

Towards a More Competitive Labor Market

Ioana Marinescu

US Department of Justice Antitrust Division & University of Pennsylvania

IFC Flagship Conference on Competition and Productivity: Fostering
Private Sector Growth

Free exchange

Economists think antitrust policy should pay more attention to workers

There is mounting evidence that some labour markets are not competitive



Competition in labor markets

- Better data on labor markets, including online job vacancies, job search data and administrative data.
- Growing research interest in labor market competition and monopsony power.
- Growing evidence that workers are paid less than their marginal product in both the US & Europe.
- US competition policy has already taken action to address competition in labor markets & is developing a robust agenda to protect competition for workers' labor.
 - Will discuss during the panel.

Main empirical findings from my research

- US and French labor markets are often highly concentrated.
- Higher labor market concentration is associated with lower wages both in France and in the US: a 10% increase in labor market concentration lowers wages by about 1%.
- In the US, workers are about 20% more productive than their wage level.
- In the US, the labor supply elasticity is fairly small: workers are not very sensitive to wages, so a monopsonist employer can suppress wages significantly below the marginal revenue product of labor.

Outline

- 1 Measuring Labor Market Concentration in the US (Azar, Marinescu, Steinbaum and Taska, 2020)
- 2 Labor Market Concentration and Wages in the US and in France (Azar, Marinescu, Steinbaum, 2022; Marinescu, Ouss and Pape, 2021)
- 3 Labor market competition and wage suppression: the labor supply elasticity (Azar, Berry, Marinescu, 2022)
- 4 Labor market competition and US antitrust policy: for panel discussion

Labor market concentration

- Product market is concentrated when a few companies realize most of the sales, e.g. mobile telecom in the US (3 big firms: Verizon Wireless, AT&T, and T-Mobile).
- Labor market is concentrated when most jobs are held by just a few companies.
- Economic theory predicts that product market concentration (monopoly) increases prices, and labor market concentration (monopsony) *decreases* wages below workers' marginal productivity.

The Herfindahl-Hirschman Index (HHI) in market m and year-quarter t is

$$\text{HHI}_{m,t} = 10,000 \sum_{j=1}^J s_{j,m,t}^2$$

where $s_{j,m}$ is the market share of firm j 's jobs in market m .

0 is perfect competition, 10,000 is monopsony (one single employer).

Data

- Azar, Marinescu, Steinbaum and Taska (2020)
- Burning Glass Technologies (BGT) 2016: near-universe of online US vacancies.
- The share of jobs online as captured by BGT is roughly 85% of the jobs in the Job Openings and Labor Turnover Survey in 2016
- BGT data similar in industry & occupational composition to overall economy (Hershbein and Kahn, 2016).

The Herfindahl-Hirschman Index (HHI): labor market definition

- Labor market: 6-digit SOC occupation, by commuting zone, by quarter.
- HHI calculated at the quarterly level, because this is the average duration of unemployment in the US in 2016.

Figure: HHI by CZ, average over SOC

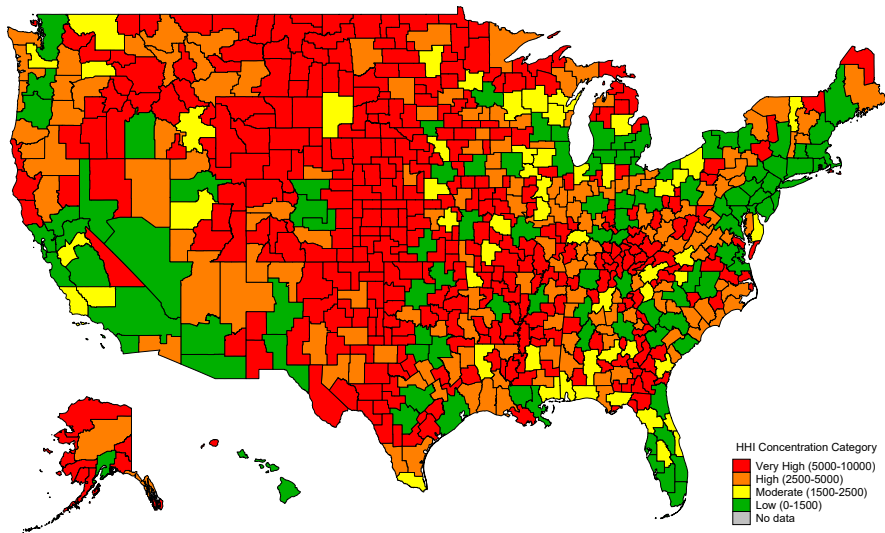


Table: Summary statistics for labor market concentration: baseline & weighted by BLS employment

	Mean	Min	Max	25th Pct.	75th Pct.	Fraction Moderately Concentrated	Fraction Highly Concentrated
<i>Baseline market definition:</i>							
HHI (Unweighted)	4378	4	10000	1232	7279	0.11	0.60
HHI (Weighted by BLS Employment)	1638	4	10000	187	1774	0.08	0.20

