Understanding the Present and Future of Work in the Fissured Workplace Context

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The fissuring *of business structures fundamentally changes the nature of employment and work in industries and the economy as a whole. This article describes the core elements comprising fissuring, distinguishes them from the narrower concepts of contingent work and alternative work arrangements, and provides an estimate of its size. Work restructuring arising from fissuring alters wage determination inside and outside firms affected by it and provides an alternative explanation for a growing empirical literature on earnings inequality. The fissured workplace perspective requires different policies for the workplace and labor market than traditional approaches including those regarding worker rights and protections, employment responses to the business cycle, workforce education and training, and job and career mobility.*

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When a book, blender, or box of cereal from a branded online retailer arrives at our door within a day or even hours after purchase, we seldom consider how that item got there. On ordering, we are instantly told by the retailer when we can expect delivery and are enabled to monitor in real time when the item is packed, put in transit, and arrives. We are also assured by the retailer that our satisfaction with a timely arrival and readiness for use is guaranteed. Most customers do not know, however, that the delivery was governed by strict deadlines on timing and quality of delivery by the retailer, its progress monitored by retailer information technologies and sophisticated software systems, and allocated in "blocks" designed to minimize time from the distribution center to the door. But the actual "final mile" to an individual doorway is done by an independent contractor (that is, workers acting as a self-employed entity), paid on a piece-rate basis who bear all the costs for the fuel, vehicle, parking tickets, and the risks of injury arising from a slip or fall or angry neighborhood dog.

When we receive our orders from an online retailer, much less stay at a hotel, use our digi-

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tal devices, or order takeout food, we make the assumption that the branded company we paid for these services—Amazon, Marriott, Apple, McDonalds, and so on—also employs the people who deliver or make them. This assumption is increasingly incorrect: our deliveries are often undertaken by contractors and our hotel rooms are cleaned by workers from staffing agencies. The change in how businesses organize themselves to achieve core objectives while shifting more and more of the work to other entities changes the nature of employment. The consequences of this restructuring have been felt most by low-wage workers for some time. But those with college and graduate educations, even in professions once regarded as protected from the ups and downs of churning labor markets, are increasingly being affected as well.

Over the past three decades, major companies throughout the economy have faced intense pressure to improve financial performance for private and public investors. They responded by focusing their businesses on core competencies—that is, activities that provide the greatest value to their consumers and investors—and by shedding less essential activities. Firms typically started by outsourcing activities such as payroll, publications, accounting, and human resources. But, over time, outsourcing spread to activities such as janitorial and facilities maintenance and security. Later, it went deeper, spreading into employment activities that could be regarded as core to the company's core competency. For example, the use of staffing agencies for distribution centers began as a response to meet fluctuating staffing needs driven by the cycle of retail demand. Over time, however, retailers and their third-party managers began to rely on it increasingly to staff ongoing activities and later home delivery. Similarly, hotel properties turned to staffing agencies for room cleaning, restaurants for kitchen crews, and even law firms for basic legal tasks.

Once an activity like janitorial services, loading dock labor, or housekeeping is shed, the secondary businesses doing that work are affected, often shifting those activities to still other businesses. A common practice in janitorial work, for instance, is for companies in the hotel or grocery industries to outsource that work to cleaning companies. Those companies, in turn, often hire smaller businesses to provide workers for specific facilities or shifts.

The opening example illustrates the "recipe" underlying what I term the *fissured workplace*. First, it involves companies seeking to focus on their greatest competence from the perspective of customers and especially investors (such as logistics excellence and inventory risk minimization for modern retailers). Second, fissured business models shed as many as possible of the activities not core to delivering those competencies to other organizations (third-party managers and, in turn, staffing agencies in the above). Finally, and crucially, the lead business maintains tight control of the outcomes of those subsidiary organizations in orbit around its competence through standards, monitoring, and mechanisms of enforcement. This ensures that the competence is fulfilled and other entities are allowed to do—and be responsible for—the work, for reasons that will be made clear. In retailing, this means detailed standards and associated contracts between the different organizations, though it can also take the form of franchising, supply chain monitoring mechanisms, or increasingly sophisticated software algorithms.

The broader changes involved in fissuring mean that its impact goes beyond the narrower concepts of contingent work or alternative work arrangements.

HOW BIG IS THE FISSURED WORKPLACE?

When I was working on the manuscript for *The Fissured Workplace*, I sought a term to capture the profound business restructuring that was emerging in a variety of industries. Those changes included but were not limited to the offshoring, outsourcing, and use of staffing agencies that led to work characterized by low wages, noncompliance with core workplace statutes, limited benefits, more contingent employment, greater risk exposure, and weakened bargaining leverage for workers in general. I purposefully chose a somewhat obscure geologic term as the metaphor for this fragmentation to highlight that the practices associated with fissuring arose from a more fundamental

change in how businesses structured themselves beginning in the 1980s.

The fissured workplace connotes restructuring motivated by capital market demands that major businesses focus on the core competencies that provide value to customers and investors and concomitantly shed activities to other entities to carry out those efforts (Appelbaum and Batt 2014; Davis 2013). But the organizations that undertake that fissured activity for lead businesses are guided by exacting standards and high-powered incentives to ensure that core competencies are met (Prahalad and Hamel 1990). These take the form of detailed subcontracting and supply chain requirements, franchise agreements, and most recently the highly calibrated incentive systems created by platform algorithms. This allows major businesses to have it both ways: benefit from work executed in strict compliance with central corporate objectives and not be required to treat the workers who do it as their employees with the obligations that relationship holds.

This comprehensive definition of the changes that are transforming the workplace in the United States (and elsewhere around the world) gives rise to the challenge of how to measure its prevalence. Start with the kinds of alternative work practice tracked by the U.S. Bureau of Labor Statistics (BLS) using its Contingent Worker Survey (CWS). The four practices that BLS classifies as alternative work arrangements—independent contracting, on-call employment, temporary help, and contract work—are measured in the CWS through the household survey, and certainly are linked to the concept of fissuring. Based on the CWS, the BLS estimated some 10.6 million independent contractors (6.9 percent of total employment), 2.6 million on-call workers (1.7 percent of total employment), 1.4 million temporary help agency workers (0.9 percent of total employment), and 933,000 workers provided by contract firms (0.6 percent of total employment).

