Unions, Worker Voice, and Management Practices: Implications for a High-Productivity, High-Wage Economy

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This article uses the metaphor of a social contract to review the evolution of American unions and their effects—especially in the variations in their quality—on firm employment strategies and performance, takes stock of the current state of unions and alternative forms of worker voice that have emerged in recent years, and discusses implications for the future of labor and employment policies. The key policy implication is that fundamental, not incremental, changes in labor policy will be needed if the range of worker voice and representation processes workers want and the economy needs are to grow to a scale large enough to close existing voice gaps and contribute to building a new productivity- and wage-enhancing social contract.

Keywords: unions, labor law, voice, collective bargaining, productivity

Throughout most of the twentieth century, unions and collective bargaining were powerful mechanisms for improving wages and other aspects of job quality for both union-represented and non-union workers. These improvements negotiated in collective bargaining in turn put pressure on employers to find ways to increase productivity, what Sumner Slichter, James Healy, and E. Robert Livernash (1960) labeled the "shock effect" of unions on management practices. These management adjustments could range from or include a mix of investments in new technology, workforce training or other personnel management practices, product upgrading, or other productivity enhancing actions. This dynamic process served as a precursor to what would later be labeled high-road management strategies (Kochan and Osterman 1994; Osterman 2018). Pattern bargaining, and the threat effects of union organizing of non-union firms, spread wage increases and other negotiated improvements in employment practices across establishments and firms within regions and industries (Levinson 1960; Budd 1992) and contributed to reducing income inequality (Freeman 1980; DiNardo,

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Fortin, and Lemieux 1996; Western and Rosenfeld 2011; Farber et al. 2018). In doing so, collective bargaining played a significant role in generating tandem increases in compensation and productivity, an indicator of what some of us have labeled the post–World War II social contract (Kochan 2000).

In recent decades, however, declining union membership and bargaining power reduced the role of unions as both a source of wage growth and as a spur to high-road managerial practices. The postwar social contract's tandem movement of productivity and wages broke down and has yet to be replaced with other ways of supporting steady wage growth or motivating employers to compete on the basis of high productivity and high wages. As a result, the past four decades have witnessed significant growth in income inequality and a number of its associated consequences, such as increased worker insecurity, resistance to trade and immigration, and growing political polarization between the perceived winners and losers from globalization and changing technologies.

This leaves policymakers who want to support a high-productivity, high-wage economy and society with a set of important but difficult questions: What can be done to build a new productivity and wage-enhancing social contract suited to the contemporary and future economy and workforce? Are new policies needed to rebuild unions and worker bargaining power in ways that work in today's economy? And, given the difficulties associated with reversing long-term union decline, what additional policy options might be needed to create good jobs for all segments of the workforce?

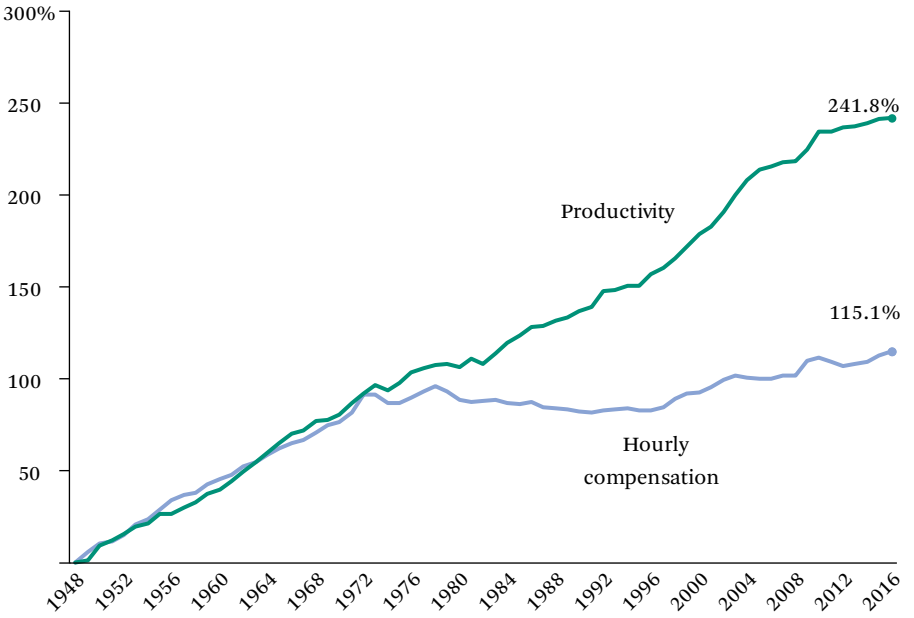
Our bottom line is that fundamental rather than incremental changes in labor and employment policies will be needed to build a new social contract that reverses recent trends and lays the foundation for a new social contract.

COLLECTIVE BARGAINING AND THE POSTWAR SOCIAL CONTRACT

The National Labor Relations Act (NLRA) of 1935, along with the other three pillars of the New Deal labor legislation (unemployment insurance, social security and disability insurance, and minimum wages) laid the foundation for the social contract that emerged in the decades following World War II. The main effect of the NLRA was to provide long-term stability to union membership—once a union was recognized, it could not be ignored or broken by employers unless a majority of workers voted to decertify it. Union density in the private sector grew from approximately 11 percent in 1930 to a peak of 35 percent in 1945. Unions gained further legitimacy during World War II through participation in the National War Labor Board and its actions to endorse practices such as grievance arbitration, cross-firm wage comparisons within industries and occupations, and benefits such as paid health insurance (National War Labor Board 1946). The growth and strength of unions led President Truman to call a national labor-management conference in 1945 seeking a postwar accord for guiding the future of labor-management relations. That effort failed to achieve consensus largely because of the inability of labor and management representatives to agree on the extent to which unions should be able to have a voice in management practices (Chamberlain and Kuhn 1965, 85). As a result, unions and employers were left to their own devices to develop the norms and practices that would shape collective bargaining in the postwar era.

The latter half of the 1940s was a tumultuous and pivotal time for collective bargaining. Pent-up demands for wage increases following the end of wartime wage restraints led to numerous strikes; a higher percentage (1.4 percent) of the workforce's estimated total work hours (U.S. Department of Labor 1947) were lost to strike activity in 1946 than any year since. Major debates over the extent of union influence on management decisions dominated bargaining in the large industrial unions. Walter Reuther, president of the United Auto Workers (UAW), pressed auto firms to give the union a voice in product pricing in return for moderating wage demands. This was vigorously resisted by General Motors (GM) and other auto firms but also discouraged by union leaders in other industries who favored a more conventional arms-length relationship that would leave management free to make business decisions and unions free to negotiate for the best wage, benefit, and working conditions deal possible. This

Figure 1. Growth in Productivity and in Average Hourly Compensation



Source: Economic Policy Institute 2017.

debate was essentially resolved when, in two rounds of negotiations between 1948 and 1950, GM management proposed and the UAW accepted a new wage norm that would eventually spread across the auto industry and to unionized firms in other industries but excluded any role for unions in wider business decision making. Later labeled the Treaty of Detroit, this principle called for wages to increase annually to keep up with increases in the cost of living and to provide an "annual improvement factor" of 2 percent to share the growth in aggregate productivity (Lichtenstein 1995, 279). Once GM agreed to this basic formula, the UAW then insisted it be followed in negotiations with Ford, with Chrysler, and to varying degrees throughout the unionized auto supply industry. Unions in other industries with high degrees of union density adopted similar practices. This process of diffusing similar wage increases within large unionized firms and within industries through collective bargaining became known as pattern bargaining. It became an instrument for diffusing this wage-productivity norm broadly enough across the economy to achieve the tandem upward movement in both indicators from the mid-1940s to around 1980 (see figure 1).

