

Dissertation Awards

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Essays on Power in Labor Markets

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Workers' pay and working conditions can be determined not just by the productivity of their labor, but also by power and institutions. In my dissertation, I examine three aspects of power and institutions in the U.S. and U.K. labor markets: 1) the wage effects of employer concentration and worker outside options in the United States, 2) the decline of worker power and its macroeconomic implications in the United States, and 3) minimum wage compliance and enforcement in the United States and United Kingdom. Overall, the three essays underscore the importance of labor market power and institutions in the determination of wages—particularly for low- and middle-income workers. In this summary, I describe each essay in more detail and conclude with a discussion of the policy implications.

Essay 1

Employer Concentration and Outside Options

(with Gregor Schubert and Bledi Taska)

In recent years, concerns about employer concentration have increased. It has been posited as a possible cause of inequality, low pay, and stagnant pay growth. Antitrust authorities have been called on to consider employer concentration in merger and acquisition review, and to investigate whether it facilitates restrictions on competition, such as no-poaching agreements. And, since it can be a source of monopsony power (Berger, Herkenhoff, and Mongey 2019; Jarosch, Nimczik, and Sorkin 2019), concerns around high employer concentration have bolstered calls to raise minimum wages and strengthen collective bargaining.¹

In the first essay, we seek to answer the following question: *To what extent does employer concentration matter for U.S. workers' wages, and for whom does it matter the most?* We estimate the effects of employer concentration on average hourly wages across over 100,000 U.S. SOC six-digit occupation-by-metropolitan-area labor markets over the years 2013–2016, following Azar et al. (2020a) in measuring employer concentration with a Herfindahl-Hirschman Index (HHI) constructed from Burning Glass Technologies' online job postings database.

Our strategy addresses two common empirical issues, the first of which is endogeneity. While recent research has documented a negative relationship between local employer concentration and wages (e.g., Azar et al., 2020a,b; Hershbein, Macaluso, and Chen Yeh 2019; Benmelech, Bergman, and Kim 2018; Rinz 2018), the extent to which this causal is unclear: employer concentration may be

correlated with other local economic conditions, which affect wages. To respond to this, we propose a new identification approach for the effects of employer concentration on wages, drawing on shift-share and granular instrumental variables methodology (Borusyak, Hull, and Jaravel 2018; Gabaix and Koijen 2020). We instrument for employer concentration within a particular local occupation with the predicted change in employer concentration, predicting each local employer's hiring with its national hiring in that occupation. This enables us to construct shocks to local employer concentration that are plausibly orthogonal to local productivity, with the key identifying assumption being that each large firm's decision to increase or decrease its hiring nationwide is exogenous with respect to the local economic conditions in any specific local occupation.

The second empirical issue is market definition. Assessing the effect of local employer concentration on wages, and pinpointing the workers who are most affected by it, requires a good definition of the relevant local labor market for workers. Using new, highly granular occupational mobility data constructed from 16 million U.S. workers' resumes (obtained by Burning Glass Technologies),² we show that occupational mobility is high and highly heterogeneous across occupations. This suggests that regressing wages on within-occupation employer concentration—as much recent research does—without considering the availability of these outside occupation job options (a) may obscure heterogeneity, as some occupations are a better approximation of workers' true labor market than others, and (b) may lead to biased estimates, as workers who are in high-concentration labor markets (*within* their local occupation) also tend to have poor local job options *outside* their occupation.

To respond to this, we introduce two new factors into our baseline regressions of wages on within-occupation employer concentration. First, we allow the estimated coefficient on within-occupation employer concentration to vary by occupations' outward mobility, allowing us to estimate different effects of employer concentration on wages for low-mobility vs. high-mobility occupations (for whom the SOC six-digit occupation is less likely to be a good approximation to their true labor market).³ Second, we develop a measure of the value of workers' outside job options in other occupations—an “outside-occupation option index”—and estimate its effect on wages alongside the effect of within-occupation employer concentration. Our outside-occupation option index is the weighted average of local wages in all occupations except the worker's own, with each weight the product of (a) occupational mobility flows to each outside occupation and (b) the local relative employment share in each outside occupation (building on work on spillover effects of local outside job options by Beaudry, Green, and Sand [2012]; Caldwell and Danieli [2018]; and Macaluso [2019], among others). We use a shift-

share instrumental variables approach to identify effects of changes in this outside-occupation option index on wages, instrumenting for local occupational wages with the leave-one-out national mean wage in outside option occupations.