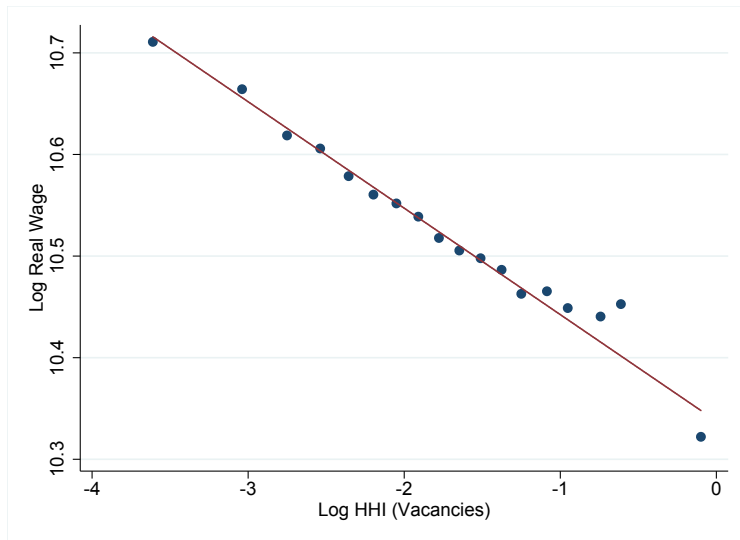
Outline

- 1 Measuring Labor Market Concentration in the US (Azar, Marinescu, Steinbaum and Taska, 2020)
- 2 Labor Market Concentration and Wages in the US and in France (Azar, Marinescu, Steinbaum, 2022; Marinescu, Ouss and Pape, 2021)**
- 3 Labor market competition and wage suppression: the labor supply elasticity (Azar, Berry, Marinescu, 2022)
- 4 Labor market competition and US antitrust policy: for panel discussion

US Data: overview

- Azar, Marinescu, Steinbaum, (2022)
- CareerBuilder.com, similar to BGT data, but only from one large job board. Broadly representative of US economy (Marinescu & Rathelot, 2018).
- Occupations were selected based on counts of jobs posted between 2009 and 2012 on CareerBuilder: 16 of the most frequent SOC-6 occupations.

Figure: Binned scatter of log HHI based on vacancies and log real wage



Econometric specification: OLS panel regression

Our baseline specification is:

$$\log(w_{m,t}) = \beta \cdot \text{HHI}_{m,t} + \gamma \cdot X_{m,t} + \alpha_t + \nu_m + \varepsilon_{m,t}, \quad (1)$$

where $\log(w)$ is the log real wage in market m in year-quarter t , $\text{HHI}_{m,t}$ is the corresponding log HHI, $X_{m,t}$ is a set of controls, and α_t and δ_m are year-quarter and market (commuting zone-occupation) fixed effects, and $\varepsilon_{m,t}$ is an error term.

- Key threat to identification: market-specific changes in labor demand or labor supply could influence both posted wages and HHI. A decrease in labor demand can lower wages and the number of firms hiring in the market, leading to higher concentration; a decrease in labor supply can increase wages, and lower the number of firms hiring, also leading to higher concentration
- Can control for labor market tightness, which is a time-varying measure of labor supply & demand at the market level

IV using the inverse number of employers in other markets

- Instrument the HHI with the average of $\log(1/N)$ in other commuting zones for the same occupation and time period (where N refers to the number of firms in the market).
- This provides us with variation in market concentration that is driven by national-level changes in the occupation, and not by changes in the occupation in that particular local market.
- Such IV commonly used in industrial organization to address the endogeneity of prices in a local product market, e.g. Nevo (2001). In labor, see Autor, Dorn and Hanson (2013).
- Main threat to identification: labor demand or supply shocks could be correlated across areas. Instrument protects us against a spurious correlation between concentration and outcomes due to market-specific changes, but not against national-level changes that influence both local concentration and other outcomes.

Market level regressions

	Dependent Variable: Log(Real Wage)			
	(1)	OLS (2)	(3)	IV (4)
Log HHI (Vacancies)	-0.0347*** (0.00377)	-0.0399*** (0.00392)	-0.0378*** (0.00406)	-0.127*** (0.0176)
Log Tightness		0.0113*** (0.00320)	0.0132*** (0.00357)	0.0305*** (0.00479)
CZ × SOC FE	✓	✓	✓	✓
Year-q FE	✓	✓		
Year-q FE × CZ FE			✓	✓
Observations	59,485	58,642	56,679	56,679
R-squared	0.674	0.672	0.715	0.711
Kleibergen-Paap F				996.7

Wage and employment IV regressions: French data

- Same statistical approach as for the US data.
- French data is more comprehensive, covering *all* new hires.
- A 10% increase in labor market concentration leads to a 0.5% to 1% fall in the wages of new hires (IV).
- A 10% increase in labor market concentration leads to a roughly 1% fall in new hires at the market level (IV).
- Simple merger simulation: merger between the top two employers in the French retail industry would be most damaging, with about €30 million in annual loss to the wage bill of new hires, and a 3,000 decrease in annual hires.
- NB: Prager and Schmitt (2021) and Arnold (2021) show that US mergers that greatly increased labor market concentration reduced wages.