UNION WAGE EFFECTS DURING THE SOCIAL CONTRACT ERA

Given the growing importance of unions in the post–World War II expansion, it is not surprising that interest also grew among economists in estimating the effects of unions on wages (and to a lesser extent on productivity). Essentially all these studies applied and further refined the methodology for estimating the *average* effects of unions first developed by Gregg Lewis (1962). It calls for isolating the difference between wages of otherwise comparable union and non-union workers by controlling for other aspects of human capital. This task is made difficult by dynamic processes by which workers and employers react to unionization and the associated wage gains. For example, either adjustment (the shock effect responses described) or selection effects—lower- or higher-skilled workers might select into union jobs or employers might raise their standards for hiring to justify the higher union wage (Lewis 1986)—render estimation of the union wage premium using conventional cross-sectional data sets (such as the Current Population Survey) incomplete. Nevertheless, in the 1950s and 1960s these estimated union differentials tended to range be-

Box 1. Summary of Pre-1980s Variations in Union Effects on Wages

1. Unions have a greater positive effect on wages of blacks, particularly black men relative to whites. (Ashenfelter 1972)

2. Unions reduce the effects of age and education on earnings. That is, unions increase the earnings of younger workers by raising the entry-level salaries on union jobs above what an inexperienced worker would be paid in a comparable non-union job. At the upper end of the wage distribution, the effects of seniority provisions in union contracts protect older workers from wage erosion after they pass their peak productivity years. (Johnson and Youmans 1971)

3. One study estimated the following union–non-union pay differentials by occupation: laborers, 45 percent; transportation equipment operators, 38 percent; craft workers, 19 percent; operatives, 18 percent; service workers, 15 percent; managers, 2 percent; clerical employees, 2 percent; and sales workers, 4 percent. (Bloch and Kuskin 1978)

4. Union wage effects also vary across industries: 43 percent in construction; 16 percent in transportation, communications, and utilities; 12 percent in nondurable goods manufacturing; and 9 percent in durable goods manufacturing. (Ashenfelter 1978)

5. Unions reduce white-collar/blue-collar wage differentials in firms where blue-collar workers are organized. Unions also reduce intra-industry wage differentials to a degree that this effect offsets the increase in earnings dispersion across industries so that the net effect of union is to reduce wage inequality among workers. (Freeman 1980, 1982)

Source: Katz, Kochan, and Colvin 2004, 241.

tween 10 to 15 percent, depending on differences in occupations, industries, and regions. Estimates in the 1970s grew to 15 to 20 percent or more, again with considerable variations in and outside this range across different demographic and occupational groups (for a summary of the pre-1980s evidence, see box 1). Upon finding the union wage premium to be above 20 percent in some of their data by the late 1970s and early 1980s, Richard Freeman and James Medoff (1984, 54) predicted that these premiums were unsustainable. Indeed, union employment declined as the premium reached its peak, followed by somewhat of a decline in the premium in more recent years (Bratsberg and Ragan 2002; Blanchflower and Bryson 2004). The predominant explanations for these wage premiums at the time were the traditional neoclassical view of unions acting as a monopoly (whereby they restrict labor supply and therefore increase wage levels) and a view that saw unions as a way to achieve greater rent sharing, particularly in firms or sectors where the product market allowed for sizable rents to exist. Neither Lewis (1962) nor Freeman and Medoff (1984) were able to adjudicate between these two hypotheses.

Besides estimating the average effects of unions on wages, considerable attention was given to how unions affected income inequality in the post war period. At the firm level, unions have traditionally sought to attach wages to jobs following a principle of "equal pay for equal work." Naturally, this leaves less room for variation of wages across individuals doing similar work (Freeman 1980; Freeman and Medoff 1984; Card 1996; Card, Lemieux, and Riddell 2004; Farber et al. 2018). Unions also reduced the pay differentials between occupational groups such as white- and blue-collar workers within firms (Freeman and Medoff 1984). Their equalizing effects across firms reflected, as noted, the role of pattern bargaining. Although less well-documented, the threat effect (that is, the motivation of non-union firms to avoid unionization) also played a significant role in equalizing wages in the past when unions were stronger. Although difficult to measure, that

threat has largely dissipated given the very low probabilities that a union-organizing drive will occur or, if it occurs, will be successful (Ferguson 2008). Despite several successful and highly visible union-organizing drives at media companies (Masters and Gibney 2019) and academic institutions (Schmidt 2017; Benderly 2018), no substantial changes are apparent in the number of elections held or their success rate since 2011.[1]

UNION EFFECTS ON PRODUCTIVITY

Fewer studies have been undertaken on the effects of the average unions on productivity than on wages. The majority have focused on particular industries and also drew on data from the late 1960s through the early 1980s.

Freeman and Medoff (1984) suggest three potential pathways by which unions can affect productivity: restricting labor supply, restrictive work rules, and "voice." The restriction to labor supply and work rules set off changes to employers' allocation of capital and innovations to make more efficient use of higher-cost labor. The third pathway—empowering workers' voice—however, can facilitate productive information exchange between frontline workers and management as well as boost workers' loyalty to the firm. Early case studies found positive effects for unions on productivity in industries such as manufacturing, construction, and cement plants (for a review, see Freeman and Medoff 1984). Analysis of higher-level industry data included that of Freeman and Medoff (1984), which tested and reject some of the commonly cited mechanisms for why unions might inhibit productivity (for example, reduced managerial flexibility and prevention of technological change), and of Charles Brown and Medoff (1978), which also encountered little evidence for positively selected workers and instead supported voice-related or shock effects. Absent finer-detailed data or identification strategies, detailed case studies such as that of Kim Clark (1980) offered more insight into the potential mechanisms (albeit limited to specific industries)—Clark's conclusions indeed found ex post changes to workers (such as turnover, absenteeism, discipline problems, and morale) but—more important—to management practices (such as formalization of procedures, worker-manager relations, performance reviews, and so on). Freeman and Medoff (1984) qualify that worker voice and management response channels could also negatively affect productivity if the state of employment relations is poor. We address the evidence of this mediating variation in union or employment relations quality later in this article.

UNION EFFECTS ON PROFITS

The positive estimates of union effects on productivity have not, however, extended to effects on firm profits. Most of the studies on this issue report negative effects (Hirsch 2007). Unions appear to be associated with rent sharing with unionized firms, particularly in more concentrated industries, though it is not clear whether this is a causal effect (Belman 1988). Again, most of these empirical studies used data from the 1970s through the 1990s. One interesting, and to our knowledge unanswered, question is whether this effect still holds today. We would expect the decline in union power and failure of unions to organize the newer large so-called superstar firms in concentrated industries (such as Apple, Microsoft, and Google) would weaken the overall union effects on profits. If so, this suggests that the decline in unions may account for part of the decline in labor's share of national and corporate income observed in recent decades. The issue warrants more careful research before firm conclusions on this issue can be reached.

In summary, research on the economic effects of unions in the era of the postwar social contract tends to focus on average effects, largely ignoring both the processes by which unions gained and sustained the bargaining power to have an impact, or on the variations in union-management relations in different settings. This began to change as evidence of both longitudinal and cross-sectional varia-

1. Using National Labor Relations Board election report data (2019), we see little change to the number of employee-initiated elections held, the share of elections won, or the number of employees eligible to vote between the years of 2011 and 2018.

Table 1. Wage Change Regressions: 1957–1984

	Full Sample		Pre-1980		Post-1980	
Multiplant, single-firm structures	.0039**	.0037**	.0058**	.0055**	−0.0067	−0.0067
	(0.0012)	(0.0012)	(0.0012)	(0.0012)	(0.0038)	(0.0039)
Multifirm structures	.0042**	.0043**	.0046**	.0046**	0.0031	0.0028
	(0.0013)	(0.0014)	(0.0014)	(0.0014)	(0.0043)	(0.0043)
Region-wide pattern bargaining	.0046**	.0050**	.0036**	.0039**	.0085*	.0090*
	(0.0013)	(0.0014)	(0.0014)	(0.0014)	(0.0043)	(0.0043)
Industry-wide pattern bargaining	.0045**	.0046**	.0043**	.0042**	0.0057	0.0063
	(0.0014)	(0.0014)	(0.0015)	(0.0014)	(0.0046)	(0.0046)
Strike 1 to 14 days		.0075*		.0080**		0.0039
		(0.0031)		(0.0030)		(0.0157)
Strike 15 to 24 days		0.0054		0.002		0.0164
		(0.0046)		(0.0046)		(0.0158)
Strike 25 or more days		.0052**		.0060**		−0.0029
		(0.0019)		(0.0019)		−0.0072
R^2	0.5	0.5	0.55	0.55	0.31	0.3

Source: Adapted from Kochan 1988. Reprinted in Kochan and Riordan 2016.
Note: Standard errors in parentheses. All regressions include controls for unemployment rate, price increases, price controls, and employment growth or decline during the term of the contract.
*p < .05; **p < .01; ***p < .001

tions in union-management relationships became more visible.