The recent CWS estimates represent a slight decrease in the incidence of alternative work arrangements, from 10.7 percent in 2005 to 10.1 percent in 2017, primarily because of a decline in the share of workers classified as independent contractors (BLS 2018). Lawrence Katz and Alan Krueger (2019a) originally estimated significant growth in alternative work practices in their own survey in 2015, constructed to estimate the prevalence of these practices at a time when it was unclear if the CWS would be repeated. Their revised estimates (reported in this volume) indicate "there likely has been a modest upward trend in the share of the U.S. workforce in alternative work arrangements during the 2000s" (Katz and Krueger 2019b).

The CWS may not fully capture the incidence of alternative work practices for a number of reasons. To begin with, the CWS definition of alternative work includes independent contractors—that is, those workers who are not considered employees under the definitions of workplace laws. Though the criteria for classifying independent contractors vary under state and federal statutes (allowing widespread misclassification of workers as independent contractors), a growing body of evidence indicates that workers often incorrectly classify themselves as employees when they are not being treated that way by the organization for whom they work. Katharine Abraham and her colleagues (2018), Katz and Krueger (2019a), and Abraham and Ashley Amiya (2018) all show that self-employment has been growing when using Internal Revenue data sources (based on actual tax filings) even though household sources like CWS suggest little change in incidence. Ongoing work by Abraham, Brad Hershbein, and Susan Houseman (2018) indicates that part of the discrepancy may arise from misunderstanding by household survey respondents of their actual employment status.

Additional problems arise in measuring the size of alternative work arrangements from household surveys. Workers may not be aware of the presence of workplace intermediaries like staffing agencies, third-party management companies, or franchise arrangements in settings where the managerial outcomes are set by a lead business (such as a hotel, retailer, or fast food brand) even if the employer of record is a different entity. Indicative of the often hidden nature of relationships is that "temporary agencies" now predominately deem themselves "staffing companies" because of the permanence of their placements (Hyman 2018). And people who work for staffing agencies are often payroll employees—yet still clearly part of the

fissured workplace. As a result, workers appear to have a difficult time accurately reporting on their work status in standard surveys, further compounded when household surveys are based on proxy respondents (Abraham and Amaya 2018; Katz and Krueger 2019b).

More fundamentally, even accounting for the measurement problems, the boundaries of the fissured workplace are not synonymous with those of alternative work arrangements. The fissured workplace describes a business strategy characterized by the central components described in the opening section rather than the adoption of individual work practices or arrangements and as captured more narrowly by household surveys like the CWS. A variety of other organizational setups also allow businesses to follow the fissured recipe. The expansion of franchising over the last three decades from its familiar presence in fast food into areas like hospitality, janitorial services, and homecare are driven by a fissured workplace calculus. So too the heightened use of subcontracting that shifts activities to businesses that may provide full time, W-2 employment, but operate under very different economic constraints and incentives than had those jobs remained inside their original organizations. Fissured workplace arrangements can exist even though employment itself might be traditional (that is, ongoing and full time) when the worker is employed by a subcontractor, franchisee, or other business organization undertaking the work of a lead business. Such employment would never be picked up in the CWS and would require information about contracting relationships between companies rather than household surveys to detect.

Consider the work relationships inside a retail distribution center. Distribution centers are the logistics fulcrum for modern retailers and central to a core competence of reducing exposure to inventory risk. [1] As such, all functions are governed by exacting standards of operation. However, retailers have shifted management of their centers to third-party logistics companies. Those companies manage to the retailer's specifications but use staffing agencies to hire and manage the workforce for loading and unloading. These agencies often treat their workforce as independent contractors rather than employees. So work relationships in a retailer's distribution center could be traditional W-2 employment for any of remaining workers of the controlling retailer; W-2 for the supervisory and other workers of the third-party logistics company; W-2, 1099 (independent contracting), or under-the-table forms of employment for the workers of the staffing agency. Those workers might, or might not know that the business entity that pays them might not be the same as the place where they work. Those workers might be working full time, part time, and in ongoing or highly contingent terms of employment. Yet regardless of the combination of relationships and nature of the work arrangement, the totality of the workforce operates in a fissured set of relationships collectively affected by the change in business structure.

Measuring the extent of the fissured workplace therefore requires a combination of approaches that look at the relationship of the party directly compensating the worker (who may or may not be an employer) with other business entities as well as with the work. In this sense, both household surveys (the CPS CWS) and employer-based surveys such as the Current Employment Statistics (CES) or Quarterly Census of Employment and Wages do not sufficiently capture all relevant features. In particular, marrying business transaction data with worker data is crucial for capturing the phenomenon, perhaps leveraging linked data sets like the Longitudinal Employer-Household Dynamics. But it also requires information

1. For an early discussion of the lean retailing model, see Abernathy et al. 1999. Staffing agencies in this space range from relatively large players such as Hire Dynamics to very small, unincorporated businesses (https://hiredynamics.com/employers/logistics/, accessed September 7, 2019). During the Obama administration, a number of major cases were brought by the U.S. Wage and Hour Division and by the plaintiff bar for workers regarding misclassification of workers and wage theft. The retailing practices described here have been documented among traditional retailers (see for example, Jamieson 2014) as well as in the emerging giant in retailing, Amazon, both in its distribution centers and in its approaches to providing home delivery (Semuels 2018; Zaleski 2018).

from sources not traditionally tapped for labor-market estimates such as departments responsible for procurement. For example, Hye Jin Rho (2018) examines how health-care organizations increasingly recruit workers using intermediate organizations that in turn select candidates from a group of competing supplier organizations. These "multilayered contracting" models are often connected to major health-care providers through procurement offices that operate independently from the human resource offices of the same organizations. Adequately capturing the size of the fissured workforce drawing on existing and new sources of data is therefore a frontier issue requiring attention.[2]

A lower bound and admittedly rough estimate of the size of the fissured workplace can be determined by tallying at a subset of industries where fissured relationships have been well documented and appear to be widespread on the basis of industry-based studies and enforcement data.[3] Table 1 provides a list of these NAICS industries and the number of workers (overall and nonsupervisory and production employees) in them as reported in the BLS CES for 2017. We compare the total number of workers in these highly fissured industries with total employment in the private workforce to provide a rough estimate of scale.