How much does employer concentration matter for wages? Our baseline results suggest that while most workers are not in highly concentrated labor markets, moving from the median to the 95th percentile HHI (as faced by workers) results in 2.6 log points lower wages.⁴ This average masks substantial heterogeneity: within-occupation employer concentration matters substantially more for workers who are less able to find comparably good jobs in other occupations. For occupations in the lowest quartile of occupational mobility, like registered nurses and security guards, moving from the median to 95th percentile HHI is associated with between 4 and 8 log points lower wages; for occupations in the highest quartile of occupational mobility, like counter attendants or bank tellers, our point estimate is zero, and the confidence interval rules out any decrease in wages greater than 1.8 log points. A back-of-the-envelope calculation, using our coefficient estimates, suggests that over 10 percent of the 110 million workers covered by our data experience wage suppression of 2 percent or more as a result of employer concentration. Many of the most-affected workers are health care workers, reflecting both high health care employment concentration and low occupational mobility.

We also find a positive and significant effect of an increase in the value of outside-occupation options, holding constant within-occupation employer concentration: for the median occupation, moving from the 25th to the 75th percentile value of outside-occupation options across cities is associated with 3.7 log points higher wages.⁵ This is economically meaningful: for the median occupation, moving from the 25th to the 75th percentile city by average wage is associated with a 21 log points higher wage.

Overall, our findings point to a middle ground between two prominent views about the effects of employer concentration in the U.S. labor market: employer concentration is neither a niche issue confined to a few factory towns, nor does it seem prevalent enough to affect average wages or inequality to a large degree. The fact that employer concentration affects wages for several million Americans, however, suggests that increased policy attention to this issue is appropriate—perhaps in terms of antitrust, policies to raise wages, and policies to increase worker mobility. For these policy decisions, our work underscores that the definition of the labor market is vitally important.

Essay 2

The Declining Worker Power Hypothesis

(with Lawrence H. Summers)

Since the early 1980s in the United States, the share of income going to labor has fallen, measures of corporate valuations like Tobin's Q have risen, average profitability has risen even as interest rates have declined, and measured markups have risen. Over the same time period, average unemployment has fallen substantially even as inflation has stayed low, suggesting a decline in the NAIRU. In the second essay, we argue that *the decline in worker power has been the major structural change responsible for these economic phenomena.*

How could this be the case? Consider an economy characterized by three types of power, to varying degrees: monopoly power, monopsony power, and worker power.⁶ Firms' monopoly power generates pure profits or rents, and worker power gives workers an ability to share in these rents. A decline in worker power can therefore lead to a redistribution of rents from labor to capital owners. This in turn can be expected to lead to a decline in the labor share of income and a rise in corporate profitability and valuations. At the same time, under this framework (and most other models of worker power), a fall in worker power would predict a fall in the NAIRU, as the decline in the cost of labor increases firms' hiring, and/or as "wait unemployment" falls (see, e.g., Mortensen and Pissarides 1999 and Figura and Ratner 2015).

The above logic makes clear that it is *possible* that declining worker power could account for the macro trends we have seen. The goal of our paper is to address whether this is empirically *plausible*. We make our case in four parts. First, we assemble evidence of the large decline in worker power in the United States over the past four decades. Second, we attempt to quantify the decline in worker power as manifested in a decline in labor rents and show that it was economically meaningful. Third, we show that aggregate, industry-level, and state-level changes in labor rents are consistent with changes in labor shares, corporate profitability and valuations, and unemployment. Fourth, we illustrate that falling worker power is at least as consistent—if not more so—with the data than other explanations that focus only on rising monopoly power, globalization, or technological change.