THE BREAKDOWN OF THE SOCIAL CONTRACT

The cumulative effects of the two oil shocks of the 1970s and the expanding union–non-union wage differentials—along with the inability of unions to overcome management resistance in organizing the growing high technology sectors of the economy or even the new plants of many unionized firms (Kochan, McKersie, and Chalykoff 1986)—put significant stresses on existing collective bargaining relationships. These stresses seemed to explode with the combined effects of the change in political control of the national government that came with the election of Ronald Reagan; the decision of the Federal Reserve Bank to bring down the rate of inflation by raising interest rates and the recession that followed; the deregulation of various highly unionized industries such as trucking, airlines, railroads, and communications; and the rising importance of import competition in key manufacturing industries such as autos, steel, and electronics. The confluence of these policy decisions and economic developments helped launch what was described as a fundamental transformation of industrial relations in the 1980s that led to the demise of the old social contract and a search for new principles to guide labor-management relations (Kochan, Katz, and McKersie 1994).

One indication of the fundamental changes taking place in the 1980s was observed in the shift in the structure of wage determination under collective bargaining, a shift that lowered the bargaining power of unions and resulted in lower wage increases than collective bargaining produced in the pre-1980 period. Tables 1 and 2 present estimates of effects of the changes in wage determination that occurred before and after 1980 using the U.S. Bureau of Labor Statistics (BLS) Current Wage Developments series covering bargaining units with one thousand or more workers (Kochan 1988; Kochan and Riordan 2016). The regression coefficients in pre- and post-1980 equations in table 1 show that the major causes of the change were that strikes (or the threat of strikes proxied by actual strikes), centralized bargaining structures, and pattern bargaining, sources of bargaining

Table 2. Overpredictions of Post-1980 Wage Changes Using Pre-1980 Model

Structure or Pattern Cell	N	Without Strikes (%)	With Strikes (%)
Overall sample	414	1.35	1.36
Single plant	169	0.79	0.83
Multiplant, single firm	163	2.10	2.09
Multifirm	82	0.94	0.96
No pattern	83	1.20	1.24
Regional pattern	162	0.89	0.90
Industry pattern	169	1.85	1.83

Source: Adapted from Kochan 1988. Reprinted in Kochan and Riordan 2016.

power that drove wage increases in the period from 1957 through the 1970s, no longer served as significant determinants of wage changes in the early 1980s. Thus the forces that produced and sustained the postwar social contract were no longer able to sustain the tandem upward movement of wages with productivity growth. As a result, as shown in table 2, the model used to explain wage determination in the pre-1980 period overpredicted the post-1980s by an average of 1.35 percent per year. Overprediction was greatest in centralized bargaining structures and in settings where intra-industry pattern bargaining had previously been the common practice. Unfortunately, in 1984 the BLS discontinued the data series that provided the wage data and so we are not able to test whether these differences persisted. Moreover, the expanding gap between aggregate productivity growth and wage growth from the 1980s to today suggests that the breakdown in the social contract has persisted.

VARIATIONS IN UNION EFFECTS AND THE QUALITY OF LABOR-MANAGEMENT RELATIONSHIPS

Starting in the 1980s, a large body of research began examining the effects of variations in the quality of labor-management relationships in both union and non-union establishments and firms within the same industries using what came to be called high-performance work systems. Two early studies of this type found large differences in productivity and product quality across auto assembly plants in the same firm. The differences were associated with variations in grievance rates, employee attitudes (trust) in supervisors, and the extent to which workers were engaged in quality improvement efforts (Katz, Kochan, and Gobeille 1983; Katz, Kochan, and Weber 1985). These studies had the effect of shifting focus from the average effects of unions on employment outcomes to explore more carefully the complementary (Milgrom and Roberts 1995; Black and Lynch 2001) or system of practices (Cutcher-Gershenfeld 1991; MacDuffie 1995; Ichniowski, Shaw, and Prennushi 1997) that combined to produce high or low productivity in both union and non-union firms.

The rise of Japanese "transplants" (auto assembly plants opened in the United States in the 1980s by Japanese firms such as Honda, Toyota, and Nissan) proved to be a fertile ground for studying these issues. A major debate developed over why the Japanese transplants appeared to achieve higher productivity and product quality than auto plants owned and managed by U.S. firms. The first documentation of this variation (without controlling for all unobserved factors) showed that average union effects would mask large differences between union and non-union facilities that employed traditional and high-performance work systems. Table 3 reproduces a classic set of comparisons that sparked much of this research. John Krafcik (1988) compared productivity and quality of auto assembly plants of non-union Japanese producers Nissan and Honda with a joint Toyota-GM unionized facility (NUMMI) and two other more traditionally structured GM-UAW plants using different levels of automation. The NUMMI plant matched and in some cases exceeded the productivity

Table 3. NUMMI Productivity Compared with Other Auto Plants in 1986

Company, Location	Productivity (hrs/unit)	Quality (defects/ 100 units)	Automation Level (0 = none)
Honda, Ohio	19.2	72.0	77.0
Nissan, Tennessee	24.5	70.0	89.2
NUMMI, California	19.0	69.0	62.8
Toyota, Japan	15.6	63.0	79.6
GM, Michigan	33.7	137.4	100.0
GM, Massachusetts	34.2	116.5	7.3

Source: Adapted from Krafcik 1988.
Note: Productivity: standardized number of hours to weld, paint, and assemble a vehicle. Quality: defects attributable to assembly operations reported in first six months of ownership. Automation level: robotic applications or production rate, normalized to one hundred for highest level in the group.

and quality performance of the non-union Japanese transplants and far exceeded the performance of the traditionally structured low and high technology (unionized) GM plants. This work spawned a host of industry-specific studies that documented similar productivity and quality results in organizations employing variations of high-performance work systems (MacDuffie 1995; Ichniowski, Shaw, and Prennushi 1997; for a review, see Appelbaum, Hoffer Gittell, and Leana 2011). Sandra Black and Lisa Lynch (2001) compared union and non-union manufacturing plants that used traditional and "transformed" or high-performance work system practices and further demonstrated the importance of focusing on the variations in both sectors: transformed plants achieved higher productivity in both union a*nd* non-union plants. Indeed, the differential between high and low productivity was greater in union than in non-union plants.

These quantitative results were collaborated with case studies of a number of transformed labor-management relationships observed in the auto, steel, office product, telecommunications, airline, health care, and other industries. The common features that distinguished transformed relationships was that unions and employers worked together in various forms of partnerships to engage employees in continuous improvement efforts. Many adopted variants of team work or other flexible work systems that departed from the individual job control model that characterized more traditional systems carried over from Taylorism and standard industrial engineering job design principles. Some encouraged and supported different forms of gains sharing thereby adapting the old productivity-wage norm in modified ways. Box 2 summarizes the features of the labor-management partnership at Kaiser Permanente, one of the largest, longest-lasting, and most comprehensive labor-management partnerships of the post-1980s era.

The bottom line of this body of research is that unions can and have had highly variable effects on managerial practices and on organizational performance, depending on the quality of the labor-management relationship. Traditional arms-length union-management relationships perform poorly relative to more flexible and partnership-oriented relationships. However, because a strong union is a precondition to partnerships (recall GM's resistance to allowing a union to participate in what the company deemed management issues), these types of partnerships have withered and fewer new ones have been established as union power and density have declined. More broadly, the diffusion of high-performance work systems or high-road strategies also appears to have stalled (Albers Mohrman et al. 1995; Osterman 2018). The key question is whether unions or some other form of worker organization can regain its role as a significant force for wage and productivity growth. That is, can a new social contract be imagined and achieved in today's economy? We now turn to this question.