The list in table 1 is far from comprehensive. It does not include many industries where fissured activity is alongside continuing traditional forms of employment. For example, to be conservative in the estimate, I do not include any manufacturing (NAICS 31–33) or public administration (NAICS 92) industries, even though subcontracting and outsourcing has been used extensively in the former and staffing agencies and other forms of contracting out in the latter. I also do not include industries where fissuring has become common in particular occupational areas. These include the use of adjunct professors in higher education; outsourced lower level contract work in legal services, real estate, and financial services; mechanical and ground transportation work in air transport; a variety of copy editing, illustration, and marketing functions in publishing industries; extensive subcontracted work in fracking in oil and gas extraction; or contract mining in the coal mining industry.

Table 1 therefore represents a conservative estimate of the extent of fissuring in the economy. Based on that, close to 19 percent of the private-sector workforce were in industries where fissured arrangements predominate. If we consider the additional fissured workers in occupations and in industries with mixed use of practices, I believe that prevalence could easily double, making the practice more pervasive than U.S. unions were at their pinnacle in 1956 (34 percent). And, like unionization, the presence of fissuring in one workplace spills over to the wage-setting decisions of other businesses and to the labor markets in which they compete for workers. That means that the impact of fissuring on the wage and salary structure of the economy is sizable and of first-order importance.

WAGE DETERMINATION IN A FISSURED WORKPLACE

Understanding the impact of a sizable sector of the economy organized along fissured principles requires looking at factors driving wage setting in major companies prior to this change. Large employers that dominated the economy in the post–World War II era drew on unified personnel and pay policies and internal labor markets for a variety of reasons: to take advantage of administrative efficiencies, to cre-

2. In the spring of 2019, the National Academies of Science, Engineering, and Medicine convened the Committee on Contingent Work and Alternative Work Arrangements at the request of the Bureau of Labor Statistics to look into this and related questions. I serve on that Committee with fellow authors in this volume Katharine Abraham and Susan Houseman.

3. To be included on the list, the industry needed to have been significantly affected by fissured practices as documented by detailed cases studies (including those I have conducted), evidence from enforcement sources that indicate significant use of these practices, or detailed appraisals in investigative reporting. The selection errs on the side of conservatism as described further in the text. For sources of industry information, see table 1.

Table 1. Highly Fissured Industries, 2017

Code	Description	All Employees	Nonsupervisory and Production
23611	Residential building construction [a, b, i]	752.5	483.7
23813	Framing contractors [a, b, i]	83.6	73.7
23831	Drywall and insulation contractors [a, b, i]	242.5	204.7
4451	Grocery stores [a. g, i]	2705.3	2,380.3
44711	Gasoline stations with convenience stores [a, i]	824.7	695.8
4841	General freight trucking [e, h]	1,002.0	886.0
4853	Taxi and limousine services [e]	78.5	
4931	Warehousing and storage [a, d, e, g, h, i]	1,026.9	904.3
5152	Cable and other subscription programming [a, i]	52.69	
51731	Telecommunications carriers, wired and wireless [a, i]	692.0	583.9
56132	Temporary help services [a, c, d, j, k]	2,940.1	2,821.3
56142	Telephone call centers [i, j]	530.5	469.6
56143	Business service centers [i, j, k]	78.2	64.2
561612	Security guards and patrol services [a, c, d]	742.0	
56171	Exterminating and pest control services [i]	119.8	95.8
56172	Janitorial services [a, c, d, i]	1,078.0	963.5
56173	Landscaping services [a, i]	780.5	651.0
56179	Other services to buildings and dwellings [a, c, i]	91.1	73.7
56292	Materials recovery facilities [i]	60.0	
6216	Home health-care services [a, i]	1,419.7	1,318.1
72111	Hotels (except casino hotels) and motels [a, i]	1,615.1	1,383.1
72231	Food service contractors [a, d, i]	499.3	437.9
72233	Mobile food services [i]	199.6	169.9
722513	Limited-service restaurants [a, i]	4,380.6	3,858.3
811192	Car washes [i]	168.8	143.7
8121	Personal care services [a, i]	710.4	605.6
81293	Parking lots and garages [a, i]	140.7	124.2
81299	All other personal services [a, i]	75.6	
	Total private	124,259.4	102,415.3
	Total highly fissured industry employment	23,091	19,392
	Percentage of private workforce	18.6%	18.9%

Source: Author's tabulation based on Current Employment Statistics (BLS 2017), seasonally adjusted (annual estimates 000s).

[a] Weil 2014; [b] Abernathy et al. 2012; [c] Dey, Houseman, and Polivka 2010; [d] Grabell 2013; [e] Murphy 2017; [f] Parrott and Reich 2018; [g] Semuels 2018; [h] Viscelli 2016; [i] Wage and Hour Division enforcement investigations; [j] Weber 2017a, [k] 2017b.

ate consistency in corporate policies, and to reduce exposure to violations of laws. They did so through collective bargaining with unions that codified these arrangements in the economy (Slichter 1950; Slichter, Healy, and Livernash 1960). But large businesses also adopted similar wage- and salary-setting practices in non-union enterprises (Foulkes 1980).