The Decline in Worker Power

In the early postwar decades, there was substantial evidence of rent sharing in U.S. labor markets: unionized workers; nonunion workers in large firms or in certain high-wage industries (like manufacturing, mining, telecommunications, and utilities); and workers in

industries with high productivity, profits, or product market concentration all tended to receive pay premia relative to observably equivalent workers without each of these characteristics (e.g., Freeman and Medoff 1984; Brown and Medoff 1989; Katz and Summers 1989). But each of these indicators of labor market rent sharing has weakened substantially over recent decades. The private sector union membership rate declined from over one-third at its peak in the 1950s to 6 percent today (Rosenfeld 2014). Since the 1980s the large firm wage premium has fallen by about a third (Hollister 2004; Song et al. 2019), and we find a decline of about one-third in the dispersion of industry wage premia (as calculated from the Current Population Survey). In manufacturing, we find that higher revenue productivity is less likely to translate into higher pay than it was in the 1960s; Bell et al. (2019) find a similar result for the profitability-pay relationship. We also find some evidence of a weakening in the relationship between industrial concentration and pay across sectors.⁷

Quantifying the Decline in Labor Rents

How big was the decline of worker power in macroeconomic terms? We use estimates of the union wage premium, large firm wage premium, and industry wage premia from the Current Population Survey to quantify the magnitude of the decline in total rents going to labor over 1982–2016. We estimate that labor rents declined from 12 percent of net value added in the nonfinancial corporate business sector in the early 1980s to 6 percent in the 2010s. Decompositions suggest this decline was largely due to changes within industries, rather than across industries (as employment shifted from manufacturing to services). The decline in labor rents appears in large part to have been a result of a redistribution of rents from labor to capital owners, rather than a destruction of rents overall (as a result of, e.g., rising product market competition).⁸

Labor Shares, Corporate Profitability, and Valuations

Was the pattern of the decline of labor rents consistent with the macro trends we seek to explain? For the labor share, we show that our estimate of the decline in labor rents is big enough to explain the entire decline in the net labor share in the nonfinancial corporate sector. At the state and NAICS three-digit industry level, our measure of the decline in the labor rent share is also strongly predictive of changes in the labor share over 1984–2016.

For corporate profitability and valuations, Greenwald et al. (2019) estimate that the decline in the labor share explains 43 percent of the increase in U.S. equity values since 1989. If falling worker power can indeed explain the decline in the labor share, this suggests that falling worker power can also explain much of the increase in equity valuations.

In addition, we show that industries with larger declines in labor rents tended to have larger increases in average profitability and in valuations as measured by Tobin's Q .

Finally, for unemployment, we show that states and industries with bigger falls in labor rents over recent decades saw bigger falls in their average unemployment rate. Extrapolation from our coefficient estimates suggests that the aggregate fall in worker power could be big enough to explain a large share of the decline in the NAIRU.

Worker Power vs. Other Hypotheses

Prominent recent explanations for the fall in the labor share and concurrent rise in corporate valuations have posited a rise in product market monopoly power (Barkai, forthcoming; Gutiérrez and Philippon 2017, 2019; Eggertsson et al. 2018; Farhi and Gourio 2018; Loecker et al. 2020). Yet, replicating Farhi and Gourio's (2018) decomposition exercise, we illustrate that a decline in rent sharing with labor (falling worker power) is just as consistent with these macro-financial trends as a rise in monopoly power. Moreover, we show that changes in labor rents at the industry level have substantially more explanatory power than changes in product market concentration for changes in labor shares, profitability, and Q . Indeed, manufacturing industries have seen some of the biggest falls in labor shares but minimal increases in (import-adjusted) product market concentration. Other explanations for the fall in the labor share focus on globalization and/or technological change (see, e.g., Elsby et al. 2013; Karabarbounis and Neiman 2014; Acemoglu and Restrepo 2018; Autor et al. 2020). But any explanation grounded in perfect competition is unable to account for the rise in measured markups and corporate valuations (Eggertsson et al. 2018). Moreover, the decline in the labor share has been much more pronounced in the United States than other economies similarly exposed to globalization and technological change. Finally, globalization, technological change, and monopoly power each fail to offer an explanation for the large fall in the NAIRU. Taken together, these suggest to us that globalization, technological change, or rising monopoly power alone lack the ability to explain recent economic developments in a unified way.

Overall, we conclude that the decline in worker power is one of the most important structural changes to have taken place in the U.S. economy in recent decades, in terms of its macroeconomic impact. Our focus on the decline in worker power is in line with a long history of progressive institutionalist work in the social sciences, exemplified by Freeman and Medoff (1984), Levy and Temin (2007), Bivens et al. (2018), Kristal (2010), Rosenfeld (2014), and Ahlquist (2017). Our results suggest that, if seeking to reverse the decline in the labor share, approaches that focus on perfecting product or labor market competition may not

be sufficient. Instead, institutional changes that enhance workers' countervailing power may be necessary (but would need to be carefully considered in light of the possible risks of increasing unemployment).