Box 2. The Kaiser Permanente Labor-Management Partnership

In 1997, the CEO of Kaiser Permanente (KP), the president of the AFL-CIO, and leaders of the coalition of the unions representing employees at KP created what was to become the largest, most long-standing, and most innovative labor-management partnership in the nation's history.

Over its first decade, the partnership helped turn around Kaiser Permanente's financial performance, built and sustained a record of labor peace, and demonstrated the value of using interest-based processes to negotiate national labor agreements and to resolve problems on a day-to-day basis. Among its most significant achievements was the negotiation of a system-wide employment and income security agreement for dealing with workers affected by organizational restructurings. This agreement provided a framework that supported the introduction of electronic medical records technology on a scale that has made Kaiser Permanente a national leader in this area. In 2005 negotiations, the parties committed to bring partnership principles more fully to bear to support continuous improvement in health care delivery and performance by forming "unit based teams" (UBTs) of nurses, technicians, doctors, and service providers.

Since 2007 the parties have achieved significant progress in integrating the partnership into the standard operating model for delivering health care by expanding UBTs throughout the organization and demonstrating that high-performing teams that engage employees contribute significantly to improving health care quality and service, reducing workplace injuries, improving attendance rates, and achieving high levels of employee satisfaction with KP as a place to work and a place to get health care. As a result, Kaiser Permanente is now one of the nation's leaders in the use of front line teams to improve health care delivery.

Source: Adapted from Kochan 2013.

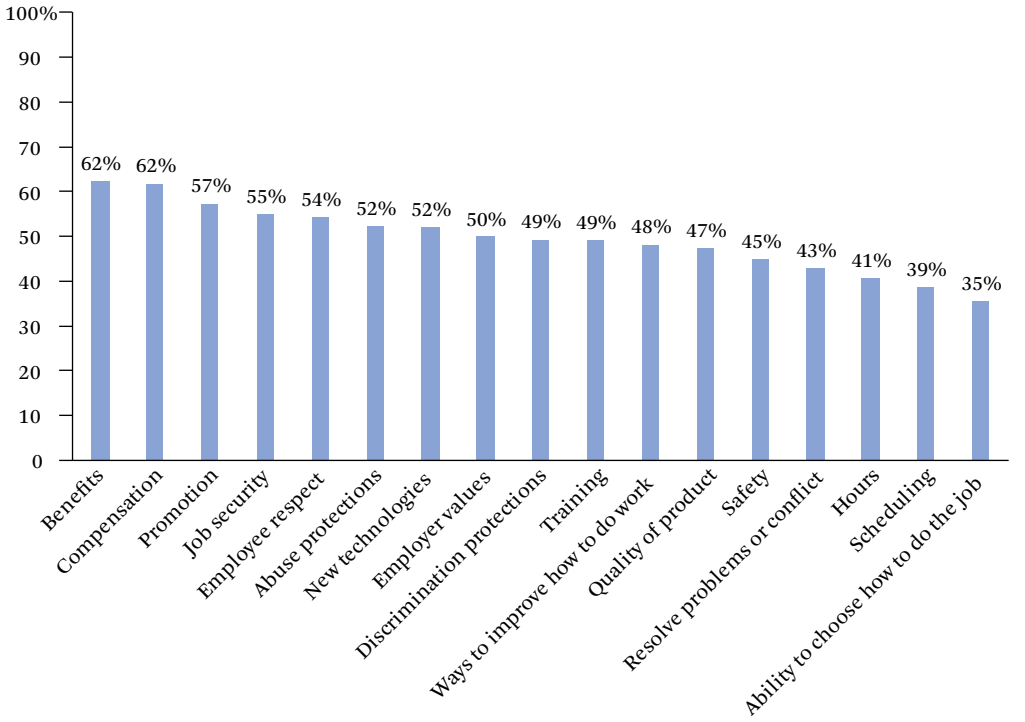
OUT OF THE ASHES: CURRENT STATE OF WORKER VOICE

So far we have painted a historical picture of the rise and decline of unions and the effects on both wages-compensation and the rise and stalled diffusion of high-road or high-performance work systems. Missing from this story is whether something has filled the void in worker voice and bargaining power as unions have declined. Can these new forms grow large enough to help increase wages or diffuse high-road practices that generate productivity growth? Or have workers lost interest in union representation in light of this long-term union decline? Answering these basic questions is crucial to deriving sensible implications for the future of labor policy.

Three data sets allow us to compare whether worker interest in gaining or having union representation has changed over the years before and after the breakdown in the postwar social contract. Two of these surveys also support comparisons of whether workers are experiencing a gap between the amount of say or influence (voice) they expect to have over conditions at work and their actual level of say or influence. We use these data to first summarize changes over time in interest in unions and then examine a number of other options for meeting worker expectations for a voice at work.

In 1995, Freeman and Rogers (1999) conducted a national survey of worker voice that identified what they labeled a representation gap; we use the term *voice gap* here. On average, workers reported that they had less say or influence on their jobs in determining wages, benefits, training, and other working conditions than they thought they ought to have. We conducted a similar national survey in 2017 and found these gaps persisted on compensation, wages, and training and extended to a broader array of workplace issues included in our survey than were measured in the Freeman and Rogers study (Kochan et al. 2019). Figure 2 summarizes the 2017 data. The largest voice gaps were

Figure 2. Voice Gap: Percentage of Workers with Less Involvement Than They Want



Source: Adapted from Kochan et al. 2019. Data based on Kochan and colleagues' analysis of Worker Voice Survey.

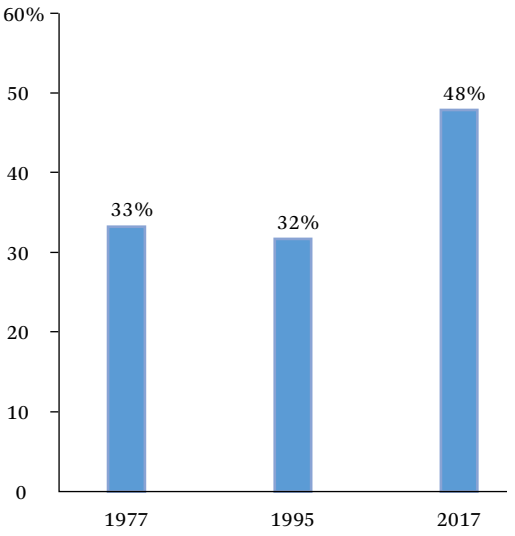
Note: Calculated as the share of respondents who, on a given issue, rate higher on how much say they ought to have compared to how much say they actually have.

reported for benefits, wages, promotions, and job security—essentially the key issues traditionally negotiated in collective bargaining. A majority of respondents reported having less of a voice on these issues than they felt they ought to have on their jobs. Although comparable data are not available for the earlier social contract era before 1980, the data—both that of Freeman and Rogers and the 2017 survey—suggest that a sizable voice gap has persisted since the 1990s.

These two surveys, along with a 1977 national survey sponsored by the Department of Labor and conducted by the University of Michigan Survey Research Center, also allow for comparisons of the level of interest in joining a union among unorganized workers (Kochan 1979). Figure 3 presents the differences in the percentage of non-union workers who indicated a preference for union representation in nationally representative surveys in 1977, 1995, and 2017.[2] The 1977 and 1995 results were nearly identical: approximately one-third of the non-union workforce indicated they would vote to have union representation if given an opportunity to do so on their current job. Estimates of union support from the 1995 data are likely lower than what they would be if public-sector employees were included. In 2017 that number increased to 48 percent. This number translates

2. For each survey, we restrict the sample to those employed who are eighteen or older, work twenty hours or more per week, and are not self-employed. Both the 1995 and 2017 samples exclude those in upper management or who are owners or related to the owners. The 1995 sample also excluded public-sector workers and those at small firms (twenty-four or fewer employees).