Outline

- 1 Measuring Labor Market Concentration in the US (Azar, Marinescu, Steinbaum and Taska, 2020)
- 2 Labor Market Concentration and Wages in the US and in France (Azar, Marinescu, Steinbaum, 2022; Marinescu, Ouss and Pape, 2021)
- 3 Labor market competition and wage suppression: the labor supply elasticity (Azar, Berry, Marinescu, 2022)**
- 4 Labor market competition and US antitrust policy: for panel discussion

Summary: Azar, Berry, Marinescu, 2022

- Job seeker, application and vacancy data from CareerBuilder.com. 16 SOC6 occupations with highest vacancy count.
- Job differentiation: jobs are not perfect substitutes for each other in the eyes of workers, so a worker may not quit even if offered a higher wage by a competitor.
- We find evidence of significant job differentiation, e.g. by distance to the worker's residence.
- We estimate application elasticities & convert to labor supply elasticities & wage markdown using the standard Manning (2003).
- Firm level elasticity: implies that workers are about 21% more productive than their wages.
- Market-level elasticity well below 2 for most SOC6 by CZ markets: hypothetical monopsonist could significantly lower wages.

Outline

- 1 Measuring Labor Market Concentration in the US (Azar, Marinescu, Steinbaum and Taska, 2020)
- 2 Labor Market Concentration and Wages in the US and in France (Azar, Marinescu, Steinbaum, 2022; Marinescu, Ouss and Pape, 2021)
- 3 Labor market competition and wage suppression: the labor supply elasticity (Azar, Berry, Marinescu, 2022)
- 4 Labor market competition and US antitrust policy: for panel discussion

Conclusion

- Many labor markets are highly concentrated, both in Europe and in the US.
- A 10% increase in labor market concentration is associated with about a 1% decline in wages, both in the US and in France. Similar evidence for Germany, Portugal and Denmark.
- In the US, workers are about 20% more productive than their wages.
- US Department of Justice Antitrust Division is vigorously protecting the rights of workers to competition for their labor, addressing mergers, wage suppression, and employer-designed impediments to worker mobility.
- Policy actions are likely to raise worker mobility and wages, and to improve working conditions.

Thank you!
Ioana Marinescu

Appendix

CareerBuilder Data: selected occupations

The full list of SOC-6 occupations is as follows:

- 11-3011 Administrative services managers
- 13-2011 Accountants and Auditors
- 13-2051 Financial Analysts
- 13-2052 Personal financial advisers
- 13-2053 Insurance Underwriters
- 13-2061 Financial Examiners
- 15-1041 Computer support specialists
- 17-2111 Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
- 17-2112 Industrial engineers
- 29-1111 Registered nurses
- 41-4011 Sales representatives, wholesale & manufacturing, technical & scientific products
- 41-9041 Telemarketers
- 43-3031 Bookkeeping, accounting, and auditing clerks
- 43-4051 Customer service representatives
- 43-6011 Executive secretaries and administrative assistants
- 43-6012 Legal Secretaries
- 43-6013 Medical secretaries
- 43-6014 Secretaries and Administrative Assistants, Except Legal, Medical, and Executive
- 47-1011 First-Line Supervisors of Construction Trades and Extraction Workers
- 49-3041 Farm equipment mechanics
- 49-3042 Mobile Heavy Equipment Mechanics, Except Engines
- 49-3043 Rail Car Repairers
- 51-1011 First-line supervisors/managers of production and operating workers
- 53-3031 Driver/sales workers
- 53-3032 Truck drivers, heavy and tractor-trailer
- 53-3033 Light Truck or Delivery Services Drivers

Figure: Median firm-level wage elasticity of applications

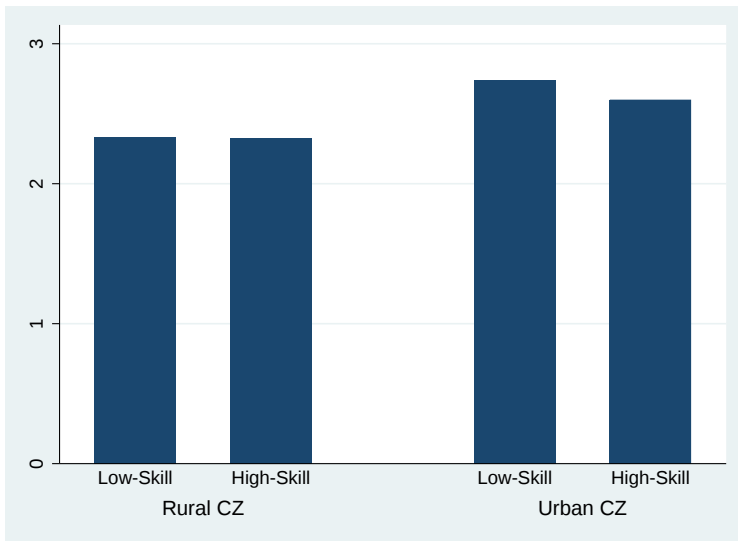


Figure: Median market-level wage elasticity of applications