Essay 3

Incentives to Comply with the Minimum Wage in the United States and United Kingdom

(U.K. section cowritten with Lindsay Judge)

The minimum wage is a core protection for workers in both the United States and the United Kingdom. But it is only effective to the extent that it is complied with. In the third essay, partly cowritten with Lindsay Judge, I ask the question, "What incentive do firms have to comply with the minimum wage in the United States and the United Kingdom?" Assuming a profit-maximizing firm has an incentive to comply if the expected costs of noncompliance exceed the extra profits that can be earned through noncompliance (as in Becker, 1968; Ashenfelter and Smith 1979), I estimate firms' incentives to comply with federal minimum wage and overtime law in the United States (as per the Fair Labor Standards Act [FLSA] 1938), and with the minimum wage in the United Kingdom (as per the National Minimum Wage Act 1998).^{9,10}

Compliance Incentives in the United States

In the United States, while minimum wage and overtime violations can in theory incur large penalties under the FLSA, in practice, the available evidence suggests that most violating firms pay relatively little. All (detected) violators must pay back wages owed to workers. Violators may also be required to pay up to an equal amount in liquidated damages, but while this often occurs in court actions, this appears to occur only rarely in Department of Labor (DOL) investigations. Repeat and/or willful violators may also be required to pay civil monetary penalties, but analysis of the DOL's compliance and enforcement database (containing all investigations over 2005–2020) shows that only 11 percent of detected FLSA violations are deemed repeat and/or willful, that nearly half of these are not required to pay any civil monetary penalty, and that typical penalties (when levied) are relatively small: for eligible violators, the median penalty is around 30 cents per dollar of back wages owed. Finally, criminal prosecution is rare: there were 10 criminal convictions for FLSA underpayment during 2005–2016—a period during which the DOL identified nearly 3,000 willful FLSA minimum wage and/or overtime underpayments.

What does this mean for compliance incentives? Given these relatively small costs of breaking the law, typical

firms would have to expect extremely high probabilities of detection to have a financial incentive to comply. For example, the typical first-time violator detected by the DOL would have to expect a probability of detection of at least 88 percent, and even the most egregious first-time violators would have to expect a probability of detection of at least one in three. Higher penalties are levied on repeat violators, but even then, the typical repeat violator detected by the DOL would have to expect a probability of detection of at least 78 percent to have an incentive to comply. The actual probability of detection is likely much lower than this for many firms. Given limited resources, even in high-risk sectors the probability of a firm receiving a DOL inspection in any given year may be as low as 2 percent (Ji and Weil 2015; Galvin 2016). And while for some firms, the risk of worker complaints is enough to incentivize compliance, complaints are often unlikely: workers may be unaware they are being underpaid, unable to spare the time or resources to complain, or unwilling to complain for fear of retaliation or involvement with the legal system.

Compliance Incentives in the United Kingdom

In the United Kingdom, while penalties have increased in recent years, our analysis of data from government records and freedom of information requests shows that the total cost of a minimum wage violation for a typical firm remains relatively low. All firms caught underpaying the minimum wage must pay arrears (the wages owed) to the affected workers. In HM Revenue and Customs (HMRC) inspections, around 60 percent of firms are also required to pay a penalty worth 100 percent of the arrears (with an additional 100 percent of arrears due if the penalty is not paid promptly); the remaining 40 percent are offered the option to "self-correct," meaning that the firm pays no penalty. In employment tribunal cases, violating firms may in theory have to pay substantial penalties if there are aggravating circumstances, but in practice these penalties are almost never levied. And while in theory it is possible for firms or individuals to be criminally prosecuted and subject to an unlimited fine for severe minimum wage violations, there were only 14 prosecutions between 2007 and 2018 (a period during which HMRC identified over 7,000 minimum wage violations), with an average fine of £2,695.