Figure 3. Percent of Non-union Workers Who Would Vote for a Union



Source: Adapted from Kochan et al. 2019. Based on authors' analysis of 1977 Quality of Employment Survey (Quinn and Staines 1992), Worker Representation and Participation Survey (Freeman and Rogers 1999), and 2017 Worker Voice Survey data. Data for 1995 from Freeman and Rogers 1999, 99.
Note: Each year's sample excludes self-employed. The 1995 sample also excludes all management occupations.

into an underrepresentation of unions of approximately fifty-eight million workers.[3]

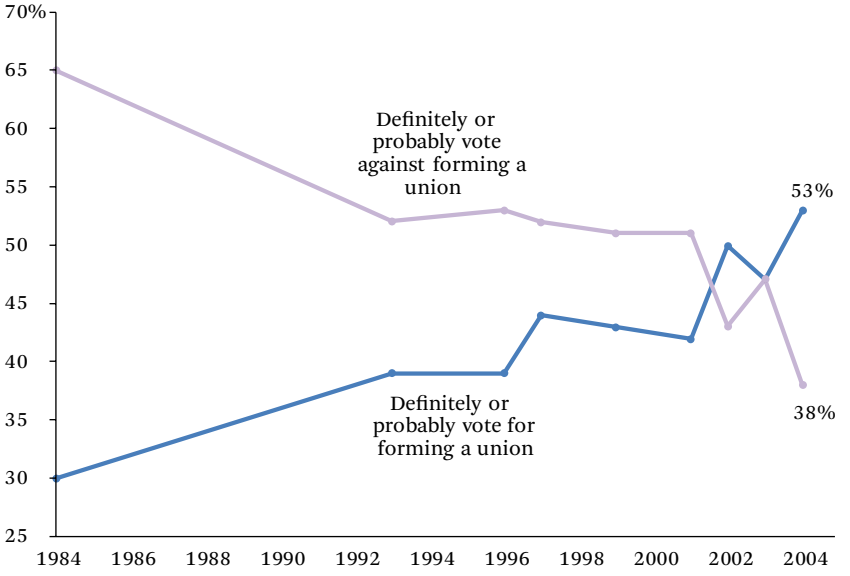
How do the results of these three surveys (that is, the share of non-union workers who would vote for union) comport with other analyses of public opinions on unions? According to Freeman (2007), citing polls conducted by Peter Hart Associates, worker willingness to join a union from 1984 to 2004 shows a similar pattern—interest hovers in the area of 30 to 40 percent between the 1980s and 1990s but by 2004 reaches a high of 53 percent (see figure 4). Meanwhile, Gallup polls on Americans' opinions of unions since 1936 show a similar pattern in the trend of stagnation of approval from the late 1970s to the 1990s (see figure 5). However, no substantial gain is evident between either the 1970s or 1990s and 2017. In 1979, approval sat at 55 percent. By 2017, it had risen to only 61 percent. This minimal change suggests that no major societal change in the role of unions in the economy had taken place in recent decades, but rather that an increasing share of approvers might also see unions as personally instrumental and relevant. These two series suggest that the union-interest indicator from the worker voice survey is not an aberration—instead, it seems as if the antiunion wave of the 1960s and 1970s stagnated until turning slightly more favorable after the Great Recession (other than a negative turn against most institutions during the Great Recession). Unions have become more attractive in that people are more likely to evince interest in joining a union *if an election were held at their work*.

EMERGING FORMS OF WORKER VOICE

Given the long-term decline in unions and the difficulties of organizing using traditional approaches under the National Labor Relations Act, it is not surprising that a variety of new approaches to providing workers a voice have been emerging and continue to emerge. We explored a number of such alternatives in the 2017 worker voice survey. These included both options typically offered by employers and options typically offered independently of employers by groups either working in coalition with one or more unions or on their own. Table 4 lists the options and frequency of their use. Workers are most likely to turn first to their su-

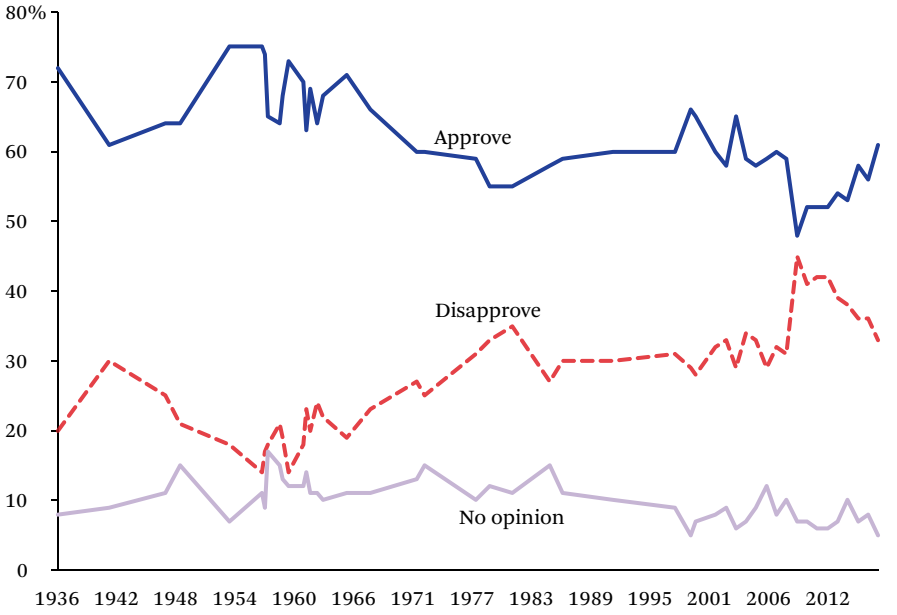
3. We estimate this number by assuming that every non-union worker who would want to join a union can join a union. This is calculated as the product of the 48 percent of non-union workers who would vote for a union in our sample by the total number of non-union workers in the 2017 Current Population Survey Outgoing Rotation Group (CPS ORG) microdata. We employ most of the same sample restrictions in the CPS ORG as in our sample: workers who are currently employed, working for pay, are eighteen years or older, and do not belong to a union or professional association. We are not able to exclude upper-level management or ownership in the CPS ORG as we did in the Worker Voice Survey (WVS). If instead we exclude all workers in management occupations in the CPS ORG, the estimate for potential new union members drops to fifty million workers.

Figure 4. Non-union Worker Likely Vote in a Union Representation Election, 1984–2004



Source: Freeman 2007, figure A.
Note: The original figure was based on polls conducted by Hart Research Associates from 1993 through 2014, supplemented with data from a 1984 Harris poll.

Figure 5. Approval of Labor Unions



Source: Gallup 2018.

Table 4. Workers Who Used Each Voice Channel

Voice Channel	Percent
Supervisor	71
People like you	64
Joint committee	17
Union	16
Grievance	15
Occupation association	15
Ombudsman	13
Petition	10
Online rating	10
Demographic association	10
Protest or rally	7
Strike	6

Source: Kochan et al. 2019.
Note: Based on Worker Voice Survey question 4: "In order to deal with workplace issues at your primary/current workplace, have you ever decided to [use voice mechanism]?" Sample restricted to those with valid answers that included yes or no.

pervisors and coworkers for advice on how to address a workplace problem, likely in part because they are readily available in most workplaces. The other newer options have only been used by 20 percent or less of this sample.

The number and variety of new forms of organizing and advocating for addressing workers' issues is impressive and likely to continue to grow. A sampling of these are listed in box 3. Some, such as the Freelancers Union, focus on professionals, in this case professional freelancers/independent contractors. Others such as the Domestic Workers Alliance focus on low-wage occupations that carry out their work in customers' homes. Some are affiliated with worker centers across the country, advocate for immigrant rights, and provide advice and legal services in disputes over wage and hour violations, discrimination, harassment, or safety and health. Others, such as Coworkers.org, help employees mount petitions to their employers to change scheduling and other practices. OUR Walmart uses artificial intelligence tools to track and answer employee inquiries about legal rights and potential violations of company policies. Lobstermen 207 is a union-affiliated co-op created to market the catch of independent lobster fishermen in Maine. Still other groups, such as the Fight for $15, mobilize in states and cities for increasing minimum wages.