Along with factors affecting labor supply and demand, wage setting within an organization is affected by fairness norms (Breza, Kaur, and Shamdasani 2017).[4] A large empirical literature

4. Older models in the economics literature, of course, seek to explain the existence of elaborate internal labor markets and empirical findings like large firm wage premiums (discussed later) in the context of competitive

from psychology, decision science, and more recently behavioral economics reveals that people care not only about their own gains but also about those of others. In fact, people frequently gauge the magnitude of their benefits relative to those of others. And they are often willing to sacrifice some of their gains because of equally important beliefs about fairness. An important reason that large employers adopted the wage and internal labor markets used in previous decades arose because of their need to deal with two kinds of fairness notions as they apply to the internal structure of wages: horizontal equity regarding how people think about different pay rates for similar work; and vertical equity regarding how they think about different pay rates for different types of work.

Large employers historically addressed horizontal equity concerns by creating consistent pay for people in comparable positions in a company, even if their performance varied. The vast majority of businesses (78 percent) interviewed in Truman Bewley's (1999) study of compensation policies cited "internal harmony and morale" as the main reason why internal pay equity was important.[5] Labor-market studies show that wages within firms vary far less than one would expect given the existence of considerable differences in productivity across workers (see, for example, Medoff and Abraham 1980). Firms move toward a single-wage policy for workers of similarly observable skill or ability because of the negative consequences arising from having multiple rates for workers who otherwise seem similar.

Workers' contentment with their wages also is affected by vertical fairness notions and norms. In particular, experimental and empirical evidence points to the fact that people look "up" in judging their pay, asking, "What is my pay relative to the jobs at the next rung in my organization?" (Fehr, Goette, and Zehnder 2009). If the pay of the group just above me is too high—or if the gap widens over time—I may be less and less happy with the pay I receive, regardless of its absolute level.

In a large organization, vertical equity issues like these can be particularly vexing. Unionized

labor markets. Gary Becker (1964) and Walter Oi (1983) argued that these phenomena are not incompatible with the functioning of competitive labor markets, but simply reflect the complexity of labor as an input in production—an input whose productivity changes over the course of employment. The presence of either quasi-fixed costs of labor or the need to provide specific training (that is, training that benefits a worker at a specific employer) creates a compensation problem that firms must find a way to solve by acting as if, in the Oi model, only a portion of compensation costs are variable or, in the case of Becker, thinking about compensation policy as part of a human capital investment that the firm must recover over time.

Another set of theories explains internal labor markets via implicit contract theory, according to which risk-neutral employers strike agreements with risk-averse workers that smooth wages over time, accommodating both parties in the process. These arrangements have some of the characteristics of internal labor markets but arise from underlying supply and demand features. A third view explains internal labor markets as the methods by which firms overcome the day-to-day holdup problems, given that the employment contract between workers and employers is inherently incomplete—that is, it cannot adequately commit to language the complicated and changing nature of what the employer wishes the worker to do. As a result, a combination of explicit and implicit contract devices arises to prevent either party from cheating the other. In this view, the overall employment relationship creates value that the parties then must figure out a way to share in the course of ongoing employment. These contracts reflect both conditions in the external labor markets and relative bargaining power within the firm (Milgrom 1988; Rosen 1988).

5. Just under 50 percent cited job performance as the major reason for internal pay equity; only 7 percent cited avoidance of discrimination suits. Bewley quotes a human resources manager in a unionized manufacturing company with twenty-seven thousand employees as remarking, "Unfairness can cause upheaval within an organization and lead to dysfunctional activities. People want to be treated fairly and to see that their contributions are recognized and that this is done on a consistent basis from one location to another and from one profession to another" (1999, 79, 81). For a related formal model of how fairness concerns play out in workplaces, see Stark and Hyll 2011.

workplaces in traditional manufacturing solved this problem with collectively bargained deals that linked these grades—often providing for upward ratcheting of the whole wage system (leaving relative wages intact) over time. The collectively bargained contract creates a transparent set of expectations of what is fair (in part because it reflects the preferences of the workforce, at least as represented by the union's negotiating committee). Large non-union workplaces also must accommodate the demands of vertical equity in setting compensation policies, even though unfettered by collective bargaining. Higher wages in part reflect an effort to avoid unionization, but also to avoid the kind of internal frictions described. Studies of wage determination found that executives in large non-union enterprises frequently justified formal internal pay structures on the basis of equity.[6]

The fissured workplace changes the factors that in the past led companies to set wages in light of equity considerations. By shedding their employees in a variety of ways and making those workers the employees of other organizations, a wage-setting problem becomes a pricing problem. The janitor, maintenance person—or even lawyer—who no longer is a member of the company also no longer need be bounded by the pay considerations of that company's wage structure.

The impact on wages from altering the relationship in this way is illustrated by a recent analysis of pay systems in the package delivery industry described at the outset of this article. Home package delivery was handled for decades primarily by the U.S. Postal Service and later by the addition of private companies such as UPS and DHL drawing on an employment-based business model. Systems were optimized to reduce costs through creation of information-driven and highly automated logistics hubs, route optimization, and time motion and ergonomic studies of delivery drivers' activities.

Companies like FedEx entered the package delivery market with many of the same system investments in airline, distribution center, and trucking logistics. But FedEx began to break the logistics of shipment from the task of final mile delivery by creating a subsidiary, FedEx Ground, in 1985. That subsidiary used an independent contractor model to drive the allocation of packages to geographic regions served by different driver contractors. Not surprisingly, the model has been heavily litigated based on federal and state law (Viscelli 2016). In cases such as *Alexander v. FedEx*, courts were asked to rule whether the drivers could be reasonably classified as independent contractors given the significant oversight, integration, standards monitoring, and control exercised by the company.[7]

But the Amazon Flex model of home delivery goes further. Started in 2015, Amazon Flex offers "flexible opportunity for Delivery Partners to turn free time into supplemental or part-time income." It does so via a system where individuals, vetted via a multistep online course, bid for small deliveries via an Amazon Flex app, and deliver those packages within tight time restrictions set by Amazon using the driver's vehicle. An analysis undertaken for investors by A/B Bernstein used pricing, delivery route and time information, and cost estimates to estimate the average earnings of typical Amazon Flex workers. When fully accounting for vehicle fuel, amortization, insurance, maintenance, tolls, and other costs, drivers received net earnings of $5.30 per hour (significantly below the federal minimum wage). This compares to av-

6. Fred Foulkes in his study of large non-union workplaces in the 1970s found that "The pay policies of the companies [large non-union employers] are designed to provide and demonstrate equity" (1980, 185). Bewley similarly found that although executives acknowledged that differences in pay between grades proved useful as incentives, 69 percent of the businesses interviewed cited "internal equity, internal harmony, fairness, and good morale" as the principal justification (1999, table 6.4, 75–79).