What does this mean for compliance incentives? Under the HMRC penalty regime, most firms would have to expect at least a 50 percent chance of being caught (by HMRC) in order to have an incentive to pay their workers the minimum wage. While HMRC has substantial inspection resources, meaning that for some firms the probability of detection may well be 50 percent or higher, a back-of-the-envelope exercise using estimates of noncompliance by firm size from the Annual Survey of Hours and Earnings suggests that for the typical firm violating the minimum wage, the probability

of detection in a given year is between 3 percent and 13 percent. And while HMRC is not the only enforcement channel—workers can also take a minimum wage complaint to an employment tribunal or county court—the fact that firms rarely have to pay any penalty in these settings means that firms would have to expect near-certain detection for this channel to represent a meaningful deterrent.

Overall, the analysis in this paper therefore suggests that for many firms in both the United States and the United Kingdom, compliance with the minimum wage essentially rests on firms' reputational concerns or managerial goodwill. Viewed from this perspective, it is perhaps unsurprising that noncompliance with the minimum wage appears to be common in both countries, with Galvin (2016) estimating that 16.9 percent of low-wage workers in the United States experienced a minimum wage violation in 2013, and the Low Pay Commission (2019) estimating that 22 percent of individuals covered by minimum wage rates were underpaid in April 2018. If the minimum wage is to be an effective tool for ending low pay—while also ensuring a level playing field for law-abiding businesses—compliance and enforcement should be a central focus for policymakers.

Summary and Policy Implications

Overall, the three essays in this dissertation underscore the importance of labor market power and institutions in the determination of wages. If society wishes to raise pay for low- and middle-income workers and to reduce income inequality, these essays suggest a number of possible policy responses.

The first essay finds that employer concentration suppresses wages for at least 10 percent of U.S. workers. Policy responses could include (a) increased antitrust scrutiny of labor markets, particularly of mergers which increase local employer concentration for workers in occupations with few outside-occupation options; (b) targeted provision of countervailing power through wage floors and/or support for unions in highly concentrated labor markets; and (c) policies to expand workers' outside option set by reducing barriers to occupational and/or geographic mobility (such as expanded affordable housing in expensive cities, reciprocal state recognition of occupational licensing, or removal of unnecessary barriers to occupational licensing or certification).

The second essay finds that the decline in worker power can account for the decline in the U.S. labor share. Reversing this decline may therefore require policies to reverse trends in worker power. This could include a strengthening of formal worker power through support for unions and collective bargaining, increases in incentives for firms to maximize a broader conception of stakeholder value (including workers) alongside shareholder value, or other

changes in the legal and policy environment that enable workers to share in the profits generated by their firms.

The third essay finds that the low penalties and low probabilities of detection give many firms in the United States and the United Kingdom limited incentives to comply with the minimum wage. The problem of minimum wage noncompliance is therefore unsurprising, and may only become more acute as minimum wages are set to be increased in both the United States and the United Kingdom. Increased penalties, alongside increased investigation resources, are needed to ensure that most firms have an incentive to comply with these core protections.

Notes

1. Authors making the arguments in this paragraph include, variously, Bahn (2018); Shambaugh et al. (2018); Krueger and Posner (2018); Naidu, Posner, and Weyl (2018); Marinescu and Hovenkamp (2019); Marinescu and Posner (2020).
2. The large sample size—an order of magnitude more than other data sources—enables us to estimate occupational transitions reliably between a large share of U.S. occupations. We are making this new occupational mobility dataset publicly available.
3. Our use of occupational flows to identify workers' "revealed" labor markets builds on Shaw (1987); Manning and Petrongolo (2017); Neffke, Otto, and Weyl (2017); and Nimezik (2018).
4. Our estimates are consistent with Arnold (2020) and Prager and Schmitt's (2019) estimates of the effect of changes in employer concentration as a result of merger and acquisition activity.
5. We also find coefficient estimates of the effect of within-occupation employer HHI on wages are biased upward by around 30–40 percent if outside-occupation options are not included in the analysis.
6. Monopoly power may arise from barriers to entry or from innate features of particular product markets, such as heterogeneous production technologies or short-run fixed costs. Labor market monopsony power may arise from employer concentration and/or frictions, and results in an upward sloping labor supply curve to the firm, enabling a wage below the marginal revenue product. Worker power—arising from unionization or the threat of unionization, firms being run partly in the interests of workers, and/or efficiency wage effects—enables workers to increase their pay above the level that would prevail in the absence of such power.
7. The decline in worker power was likely a result of three broad shifts: 1) institutional changes, as the policy environment became less supportive of unions and the minimum wage fell in real terms (see, e.g., Rosenfeld 2014); 2) changes within firms, as increased shareholder power created pressure to cut labor costs, leading to wage reductions and the "fissuring" of the workplace (see, e.g., Weil 2014); and 3) changing economic conditions, as labor faced increased competition from technology and from low-wage countries (see, e.g., Levy and Temin 2007).
8. Specifically: the majority of industries that saw substantial declines in rents to labor also saw substantial increases in profits to capital over 1987–2016, and in manufacturing—

the sector with the biggest decline in the labor share—the industries with the greatest exposure to low-wage import competition were not the industries with the biggest declines in labor rents.