Although the range of innovations is impressive, the impact of these forms of organizing to

Box 3. Examples of New Worker Voice Organizations

AFL-CIO Worker Center Partnerships
Alianza Nacional de Campesinas
Blue Green Alliance
Center on Policy Initiatives
Chinese Progressive Association
CLEAN Carwash Campaign
Contratados
Coworkers.org
Drivers Network
Fight for $15
Freelancers Union
Glassdoor
Green for All
Interfaith Worker Justice
Jobs with Justice
Justice for Janitors
LaborX
Laundry Workers Center
Los Angeles Alliance for a New Economy
National Day Laborer Organizing Alliance
National Domestic Workers Alliance
National Guestworkers Alliance
National Taxi Workers Alliance
OUR Walmart
Partnership for Working Families
Raise Up Massachusetts
Restaurant Opportunities Center United
SherpaShare
Tech Workers Coalition
Turkopticon
Workers Lab
Working America

Source: Arvins, Larcom, and Weissbourd 2018.

date has been limited relative to that of unions at their peak. Evidence is scant that these innovations have had effects on wages or standards with the possible exception of the Fight for $15 movement in terms of achieving minimum wage increases that appear to be linked to recent wage growth for lower-paid workers (Gould 2019). Although some have succeeded in extending opportunities for voice (Coworker.org), labor protections (Domestic Workers Alliance), and job benefits such as health insurance (Freelancers Union) or training (Domestic Workers Alliance) to specific groups of workers who are otherwise unable to access them, none have achieved a level of scale at which they could have an impact on the overall economy or their industry the way that unions' pattern bargaining did. Nor have any developed a fully self-sustaining revenue model: most still rely on financial support from foundations or unions (Rolf 2016). Thus, whether these emerging groups will be successful in building new sources of power that can achieve effects anywhere close to the effects of traditional unions remains to be seen. Clearly, however, the range and number of such efforts indicate that today's labor advocates are looking to build worker voice and bargaining power in ways not limited to or constrained by existing labor law, union-management relations, or collective bargaining. This has profound implications for the future of labor policy.

IMPLICATIONS FOR POLICY

We now address three interrelated questions. First, what do the data on the current state of worker voice and representation imply for the future of labor policy? Second, what has the history of unions and union-management relations taught us about how labor policy fits with and might contribute to economic policies capable of improving living standards for the majority of Americans? Third, looking beyond policies for worker voice and representation, what other actions might government policymakers take to improve employment standards for union and non-union workers? We end with some more preliminary thoughts about how labor and employment policy might also contribute to meeting the challenges of technological innovations that lie ahead.

The evidence is quite clear that contemporary labor law is failing to deliver on its intended purpose of providing workers the ability to decide whether they want union representation. The survey data presented earlier show that a large and growing number of workers who express an interest in union membership have been and continue to be unable to get it. The best study of the union-organizing process proscribed in the National Labor Relation Act further reinforces this conclusion. John-Paul Ferguson (2008) traced the outcomes of organizing and first contract negotiations processes overseen by the National Labor Relations Board and the Federal Mediation and Conciliation Service from 1999 to 2004. He finds that only 20 percent of those processes that showed enough support to request an election were successful in achieving an initial collective bargaining contract.[4] If the employer resisted to the point the union filed an unfair labor practice charge, the union success rate fell to just below 10 percent. These results suggest that, in reality, employers decide whether workers who express a desire for union representation will get it.

Many other features of labor law are equally ineffective, outdated, or—as one labor law scholar termed it—"ossified" (Estlund 2010). In a paper prepared for the seventh-fifth anniversary of the NLRA, Kochan (2011) suggests that five doctrines that need reconsideration are especially problematic. One pertains to distinctions between who is eligible for union membership and who is excluded. A second relates to the exclusion of topics from mandatory subjects of bargaining that workers want to influence. A third involves constraints on direct forms of employee engagement and participation in decisions about how work is organized or how to improve workplace operations and performance. A fourth is the role of exclusive representation. Last is the determination of separate bargaining units for occupational groups within an enterprise or workplace. This list could go on in regard to features that carry

4. The law requires a minimum of 30 percent support but most unions will not file a petition for an election unless a majority of potential voters have signed cards indicating they want to be represented.

over from labor law conceived in the 1930s for a largely industrial economy that do not fit well with today's economy and workforce. Indeed, consensus is growing among labor law experts that the time has come to take a clean slate approach to the design of a new labor law in contrast to the multiple failed efforts (such as those in 1977, 1995, and 2008) to make incremental reforms to the existing law. A broad-based discussion of what these new features of labor law should entail is now under way (Milano 2018).

STARTING POINTS FOR A NEW LABOR POLICY

Although discussions of the features of a new labor law are only in the early stages, the evidence reviewed here suggests several basic design parameters for both an updated labor law and a labor policy that promotes forms of labor-management relations that might contribute to building a new productivity- and wage-enhancing social contract.

First, any new labor law and policy has to deliver on the core principle of freedom of association, especially given the evidence that interest in joining a union has increased in recent decades. Workers should be able to decide whether they want representation and those who do should have ready access to institutions and processes that allow them to express their voices at work in ways that allow them to influence the range of working conditions of importance to them. The United Nations' International Labor Organization includes freedom of association as one of its fundamental principles. That is, workers should have the ability to express their voice collectively and participate in the determination of their working conditions through collective bargaining or other means. As Albert Rees (1963) clearly stated decades ago, the political functions that unions serve in a democratic society may be as or more important than their economic functions. This principle is often lost or overlooked in economic policy discussions about unions. We present it here as the starting point for building a future labor policy.

Second, given the economic (potentially positive and potentially negative) effects of collective representation, labor policy (both the law and its affiliated administrative arrangements) should be integrated with and an integral part of national economic policies capable of supporting high and increasing levels of productivity that are accompanied by increasing wages and economic security. This is the essence of the old social contract; new ways need to be crafted to achieve similar results in today's significantly different economic and technological environment. Calls for viewing labor policy as an integral part of economic policy have been made before but have largely been ignored by those in charge of economic policy in both Democratic and Republican administrations. This needs to change.

Third, the results of our worker voice research to date suggest that "no one-size shoe" approach to voice at work fits all issues or all workers. This implies that labor law needs to open up to support a range of voice options that include but are not limited to collective bargaining, direct employee engagement in work design and improvement efforts, consultation or representation on the broad employment strategies adopted by employers through institutions such as works councils (representative and consultative bodies elected by all workers in an establishment that are common in Europe by are not allowed under current U.S. labor law) or representation on company boards (Hirsch 2007). Recognizing that "pattern bargaining" is no longer feasible as an instrument for reducing cross-firm income inequality or diffusing high-road strategies, some argue for establishing sectoral bargaining or industry-specific wage boards to set minimum standards (Madland 2018).

Fourth, labor policies need to promote high-quality labor-management relationships that contribute both to worker voice and to economic performance. This in turn calls for endorsement of models that support employee engagement, flexibility, investments in training and workforce development, and the types of labor-management partnerships discussed earlier.

Finally, the history of failed efforts at labor law reform suggest one other design principle. Prior efforts have been largely technical affairs among labor policy experts and narrowly debated political battles between labor and management and advocates. Yet the biggest changes

in American labor policy have been achieved in times of widespread activism by workers who captured the attention of the American public. The NLRA was enacted in the midst of the Great Depression, when organizing and strike activity were rising and concern over social and political stability was growing. The 1947 amendments to the NLRA were passed when growing numbers of people disapproved of labor unions, presumably on the basis of the notion that labor had become too powerful and too disruptive a force. Public-sector workers began gaining access to collective bargaining in the 1960s in states where teacher unions and others were agitating and engaging in strikes in the absence of effective options for dispute resolution and in the context of escalating social unrest in cities across the country. The point here is that achieving a new labor policy will require a broad-based public awareness and a call to action. That necessary condition is not yet present in society. So the ultimate policy implication is to increase public awareness that labor policy is failing but that ideas on how to fix it are numerous.

BROADER STRATEGIES FOR IMPROVING JOB QUALITY

Given the long-term nature of union decline and the historic difficulties of changing labor policies, it is important to consider policies for promoting high-road employment practices and improving job quality in all workplaces regardless of whether unions or other forms of worker voice or representation are present. Here we suggest a mix of carrots designed to support and reward firms that already follow high-productivity, high-wage practices that are complemented with enough sticks that enforce or incentivize upgrading minimum employment standards.