7. In *Alexander v. FedEx Ground Package Sys.*, 765 F.3d 981 (9th Cir. 2014), the 9th Circuit Court in a three judge panel held that FedEx delivery workers designated as independent contractors under their contract were actually employees of FedEx. After undertaking a thorough review of all of the ways that FedEx exerted control and management of the activities of the drivers, the court's ruling stated "[labeling] the drivers as 'independent contractors' in FedEx's Operating Agreement does not conclusively make them so."

erage earnings of $23.10 for UPS and $14.40 for FedEx drivers (Vernon 2018).[8] On June 7, 2019, FedEx announced that it would no longer provide express shipping service for Amazon.[9]

CONNECTING EARNINGS INEQUALITY AND THE FISSURED WORKPLACE HYPOTHESIS

The fissured workplace hypothesis would suggest that the well-documented increase in earnings inequality can be partly attributed to the change in wage setting described (Piketty, Saez, and Zucman 2018). First, as illustrated by Amazon Flex, the fissured workplace hypothesis predicts that the earnings of workers undertaking the same work inside of companies are higher than earnings when that work is shifted to contractors or firms outside those companies. Empirical evidence on specific occupations that are shifted from inside to outside a business confirm this prediction.

Janitors and security guards were in the vanguard of fissuring. By 2000 about 45 percent of janitors worked under contracting arrangements, and more than 70 percent of guards were employed as contractors (Dey, Houseman, and Polivka 2010). As predicted , shifting janitors and security guards from inside to outside the walls of lead businesses has indeed significantly impacted pay for workers in those occupations.[10] Samuel Berlinski (2008) finds that janitors who worked as contractors earned 15 percent less than those working in-house, and contracted security guards earned 17 percent less than comparable in-house guards. Similarly, Arandajit Dube and Ethan Kaplan (2010) estimate a "wage penalty" for working as a contractor of 4 percent to 7 percent for janitors and 8 percent to 24 percent for security guards.

Deborah Goldschmidt and Johannes Schmieder (2017) provide similarly compelling evidence of changing wage structures in Germany. They show significant growth in domestic service outsourcing of a variety of activities beginning in the 1990s. Using a carefully constructed sample allowing them to compare wages of food service, cleaning, security, and logistic workers, they examine the impact of moving the same jobs from inside to outside businesses engaged in domestic outsourcing. Their results show reductions in wages ranging from 10 to 15 percent of those jobs outsourced relative to those that were not. What is more, because of the ability to match workers who have experienced outsourcing to control for unobservable human capital characteristics, they argue that the reductions arise from the loss of wage premiums earned by workers when they move from inside to outside the outsourcing firm.[11]

Workers in large companies historically received an extra bump in their earnings ("large firm earnings premium") simply because they were employed in those companies—somewhere between 8 to 12 percent above what comparable workers at smaller, but otherwise similar companies earned (Brown, Hamilton, and Medoff 1984). For neoclassic models, the persistence of this bump in earnings—unexplained by differences in either labor supply or the productivity of firms employing these workers—was a puzzle. The earlier discussion explains the persistence of the large firm earnings bump in employment-based business models.

8. Not surprisingly, the estimated cost per delivery for Amazon Flex is significantly below that of UPS: $1.50 to 2.00 per package versus $4.00 to 6.00 for UPS or FedEx. However, the services are not direct substitutes because some of the costs that the latter providers charge customers are born by Amazon prior to the Flex drivers receiving parcels (Vernon 2018, exhibit 5, 6–7). See also Zaleski 2018.

9. See Corkery 2019, B4.

10. Abraham and Susan Taylor (1996) demonstrate that the higher the typical wage for the workforce at an establishment, the more likely that establishment will contract out its janitorial work. They also show that establishments that do any contracting out of janitorial workers tend to shift out the function entirely.

11. The authors also show that food, cleaning, security, and janitorial workers receive wage premiums comparable to those of the overall workforce prior to outsourcing. This result, like the earlier Abraham and Taylor study, has significant incentives to outsource work that is not central to core competencies, particularly where they can find other methods to monitor the output of subordinate providers of those services.

But it also would suggest that the fissured workplace would act in the opposite direction, eroding that differential.

Evidence by Matissa Hollister (2004) and more recently by Adam Cobb, Ken-Hou Lin, and Paige Gabriel (2017) and Nicholas Bloom and colleagues (2018) confirms that prediction: the large firm wage premium has eroded substantially in recent years. Bloom and his colleagues show that this reduction is due to the dramatic decline of wage premiums at very large firms (those with 1,000 to 2,500 employees), a decline not readily explained by differences in the quality or composition of the workforce or by the cross-section of companies in the largest firm grouping. Very large firms also appear to shift their hiring toward high-wage workers over time, a tell-tale sign of shedding lower-end workers through a fissured workplace strategy (Cobb, Lin, and Gabriel 2017).

Other recent papers on inequality shed further light on the connections between increased earnings dispersion and the fissured workplace. Increasing earnings inequality can arise from growing inequality within firms (more and more dispersion of earnings of the workers inside the walls) versus growing inequality between firms (more dispersion in earnings outside the walls of a given firm). The fissured workplace hypothesis would predict growing inequality from the latter (that is, increased variation of earnings across firms). Lead businesses would continue to extract rents arising from their core competency. For the fairness reasons discussed, they would continue to share some of those gains with the workers who remained inside. At the same time, other firms who competed to provide the activities shed by lead businesses would have lower rents (for the traditional reasons predicted in competitive labor markets) and therefore less to share with their workforce. At the bottom of fissured workplaces, where firms compete to provide more homogenous products and services for lead businesses, in more competitive markets with lower barriers to entry, one would find businesses with lower profitability, paying wages closer to marginal productivity.