9. This conceptual framework has also been applied to labor and employment laws by Grenier (1982), Chang and Ehrlich (1985), Lott and Roberts (1995), Weil (2005), and Hallett (2018), among others.
10. I focus only on the explicit penalties imposed by the legal system. While reputational costs also matter for some firms' compliance decisions (Ji and Weil 2015; Johnson 2020), one cannot rely only on reputational costs to ensure compliance: if so, workers at the companies that do not face reputational costs may suffer from underpayment, and companies that would face reputational costs from noncompliance may simply be undercut by those that would not.

References

- Acemoglu, Daron, and Pascual Restrepo. 2018. "The Race between Man and Machine: Implications of Technology for Growth, Factor Shares, and Employment." *American Economic Review* 108(6): 1488–1542.
- Ahlquist, John S. 2017. "Labor Unions, Political Representation, and Economic Inequality." *Annual Review of Political Science* 20: 409–432.
- Arnold, David. 2020. "Mergers and Acquisitions, Local Labor Market Concentration, and Worker Outcomes." Working paper. Princeton, NJ: Princeton University.
- Ashenfelter, Orley, and Robert S. Smith. 1979. "Compliance with the Minimum Wage Law." *Journal of Political Economy* 87(2): 333–350.
- Autor, David, David Dorn, Lawrence F. Katz, Christina Patterson, and John Van Reenen. 2020. "The Fall of the Labor Share and the Rise of Superstar Firms." *Quarterly Journal of Economics* 35(2): 645–709.
- Azar, José, Ioana Marinescu, and Marshall Steinbaum. 2020. "Labor Market Concentration." *Journal of Human Resources* 1218–9914R1.
- Azar, José A, Ioana Marinescu, Marshall I. Steinbaum, and Bledi Taska. 2020. "Concentration in US Labor Markets: Evidence From Online Vacancy Data," *Labour Economics*, 66(C): 101–886.
- Bahn, Kate. 2018. *Understanding the Importance of Monopsony Power in the U.S. Labor Market*. Technical report. Washington, DC: Washington Center for Equitable Growth.
- Barkai, Simcha. Forthcoming. "Declining Labor and Capital Shares." *Journal of Finance*.
- Beaudry, Paul, David A. Green, and Benjamin Sand. 2012. "Does Industrial Composition Matter for Wages? A Test of Search and Bargaining Theory." *Econometrica* 80(3): 1063–1104.
- Becker, Gary S. 1968. "Crime and Punishment: An Economic Approach." In *The Economic Dimensions of Crime*, Nigel G. Fielding, Alan Clarke, and Robert Witt, eds. London: Palgrave Macmillan, pp. 13–68.
- Bell, Brian, Pawel Bukowski, and Stephen Machin. 2019. "Rent Sharing and Inclusive Growth." Working Paper No. 29. London: London School of Economics International Inequalities Institute.
- Benmelech, Efraim, Nittai Bergman, and Hyunseob Kim. 2018. "Strong Employers and Weak Employees: How Does Employer Concentration Affect Wages?" Working Paper No. 23407. Cambridge, MA: National Bureau of Economic Research.
- Berger, David W., Kyle F. Herkenhoff, and Simon Mongey. 2019. "Labor Market Power." IZA Discussion Paper No. 12276. Bonn: IZA.
