
Tenure	8.045	8.412	5126812
Female	0.455	0.498	5127627
EA firm	0.554	0.497	5127627
Firm employees	1054.631	3134.778	5127627
Firm sales	185.016	784.794	5127627
Year 2011	0.472	0.499	5127627
Training (0/1)	0.32	0.466	5127627
Training weeks	0.332	1.149	5127627
Log earnings	6.646	0.685	4840909

Training: extensive margin (LPM)

	(1)	(2)	(3)	(4)
EA firm	0.074*** (5.21)	0.044*** (6.68)	0.041* (2.45)	0.019 (1.20)
Age	-0.003*** (-8.31)	-0.003*** (-21.91)	-0.001* (-2.21)	-0.001* (-2.18)
Schooling	0.021*** (18.89)	0.012*** (32.26)	0.005*** (4.86)	0.006*** (5.75)
Tenure	0.006*** (13.20)	0.003*** (11.96)	0.003*** (4.02)	0.002*** (3.49)
Female	-0.020** (-2.72)	-0.010*** (-4.75)	0.027** (2.87)	0.007 (0.85)
Constant	0.143*** (7.08)	0.246*** (28.54)	0.280*** (9.77)	0.293*** (10.60)
Firm controls		X		X
Worker FE			X	X
Observations	5105988	5105987	4149389	4149387

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Training: intensive margin (Poisson)

	(1)	(2)	(3)	(4)
EA firm	0.216*** (3.86)	0.152** (2.59)	0.318*** (6.87)	0.295*** (6.50)
Age	-0.0185*** (-15.50)	-0.0158*** (-15.04)	-0.00976 (-1.76)	-0.00963 (-1.65)
Schooling	0.0949*** (23.48)	0.0713*** (26.70)	0.0290*** (3.77)	0.0279*** (3.52)
Tenure	0.0224*** (10.49)	0.0104*** (5.70)	0.00953* (2.56)	0.00588 (1.46)
Female	-0.141*** (-5.77)	-0.0708*** (-4.92)	0.0177 (0.36)	-0.0232 (-0.52)
Constant	-1.642*** (-19.40)	-1.272*** (-17.20)	0.170 (0.74)	0.275 (1.13)
Firm controls		X		X
Worker FE			X	X
Observations	5105988	5105567	1914511	1914509

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Separation (leaving firm) equation

	(1)	(2)	(3)	(4)
EA firm	-0.036*** (-7.93)	-0.028*** (-7.27)	-0.027*** (-7.26)	
Schooling		0.003*** (3.44)	0.003*** (3.78)	0.005*** (5.60)
Tenure		-0.006*** (-10.55)	-0.006*** (-10.55)	-0.003*** (-5.99)
Training weeks			-0.014*** (-6.31)	-0.013*** (-7.53)
EA firm*Training weeks				0.002 (0.81)
Constant	0.295*** (101.52)	0.215*** (9.21)	0.218*** (9.39)	0.174*** (6.17)
Firm controls	X	X	X	
Worker controls		X	X	X
Firm FE				X
Observations	2542887	2530584	2530584	2472335

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Wage equation (1/2)

	(1)	(2)	(3)	(4)
Schooling (years)	0.082*** (56.41)	0.059*** (86.85)	0.083*** (54.17)	0.060*** (89.01)
Training (weeks)	0.036*** (8.37)	0.025*** (8.00)		
EA firm			-0.006 (-0.49)	0.017** (2.96)
Constant	4.731*** (110.51)	5.117*** (171.74)	4.739*** (110.09)	5.113*** (168.70)
Worker controls	X	X	X	X
Firm controls		X		X
Firm FE				
Observations	4821831	4821830	4821831	4821830

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Wage equation (2/2)

	(1)	(2)	(3)	(4)
Schooling (years)	0.0816*** (54.89)	0.0593*** (86.84)	0.0513*** (76.96)	0.0513*** (76.80)
Training (weeks)	0.0360*** (8.42)	0.0252*** (7.99)	0.0156*** (7.03)	0.0115*** (4.48)
EA firm	-0.00890 (-0.68)	0.0160** (2.80)		
Training * EA firm				0.00841* (2.17)
Constant	4.737*** (109.52)	5.109*** (169.57)	5.283*** (144.45)	5.283*** (144.44)
Worker controls	X	X	X	X
Firm controls		X	X	X
Firm FE			X	X
Observations	4821831	4821830	4799637	4799637

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Model of training and (restricted) worker mobility

- Allows us to think about endogenising EA membership and welfare

Empirical evidence consistent with (tacit) NPAs:

- EA workers less likely to move to another firm *in the same EA*
- EA workers receive (much) more training
- Overall separations are lower in EA firms
- EA workers not paid more than non-EA workers

Policy implications:

- Public policy (competition agencies?) may need to pay attention to employers' (EAs) collusion
- How to reduce potential negative effects while still incentivising training?

Outside Offers

- No counter offer from incumbent firm
- Worker gets $w_2 + \beta \cdot (a + \theta - w_2)$
- Takes offer whenever $\geq w_2$, i.e., $a + \theta \geq w_2$
- Two extreme cases: (1) $\beta = 0$ (worker receives w_2 even when poached)
- (2) $\beta = 1$ (worker receives full value of her productivity)
- (Note: $\phi = 1$, F degenerate at 0, $\beta = 1$ is the “competitive” case – the worker receives an outside option for sure, has the same value inside and outside of the firm, and will receive the full outside value; hence the wage in period 2 must reflect the full value of training)

[Return]

The firm solves the following problem:

Maximise

$$-w_1 - c(a) + \mu(a - w_2)$$

subject to:

$$w_1 + \mu w_2 + (1 - \mu)E_\theta[w_2 + \beta(a + \theta - w_2) \mid a + \theta \geq w_2] \geq \underline{U}$$

where

$$\mu := (1 - \phi) + \phi \Pr[a + \theta < w_2]$$

is the probability that the worker stays with the incumbent firm.

We can define efficient training when the extra output equals marginal cost: $c'(a) = 1$.

[Return]