Research by Erling Barth and colleagues (2016) finds that the vast majority of increases in the dispersion of earnings between 1992 and 2007 arise from increases in the variance of earning between rather than within firms. In their matched data set, the authors find that about 80 percent of increased earnings inequality for those workers who stayed with the same establishment from one year to the next arose from growing divergence in the earnings of different establishments, as opposed to arising from growing divergences in the pay structure of the firms where they remained.[12]

Arguing that their results show that almost none of the growing dispersion of earnings arise from a widening gap between CEO pay and that of the workforce, Jae Song and his colleagues (2015) estimate that virtually all of the growth in earnings dispersion between 1978 and 2012 for firms with less than ten thousand workers arose from increased variation between rather than within firms. In their sample, the large wage gap between CEOs or high-level executives and average workers employed by the firm increased by only a small amount over the study period. Very large firms (those with more than ten thousand workers) are more affected by growing inequality within their ranks, consistent with the research by Bloom.[13] David Card, Jörg Heining, and Patrick Kline (2013) find evidence of both within and between fac-

12. The authors use a combined data set of the March Current Population Survey, the Census Longitudinal Business Data Base, and the Longitudinal Employer-Household Dynamics data set. This provides them detailed data on both workers and the firms for which they work. Because most workers stay at the same establishment in any given year, the approach of looking at the sources of growing inequality "around" the stayers provides a useful mooring post to explore the causes of growing earning dispersion around them.

13. Song and colleagues use administrative data from the confidential Master Earnings File (MEF) compiled and maintained by the U.S. Social Security Administration for their analysis. The MEF contains labor earnings data, which, unlike other sources of earnings data, is not capped and also includes non-salary forms of compensation such as bonuses, exercised stock options, and estimated dollar values of restricted stock grants provided to employees (executives in most cases).

tors driving the growing inequality of wages in Germany. In their study, using an approach similar to that of Song and colleagues, the authors estimate that inequality was roughly equally explained by increases in the heterogeneity of workers (within firm), increases in the heterogeneity of firms (between firm), and increases in the matching of workers and firms.[14]

The fissured workplace hypothesis is also consistent with evidence of growing earnings dispersion in sectors that are increasingly reliant on franchising as a form of business organization. Branding products to consumers is a critical core competency in industries like eating and drinking and hospitality, and studies that compare wages earned by workers in branded companies find that those workers earn, on average, more than workers who work in similar, nonbranded companies in the same sector (Cappelli and Hamori 2008). Franchising allows a company to split out the gains of developing and marketing the brand from the delivery of the actual product, with the franchisor capturing a significant portion of the rents of owning the brand, the residual value going to the business entities purchasing use of that brand (the franchisees).[15] In the 1980s, many branded chains in the fast food and hotel industries sold off a high percentage of fast food outlet and hotel properties to franchisees. This changed wage structures among the establishments within the sector, to a higher percentage of firms (franchisees) having a lower wage structure than the units still held by the franchisor. This would result in increased overall dispersion of earnings in the sector where franchising became more common, driven by growing divergence of earnings across franchisees and franchisors.[16]

These findings suggest that workers have experienced relatively less change in the inequality of their coworkers who remain with them at their firms than earlier accounts suggest. Instead, growing dispersion of earnings can be thought of as a big bang leading firms to rush away from one another, with lead businesses and their set of workers moving upward and subordinate firms and their associated distribution of earnings moving downward. This is consistent with the fissured workplace hypothesis in that the distribution no longer includes workers whose activities and jobs have been shed to other employers external to the firm.

The fissured hypothesis, however, does not preclude increasing dispersion within firms as well if there have been changes in fairness norms of behavior inside those firms. For example, CEOs of lead businesses with valuable core competencies may extract more rents and propel themselves to ever higher levels of compensation.[17] The CEOs in firms in the subordinate fissured universes may be less able to ex-

14. A more recent paper by this team (along with Cardoso) builds a model under which firms exercise some monopsony power arising from heterogeneity in workers' preferences for different employers (with no particular model of the source of that heterogeneity). Their model precludes price discrimination based on idiosyncratic preferences of the workers, but still allows firms to "post a common wage for each skill group that is marked down from marginal product in inverse proportion to their elasticity of labor supply to the firm." See Card et al. 2016.

15. Franchisees (independent businesses who pay royalties to be a part of a franchised system) have significantly lower rates of return than do the franchisors (the owners of the brand—the core competency—and sometimes operators of a limited number of company-owned outlets). See Kaufmann and Lafontaine 1994; Weil 2014, chapter 6.

16. Alan Krueger (1991) shows that managers of franchisees earned significantly less than managers of comparable fast outlets owned by the company. Min Woong Ji and David Weil (2015) find in a related vein far higher violations of labor standards in terms of frequency and severity among franchisees than in the company-owned units of the franchisors. Richard Freeman (2014) presents consistent evidence of the impacts of fissuring on overall earnings in the hotel industry.

17. In 2017, the average CEO of the 350 largest firms in the United States received $18.9 million in compensation (defined as salary, bonuses, restricted stock grants, realized stock options, and long-term incentive payouts). This represents a 17.6 percent increase over 2016. In that year, CEO-to-median worker compensation ratio was

tract such rents, though evidence still shows they earn many times the earnings of average workers. This further heightens the overall extent of inequality, albeit from changing norms, capture of corporate governance, and other factors driving the growth of executive compensation.