- Bernhardt, Annette, Michael W. Spiller, and Diana Polson. 2013. "All Work and No Pay: Violations of Employment and Labor Laws in Chicago, Los Angeles, and New York City." *Social Forces* 91(3): 725–746.
- Bivens, Josh, Lawrence Mishel, and John Schmitt. 2018. *It's Not Just Monopoly and Monopsony: How Market Power Has Affected American Wages*. Washington, DC: Economic Policy Institute.
- Borusyak, Kirill, Peter Hull, and Xavier Jaravel. 2018. *Quasi-Experimental Shift-Share Research Designs*. Technical report. Cambridge, MA: National Bureau of Economic Research.
- Brown, Charles, and James Medoff. 1989. "The Employer Size Wage Effect." *Journal of Political Economy* 97(5): 1027–1059.
- Caldwell, Sydnee, and Oren Danieli. 2018. "Outside Options in the Labor Market." Working paper.
- Chang, Yang-Ming, and Isaac Ehrlich. 1985. "On the Economics of Compliance with the Minimum Wage Law." *Journal of Political Economy* 93(1): 84–91.
- Clemens, Jeffrey. 2021. "How Do Firms Respond to Minimum Wage Increases? Understanding the Relevance of Non-employment Margins." *Journal of Economic Perspectives* 35(1): 51–72.
- Cooper, David, and Teresa Kroegeer. 2017. "Employers Steal Billions from Workers' Paychecks Each Year." Washington, DC: Economic Policy Institute.
- Dube, Arindrajit. 2019. *Impacts of Minimum Wages: Review of the International Evidence*. Independent report. London: Crown.
- Eastern Research Group. 2014. *The Social and Economic Effects of Wage Violations: Estimates for California and New York*. Report prepared for the U.S. Department of Labor 2014-12. Lexington, KY: Eastern Research Group.
- Eggertsson, Gauti B., Jacob A. Robbins, and Ella Getz Wold. 2018. "Kaldor and Piketty's Facts: The Rise of Monopoly Power in the United States." Working Paper No. 24287. Cambridge, MA: National Bureau of Economic Research.
- Elsby, Michael W.L., Bart Hobijn, and Aysegül Sahin. 2013. "The Decline of the U.S. Labor Share." *Brookings Papers on Economic Activity* (Fall): 1–63.
- Farhi, Emmanuel and François Gourio. 2018. "Accounting for Macro-Finance Trends: Market Power, Intangibles, and Risk Premia." *Brookings Papers on Economic Activity* (Fall): 147–250.
- Freeman, Richard B., and James L. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.
- Gabaix, Xavier, and Ralph Koijen. 2020. "Granular Instrumental Variables." Working paper No. 28204. Cambridge, MA: National Bureau of Economic Research.
- Galvin, Daniel J. 2016. "Deterring Wage Theft: Alt-Labor, State Politics, and the Policy Determinants of Minimum Wage Compliance." *Perspectives on Politics* 14(2): 324–350.
- Greenwald, Daniel L., Martin Lettau, and Sydney C. Ludvigson. 2019. "How the Wealth Was Won: Factors Shares as Market Fundamentals." Working Paper No. 25769. Cambridge, MA: National Bureau of Economic Research.
- Grenier, Gilles. 1982. "On Compliance with the Minimum Wage Law." *Journal of Political Economy* 90(1): 184–187.