The policy levers for enforcing and upgrading minimum employment standards are well known and normally include some combinations of gradually raising minimum wages or the Earned Income Tax Credit; setting a joint employer standard; and rigorous targeting of enforcement of safety and health, wage and hour, and other workplace regulations on employers and sectors with the most egregious violation histories. Combinations of these levers would be the equivalent of what we described earlier as a union shock effect on low-standard employers. The policies aim to establish a universal minimum on various working conditions and compensation, raising the floor so that there is less room for low-road employers to undercut others on labor costs. Charles Brown and Daniel Hamermesh (2019) summarize much of the research to date as showing minimal disemployment effects with the caveat that longer-term effects are harder to predict without making contestable assumptions about the substitutability of technology and labor. In addition to their review, we also highlight the work of Doruk Cengiz and his colleagues (2019), which focuses on how minimum wage changes affected employment of low-wage workers specifically (those at or slightly above the existing minimum wages) and finds no significant disemployment effects for low-wage workers but seemingly spurious disemployment effects do show up further up the wage distribution. One reason that the minimum wage disemployment effects appear to be minimal is that employers enlist productivity-enhancing actions similar to those set in motion by the shock effects of union-negotiated increases (Hirsch, Kaufman, and Zelenska 2015). In their article, Brown and Hamermesh also discuss how changing overtime rules (such as the Obama administration's attempt at increasing the overtime salary threshold)—a lever that arguably affects more middle-income workers—can reduce workers' hours and increase effective hourly pay but potentially at the expense of lower overall work hours and gross domestic product. Other levers seek to plug the holes in existing labor law and standards that businesses may exploit to avoid mandated benefits or liability for workers' well-being. Fissuring of the workplace—which David Weil (2019) notes can contribute to inequality, reduce access to benefits and safety net protections, and "unravel" the social networks of workers to lead firms—suggests the need to counteract these effects with policies to affirm a joint standard or prevent misclassification of independent contractors. The resources afforded by the government to monitoring and enforcing these labor standards are often inadequate, but a complementary force of worker voice and representation could work from the

bottom up, empowering workers to identify and resolve or flag labor violations, an idea that dates back to Sidney and Beatrice Webb's *Industrial Democracy*:

> To get the principle of a National Minimum unreservedly adopted; to embody it in successive Acts of Parliament of the requisite technical detail; to see that this legislation is properly enforced; to cause the regulations to be promptly and intelligently adapted to changes in the national industry, requires persistent effort and specialised skill. For this task no section of the community is so directly interested and so well-equipped as the organized trades, with their prolonged experience of industrial regulation and their trained official staff. (1897, 817)

The importance of work-life balance to job quality has come to the forefront in recent years as the lack of flexibility and the motherhood penalty are the likely suspects for recent stagnation in the women's labor-force participation and the closing of the gender pay gap in the United States (Doran, Bartel, and Waldfogel 2019). To the extent that policy can provide affordable childcare and directly support paid family leave, it will reduce existing inequalities in the availability or affordability of these benefits and make it less likely for businesses to discriminate against women in hiring or promoting if mandates were used instead. Relatedly, flexible work arrangements in terms of work schedule and location can allow more individuals to balance the needs of work and home, which again can increase more individuals' attachment to the workforce. These policies are instrumental in not only closing gender gaps but also making jobs more compatible with needs of today's workers.

Policies that reward high-road firms are less well developed and tested. For years, the Occupational Safety and Health Administration has had a voluntary protection program that absolves establishments from periodic government inspections if they meet or exceed average injury rates for their industry and have comprehensive safety management practices in place. Other initiatives of this sort would include prevailing wage laws or giving preference to government contractors that meet or exceed specified wage, training, or other job quality thresholds. Still other options would be to use tax incentives to encourage or reward investments in training or profit sharing, which have been found to improve productivity, workers' investment in training, and wage growth (Azfar and Danninger 2001). These are simply examples of specific policy actions that can be considered. The general principle might be to find the best mix of sticks and carrots that produce the same dynamic adjustment strategies as the union shock effect did in an era of strong unions.

TECHNOLOGY AND THE FUTURE OF WORK

All of these options deserve consideration, but perhaps the single biggest challenge, and perhaps opportunity, for policy innovations lies in harnessing anticipated changes in technologies to improve job quality and to build a new social contract at work. How to do this is a topic of widespread debate and discussion today yet to date no consensus has been reached on the mix of policies best suited to this task. Our suggestions here are thus designed more as inputs to these debates and to encourage actions that might test the ability to build a new social contract than to provide final answers.

Most discussions about technology and the future of work focus on the need for additional training for workers most at risk of displacement from technological changes. The displacement effects of robots could be substantial (Borjas and Freeman 2019; Acemoglu and Restrepo 2017). The need for training is also a sensible idea given the evidence of growing demand for advanced technical and social skills and evidence that technical skills have a relatively high rate of depreciation (Deming 2017). However, training is likely to have limited success in terms of take up or positive returns when workers are already at risk of or facing displacement. But if done in anticipation of technological changes and before the changes appear at the workplace, workers will be better prepared to adapt to new technologies. Again, this could be encouraged in a variety of ways, such as through tax credits or other incentives for broad-based human capital investments, joint worker and union management training

programs funded as a part of the overall wage bill, or individual training accounts that move with workers across jobs and employers.

Although increased investments in training are clearly warranted, too often training or upskilling the workforce is viewed as the only policy lever for addressing changing technologies. We see training investments as a necessary but not a sufficient policy action. It is equally important to provide workers, whether through unions, works councils, or informal methods, the right and ability to participate in the earliest stages of the technology design decisions in order to integrate changes in work processes and tasks with the design of new technologies. There is both long-standing (MacDuffie and Krafcik 1992) and more recent (Brynjolfsson and Milgrom 2013; Hitt and Tambe 2016; Litwin 2011) evidence that effective integration of technology and work design strategies generate higher productivity than when technologies are designed and implemented in isolation. Yet evidence is scant that industry practice or government policies that subsidize development of new technologies have taken this evidence into account (Bonvillian and Singer 2017). We are encouraged to see that this issue is now getting attention in some settings. The 2018 contracts negotiated between a number of large hotels in various cities and UNITE-HERE, for example, provide for a comprehensive provisions including advance notice of major technological changes, union participation in early stage technology decision processes, enhanced training in anticipation of coming technologies, and adjustment and income supports for workers displaced by technological changes (Johnston 2018). These might serve as the generic elements for a national technology and work policy that, appropriately adapted to fit different circumstances, should be made available to all workers.

The wide-ranging discussions of technology and the future of work could serve as a focal point for bringing business, labor, government, and educators together to forge the starting principles for a new social contract at work.

REFERENCES

Acemoglu, Daron, and Pascual Restrepo. 2017. "Robots and Jobs Evidence from US Labor Markets." *NBER* working paper no. 23285. Cambridge, Mass.: National Bureau of Economic Research.

Albers Mohrman, Susan, Ramkrishnan V. Tenkasi, Edward E. Lawler, and Gerald E. Ledford. 1995. "Total Quality Management: Practice and Outcomes in the Largest U.S. Firms." *Employee Relations* 17(3): 26–41.

Appelbaum, Eileen, Jody Hoffer Gittell, and Carrie Leana. 2011. "High-Performance Work Practices and Sustainable Economic Growth." Washington, D.C.: Center for Economic and Policy Research.

Ashenfelter, Orley. 1972. "Racial Discrimination and Trade Unionism." *Journal of Political Economy* 80(3, Part 1): 435–64.

———. 1978. "Union Relative Wage Effects: New Evidence and a Survey of Their Implications for Wage Inflation." In *Econometric Contributions to Public Policy*, edited by Richard Stone and William Peterson. New York: St. Martins Press.