One final article that connects the rise in inequality to the fissured workplace hypothesis regards the fall in labor's share of gross domestic product over time and the rise of superstar firms that become dominant in their industries. David Autor and his colleagues (2017) document the association between rising product market concentration in a wide variety of industries and the corresponding reduction in the labor share of income in them. At one level, industry concentration and the increasing profitability of a smaller number of superstars leads mechanically to a reduction of the labor share in firm-value added. But the rise of those superstar firms in the first place—presumably attributable to their dominance in core competency in an area of their business as illustrated in a variety of examples above—and their restructuring of their organization to shift work out to other parties in more competitive parts of their own sector or to other allied industries (such as business services) would provide a mechanism that drives those shifts and further exacerbates them. Along with the finding of Bloom and his colleagues (2018) that the declining large firm earnings premium is in part driven by the shedding of lower level jobs by large firms and the reduction of premiums particularly for the remaining jobs at the low end of earnings distributions, this evidence is compatible with a fissured workplace explanation for the declining labor share story.

In sum, recent studies offer compelling evidence consistent with the fissured workplace hypothesis. The fissured workplace, given its estimated scale, likely continued growth and multiple forms has led to a separation of activities between lead businesses and subordinate networks of other enterprises who support them. This has enabled lead businesses in the economy to transform the challenge of wage determination into a conventional pricing problem. For those workers whose jobs no longer benefit from the penumbral effects of fairness in wage setting, the impacts have been significant.

POLICY APPROACHES FOR THE PRESENT AND FUTURE OF WORK

The fissured workplace transforms many of the mechanisms underlying workplace outcomes, labor markets, and the drivers of earnings inequality. But many policy prescriptions in these areas have not adequately factored in these profound changes. During the Obama administration, the Labor Department's enforcement agencies instituted new approaches to enforcement that explicitly sought to address some of the impacts the fissured workplace, such as in the area of labor standards compliance.[18] Here, I focus on policies to address income inequality

312-to-1, more than five times greater than the 58-to-1 ratio in 1989 but lower than the 2000 peak ratio of 344-to-1). See Mishel and Schieder 2018.

18. At the Wage and Hour Division, we sought to undertake policies to explicitly address the fissured workplace. And we had significant success in that regard. We fundamentally changed the way we did enforcement and outreach so that the parties who had impact on problems arising from the fissured workplace were engaged in their resolution. For example, we pursued an active policy of invoking joint employment where appropriate and by the law in our enforcement actions. But we also did so in issuing guidance—something called an administrator interpretation—that clearly laid out the legal regulatory and court opinions pertaining to the use of joint employment. We addressed the issue of joint employment in our public outreach to industries where it had become commonplace. And we engaged with state and local government partners on this issue by coordinating enforcement and outreach efforts in industries with highly fissured workplace structures. That work, in concert with the work of advocacy organizations and progressive employers, led to an acknowledgment of the problem, and engagement with some of the implications of joint employment, and broader awareness by the public. I have written a detailed account of the elements of our approach to dealing with the fissured workplace as a labor standards agency, which I define as *strategic enforcement* (Weil 2018).

and related areas as informed by the foregoing discussion.

REALIGNING RESPONSIBILITY AND PROTECTIONS IN THE WORKPLACE

Answering the question "who is responsible here?" given the ambiguity introduced by the fissured workplace is of critical importance. Many of our fundamental workplace protections, spanning from being assured pay for work done, provision of a safe workplace, and protections against discrimination and sexual harassment, emanate from employment. Benefits provision and the basic workplace safety net of policies such as unemployment insurance, workers compensation, and paid leave are linked to employment (Goldman and Weil 2019). Fissuring also raises important questions about how to fund the range of family-friendly policies that Elizabeth Doran, Ann Bartel, and Jane Waldfogel (2019) discuss given the complexity of employment relationships in many of the industries where women represent a high percentage of the workforce.

Companies in the fissured workplace require an organizational glue to ensure that the networks of organizations working under the lead company keep to standards and do not undermine core competencies. That glue can take many forms: stringent subcontracting requirements, detailed supply chain standards, strict franchise agreements, or software algorithms deployed via digital platforms to create micro-incentives for individual operators on them. Information technology facilitates the glue by serving as a low-cost mechanism to monitor subsidiary organizations or the networks of organizations that make up a fissured workplace.

At the moment, the disparity between the degree of control exercised by lead business organizations and their responsibility under law is large. Current state and federal laws provide a patchwork structure for assigning responsibility, some relying on master-servant concepts arising from the common law to broader definitions of the economic reality of employment arising from statutes such as the Fair Labor Standards Act. Reevaluating existing policies and assessing what is needed to provide the rights established by workplace and labor statutes is therefore warranted. So too are the means to ensure that those statutes have impact through enforcement and other interventions (Weil 2018).

EMPLOYMENT AND EARNINGS OVER THE BUSINESS CYCLE

The fissured workplace perspective potentially provides insight into changes in how employment and earnings respond over the business cycle in recent recessions and recoveries. Lead businesses' employment response to increasing demand coming out of a recession may be attenuated by their increased use of other entities to undertake parts of their work. It took longer for employment to recover to pre-recession levels from their trough in the 1990, 2001, and 2007 recessions relative to those occurring earlier. And recent recoveries were led by far faster growth among lower-wage occupations than mid-wage and higher-wage occupations, mid-wage occupations not returning to pre-recession levels of employment (McCorkell and Hinkley 2019).

Earnings responses to changing aggregate demand are similarly attenuated by the presence of fissured relationships. Where direct employment of a larger cross-section of the workforce led firms to both maintain wages in the face of slowing demand and increase them as demand increased, working through fissured businesses moderates these linkages. The reluctance of major employers to lower nominal wages in a recession first observed by Keynes and documented in the literature (for example, Kahn 1997) can be overcome in a fissured world by changing staffing agencies or subcontractors who offer lower prices or directly renegotiating with existing providers of those services. Equally, in the face of upturns, inflationary pressures may be reduced given that firms can expand by adding workers through staffing agencies or multitiered subcontracting arrangements. Because workers in many of those setups receive lower compensation and fewer benefits, the impact on wage costs is moderated from what might have arisen from a tightening labor market in a traditional, employment-based economy. Thus, a

fissured workplace hypothesis is consistent with the experience of low unemployment accompanied by modest real wage growth that characterizes recent recoveries including the current one.