- Gutiérrez, Germán, and Thomas Philippon. 2017. "Investmentless Growth: An Empirical Investigation," *Brookings Papers on Economic Activity* (Fall): 89–190.
- . 2019. "Fading Stars." *American Economic Association Papers and Proceedings* 109: 312–316.
- Hallett, Nicole. 2018. "The Problem of Wage Theft." *Yale Law & Policy Review* 37: 93.
- Hershbein, Brad, Claudia Macaluso, and Chen Yeh. 2019. "Concentration in U.S. Local Labor Markets: Evidence from Vacancy and Employment Data." Paper presented at the Society for Economic Dynamics Annual Meeting, held at Washington University in St. Louis, MO, June 27–29.
- Hollister, Matissa N. 2004. "Does Firm Size Matter Anymore? The New Economy and Firm Size Wage Effects." *American Sociological Review* 69(5): 659–676.
- Jarosch, Gregor, Jan Sebastian Nimczik, and Isaac Sorkin. 2019. "Granular Search, Market Structure, and Wages." Working Paper No. 26239. Cambridge, MA: National Bureau of Economic Research.
- Ji, MinWoong, and David Weil. 2015. "The Impact of Franchising on Labor Standards Compliance." *ILR Review* 68(5): 977–1006.
- Johnson, Matthew S. 2020. "Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety and Health Laws." *American Economic Review* 110(6): 1866–1904.
- Karabarbounis, Loukas, and Brent Neiman. 2014. "The Global Decline of the Labor Share." *Quarterly Journal of Economics* 129(1): 61–103.
- Katz, Lawrence F., and Lawrence H. Summers. 1989. "Industry Rents: Evidence and Implications." *Brookings Papers on Economic Activity: Microeconomics*, 209–290. https://www.brookings.edu/wp-content/uploads/1989/01/1989_bpeamicro_katz.pdf (accessed October 22, 2021).
- Kristal, Tali. 2010. "Good Times, Bad Times: Postwar Labor's Share of National Income in Capitalist Democracies." *American Sociological Review* 75(5): 729–763.
- Krueger, Alan B., and Eric A. Posner. 2018. "A Proposal for Protecting Low Income Workers from Monopsony and Collusion." Policy Proposal 2018-05. Washington, DC: Hamilton Project.
- Levy, Frank, and Peter Temin. 2007. "Inequality and Institutions in 20th Century America." Working Paper No. 13106. Cambridge, MA: National Bureau of Economic Research.
- Loecker, De, Jan Eeckhout Jan, and Gabriel Unger. 2020. "The Rise of Market Power and the Macroeconomic Implications." *Quarterly Journal of Economics* 135 (2): 561–644.
- Lott, John R., and Russell D. Roberts. 1995. "The Expected Penalty for Committing a Crime: An Analysis of Minimum Wage Violations." *Journal of Human Resources* 30(2): 397–408.
- Low Pay Commission. 2019. "Non-compliance and enforcement of the National Minimum Wage." London: Low Pay Commission.
- Macaluso, Claudia. 2019. "Skill Remoteness and Post-Layoff Labor Market Outcomes." Working paper. Chicago: University of Chicago.
- Manning, Alan. 2021. "The Elusive Employment Effect of the Minimum Wage." *Journal of Economic Perspectives* 35(1): 3–26.
- Manning, Alan, and Barbara Petrongolo. 2017. "How Local are Labor Markets? Evidence from a Spatial Job Search Model." *American Economic Review* 107(10): 2877–2907.
- Marinescu, Ioana, and Herbert Hovenkamp. 2019. "Anticompetitive Mergers in Labor Markets." *Indiana Law Journal* 94(3).
- Marinescu, Ioana, and Eric A. Posner. 2020. "Why Has Antitrust Law Failed Workers?" *Cornell Law Review* 105(5): 1343–1394.
- Naidu, Suresh, Eric A. Posner, and E. Glen Weyl. 2018. "Antitrust Remedies for Labor Market Power." *Harvard Law Review* 132(536): 537–600.
- Neffke, Frank, Anne Otto, and Antje Weyh. 2017. "Inter-industry labor flows." *Journal of Economic Behavior & Organization* 142(C): 275–292.
- Nimczik, Jan Sebastian. 2018. "Job Mobility Networks and Endogenous Labor Markets." Paper presented at the VfS Annual Conference, Vienna.
- Prager, Elena, and Matthew Schmitt. 2019. "Employer Consolidation and Wages: Evidence from Hospitals." *American Economic Review* 111(2): 397–427.
- Rinz, Kevin. 2018. "Labor Market Concentration, Earnings Inequality, and Earnings Mobility." U.S. Census Bureau Carra Working Paper Series, 2018-10. Washington, DC: U.S. Census Bureau.
- Rosenfeld, Jake. 2014. *What Unions No Longer Do*. Cambridge, MA: Harvard University Press.
- Shambaugh, Jay, Ryan Nunn, Audrey Breitwieser, and Patrick Liu. 2018. *The State of Competition and Dynamism: Facts about Concentration, Start-Ups, and Related Policies*. Washington, DC: Hamilton Project.
- Shaw, Kathryn L. 1987. "Occupational Change, Employer Change, and the Transferability of Skills." *Southern Economic Journal* 53(3): 702–719.
- Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till Wächter. 2019. "Firming Up Inequality." *Quarterly Journal of Economics* 134(1): 1–50.
- Weil, David. 2005. "Public Enforcement/Private Monitoring: Evaluating a New Approach to Regulating the Minimum Wage." *ILR Review* 58(2): 238–257.
- . 2014. *The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It*. Cambridge, MA: Harvard University Press.

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