EDUCATION AND TRAINING SOLUTIONS TO ADDRESS INEQUALITY

Public policies to deal with earnings inequality tend to go down familiar paths that miss the impacts of the fissured workplace. Take, for example advocacy for increased access to college as a response to growing earnings inequality. Citing the earnings premium arising from college education, this prescription focuses on the need for those entering the labor market to have the skills that employers increasingly demand. Recent evidence suggests that although the earnings premium for college remains large, its rate of growth has slowed and essentially remained unchanged between 2010 and 2015 (Valletta 2019).

The impact of fissured work provides a partial explanation for flattening growth in the earnings premium for college. Professions with graduate level requirements (notably law and higher education) have witnessed increases in fissured employment. Hence, the use of contract law firms and adjunct professors who receive significantly lower wages, reduced benefits, and limited opportunities for upward advancement (Naguchi 2018; Weber 2017a, 2017b). Several recent investigative reports document that Google now relies on more contractors than employees, including in programming and technical positions at the company (Bergen and Eidelson 2018; Wakabayashi 2019; Wong 2019). Even the development of artificial intelligence is dependent on networks of contract workers operating through platforms (Gray and Suri 2019). College and graduate level education may not result in the same earnings premium in a world where the jobs that those workers seek are in transformed employment relationships where less of their value added translates into wage premiums. Given the rising cost of college education and the debt burden that many workers entering the labor market face, relying on college as a stand-alone response to inequality is likely incomplete.

AFFECTING THE IMPACTS OF NORMS ON WAGES AND WORK IN THE FISSURED WORKPLACE

Fissuring has created greater volatility in the earnings and stability of employment of those affected by it, and contributes to the need to supplement income as Abraham and Houseman describe (2019; see also Collins et al. 2019). The fissured workplace, though, means that wage setting is occurring in a very different way than it has in the past. Norms—in particular perceptions of fairness—are an intrinsic part of the workplace and basic to how decisions are made within it. Norms influence workers' decisions to accept or reject jobs by determining reservation wages. They affect workers' perception of the fairness of compensation policies. Norms are therefore fundamental features of how labor markets work and potential tools for policy interventions to improve earnings and work conditions. The large firm wage premium reflected a set of normative arrangements that existed in companies in the past. The foregoing discussion implies changes in norms throughout fissured workplace structures.

The fissured workplace has been accompanied by the erosion of wage and other workplace norms in many industries and occupations. If public policies seek to redress this erosion, we will need better understanding of how norms are set among the subsidiary firms that compose fissured business structures. Important policy questions include: How do norms of acceptable wages diffuse in a labor market? How might they be affected by public policies—either directly (for example, through the government contracting authority) or indirectly (such as by encouraging corporate voluntary activity).

Policies regarding worker representation are also important in rebuilding norms in fissured workplaces. Unions and collective bargaining have long affected wage standards and norms in organized workplaces as well as in related non-union workplaces through spillovers. The erosion of union density over the decades obviously undermines this impact. Future considerations of revisions to labor law and policies that affect other forms of worker voice (such as the Fight for $15 movement) should also consider these norm-building effects.

CAREER MOBILITY AND TRAINING

The fissured workplace raises the question of career paths in a fissured world. If more and more people work for organizations not part of lead businesses (or for that matter lead governmental or higher education institutions), public policies need to address alternative ways to provide information about career opportunities and access to formal and informal training. Multi-employer apprenticeship programs in the construction industry arose, for example, as a solution to the public goods nature of training in an industry in which workers moved frequently between employers in the course of the year and over time (Palladino 2005). Exploring what structures might be feasible and sustainable in industries, occupations, and geographic labor markets to play roles in providing information and access to training opportunities is a clear implication of the fissured workplace.

WHERE DO WE GO FROM HERE?

Richard Freeman, whom this volume honors, has commented on the complexities raised by the fissured workplace:

> The evidence of fissuring creates a great puzzle to labor economics and social science more broadly. We need a new "fissured market" model that goes beyond standard analysis, new measures of wage determinants in the existing framework, or some judicious mixture of the two. . . . My belief is that, as more researchers work on it—via case studies, insider econometrics of labor practices of firms and their subcontractors, and analysis of establishment earnings in countries with different labor institutions—and apply insights from behavioral economics, game theory, and Beckerian price theory, we will advance our understanding enough to find ways to counter its effect on compensation. (2014, 109)

At the turn of the last century, the labor economist John R. Commons and his colleagues at the University of Wisconsin looked out at comparable problems posed by a changing economic landscape: growing national markets arising from the falling cost of transportation, emerging manufacturing industries that sought to serve expanding demand and harness new technologies and management methods to do so, and emergent capital markets that infused financial resources and new forms of governance over enterprises. Together, those changes transformed the workplace, giving rise to pressing problems such as falling wages and shifting employment patterns, growing numbers of occupational fatalities and injuries, and new demands for worker voice among unskilled workers who had never been represented by unions.

The Wisconsin Idea that Commons pursued sought to understand the new mechanisms that drove worker and workplace outcomes and then experiment with new policies to address those problems, informed by that understanding. In 1913, writing about the distinctive need for what he called "constructive research" that brought academic rigor to applied problems, Commons noted that

> The science of political economy is now called upon for something practical. Legislation has been left to lawyers and politicians. The people turn to economists and sociologists, but do not find what they need. The regulation of public utilities, the revision of currency and tariff laws, the relations of capital and labor, are economic as well as legal or political questions. On these and other subjects the science of economics remains academic, after it has been summoned to the work of construction. (8)

I agree with Richard Freeman that we face a comparable challenge as researchers who are also called upon to provide insight to policymakers who seek to understand "the future of work." In providing that guidance, my conclusion would be that it is not so much the future of work we need to understand as the present of work with which we still have not adequately grappled; that the mechanisms underlying the present of work require deep and rigorous examination; and that the resulting solutions will lead us to pursue policies that will take us into uncharted waters requiring experimentation, evaluation, and the ongoing translation of knowledge into practical policy responses—much like those crafted at the turn of the last

century such as workers compensation and industry-based collective bargaining. This volume will hopefully contribute to that broader need.

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