Arvins, Jeremy, Megan Larcom, and Jenny Weissbourd. 2018. "New Forms of Worker Voice in the 21st Century." Working Paper. Cambridge, Mass.: Harvard Kennedy School of Government and MIT Sloan School of Management. Accessed September 7, 2019. https://iwer.mit.edu/wp-content/uploads/2018/01/New-Forms-of-Worker-Voice-IWER.pdf.

Azfar, Omar, and Stephan Danninger. 2001. "Profit-Sharing, Employment Stability, and Wage Growth." *ILR Review* 54(3): 619–30.

Belman, Dale. 1988. "Concentration, Unionism, and Labor Earnings: A Sample Selection Approach." *Review of Economics and Statistics* 70(3): 391–97. DOI: 10.2307/1926776.

Benderly, Beryl Lieff. 2018. "The Push for Graduate Student Unions Signals a Deep Structural Shift in Academia." *Science*, June 6, 2018. Accessed June 30, 2019. https://www.sciencemag.org/careers/2018/06/push-graduate-student-unions-signals-deep-structural-shift-academia.

Black, Sandra E., and Lisa M. Lynch. 2001. "How to Compete: The Impact of Workplace Practices and Information Technology on Productivity." *Review of Economics and Statistics* 83(3): 434–45.

Blanchflower, David G., and Alex Bryson. 2004. "What Effect Do Unions Have on Wages Now and Would Freeman and Medoff Be Surprised?" *Journal of Labor Research* 25(3): 383–414.

Bloch, Farrell E., and Mark S. Kuskin. 1978. "Wage Determination in the Union and Nonunion Sec-

tors." *Industrial and Labor Relations Review* 31(2): 183–92.

Bonvillian, William, and Peter L. Singer. 2017. *Advanced Manufacturing: The New American Innovation Policies*. Cambridge, Mass.: MIT Press.

Borjas, George J., and Richard B. Freeman. 2019. "From Immigrants to Robots: The Changing Locus of Substitutes for Workers." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 5(5): 22–42. DOI: 10.7758/RSF.2019.5.5.02.

Bratsberg, Bernt, and James F. Ragan. 2002. "Changes in the Union Wage Premium by Industry." *ILR Review* 56(1): 65–83.

Brown, Charles C., and Daniel S. Hamermesh. 2019. "Wages and Hours Laws: What Do We Know? What Can Be Done?" *RSF: The Russell Sage Foundation Journal of the Social Sciences* 5(5): 68–87. DOI: 10.7758/RSF.2019.5.5.04.

Brown, Charles C., and James Medoff. 1978. "Trade Unions in the Production Process." *Journal of Political Economy* 86(3): 355–78.

Brynjolfsson, Erik, and Paul Milgrom. 2013. "Complementarity in Organizations." *In The Handbook of Organizational Economics*, edited by Robert Gibbons and John Roberts. Princeton, N.J.: Princeton University Press.

Budd, John W. 1992. "The Determinants and Extent of UAW Pattern Bargaining." *ILR Review* 45(3): 523–39.

Card, David. 1996. "The Effect of Unions on the Structure of Wages: A Longitudinal Analysis." *Econometrica* 64(4): 957–79.

Card, David, Thomas Lemieux, and W. Craig Riddell. 2004. "Unions and Wage Inequality." *Journal of Labor Research* 25(4): 519–59.

Cengiz, Doruk, Arindrajit Dube, Attila Lindner, and Ben Zipperer. 2019. "The Effect of Minimum Wages on Low-Wage Jobs: Evidence from the United States Using a Bunching Estimator." *NBER* working paper no. 25434. Cambridge, Mass.: National Bureau of Economic Research.

Chamberlain, Neil W., and James W. Kuhn. 1965. *Collective Bargaining*. New York: McGraw-Hill.

Clark, Kim B. 1980. "The Impact of Unionization on Productivity: A Case Study." *ILR Review* 33(4): 451–69.

Cutcher-Gershenfeld, Joel. 1991. "The Impact on Economic Performance of a Transformation in Workplace Relations." *ILR Review* 44(2): 241–60.

Deming, David J. 2017. "The Growing Importance of Social Skills in the Labor Market." *NBER* working paper no. 21473. Cambridge, Mass.: National Bureau of Economic Research.

DiNardo, John, Nicole M. Fortin, and Thomas Lemieux. 1996. "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach." *Econometrica* 64(5): 1001–44.

Doran, Elizabeth L., Ann P. Bartel, and Jane Waldfogel. 2019. "Gender in the Labor Market: The Role of Equal Opportunity and Family-Friendly Policies." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 5(5): 168–97. DOI: 10.7758/RSF.2019.5.5.09.

Economic Policy Institute. 2017. "Productivity and Hourly Compensation." *State of Working America Data Library*. Accessed May 25, 2019. https://www.epi.org/data/#?subject=prodpay.

Estlund, Cynthia. 2010. *Regoverning the Workplace: From Self-Regulation to Co-Regulation.* New Haven, Ct.: Yale University Press.

Farber, Henry S., Daniel Herbst, Ilyana Kuziemko, and Suresh Naidu. 2018. "Unions and Inequality over the Twentieth Century: New Evidence from Survey Data." *NBER* working paper no. 24587. Cambridge, Mass.: National Bureau of Economic Research.

Ferguson, John-Paul. 2008. "The Eyes of the Needles: A Sequential Model of Union Organizing Drives, 1999–2004." *ILR Review* 62(1): 3–21.

Freeman, Richard B. 1980. "Unionism and the Dispersion of Wages." *ILR Review* 34(1): 3–23.

———. 1982. "Union Wage Practices and Wage Dispersion Within Establishments." *ILR Review* 36(1): 3–21.

———. 2007. "Do Workers Still Want Unions? More Than Ever." Briefing Paper 182. Washington, D.C.: Economic Policy Institute.

Freeman, Richard B., and James L. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.

Freeman, Richard B., and Joel Rogers. 1999. *What Workers Want*. Ithaca, N.Y.: ILR Press.

Gallup. 2018. "Labor Unions." Accessed June 22, 2019. https://news.gallup.com/poll/12751/Labor-Unions.aspx.

Gould, Elise. 2019. "Wage Growth for Low-Wage Workers Has Been Strongest in States with Minimum Wage Increases." Washington, D.C.: Economic Policy Institute. Accessed June 22, 2019. https://www.epi.org/publication/wage-growth-for-low-wage-workers-has-been-strongest-in-states-with-minimum-wage-increases/.

Hirsch, Barry T. 2007. "What Do Unions Do for Economic Performance?" In *What Do Unions Do? A Twenty-Year Perspective*, edited by James T. Bennett and Bruce E. Kaufman. New Brunswick, N.J.: Transaction Publishers.

Hirsch, Barry T., Bruce E. Kaufman, and Tetyana Zelenska. 2015. "Minimum Wage Channels of Adjustment." *Industrial Relations* 54(2): 199–239. DOI: 10.1111/irel.12091.

Hitt, Lorin M., and Prasanna Tambe. 2016. "Health Care Information Technology, Work Organization, and Nursing Home Performance." *ILR Review* 69(4): 834–59.

Ichniowski, Casey, Kathryn Shaw, and Giovanna Prennushi. 1997. "The Effects of Human Resource Management Practices on Productivity." *American Economic Review* 87(3): 291–313.

Johnson, George E., and Kenwood C. Youmans. 1971. "Union Relative Wage Effects by Age and Education." *ILR Review* 24(2): 171–79.

Johnston, Katie. 2018. "Progressive Marriot Workers Contract Could Have Ripple Effects." *Boston Globe*, December 10, 2018.

Katz, Harry C., Thomas A. Kochan, and Alexander James Colvin. 2004. *An Introduction to Collective Bargaining and Industrial Relations*. Boston, Mass.: McGraw-Hill/Irwin.

Katz, Harry C., Thomas A. Kochan, and Kenneth R. Gobeille. 1983. "Industrial Relations Performance, Economic Performance, and QWL Programs: An Interplant Analysis." *Industrial and Labor Relations Review* 37(1): 3–17.

Katz, Harry C., Thomas A. Kochan, and Mark R. Weber. 1985. "Assessing the Effects of Industrial Relations Systems and Efforts to Improve the Quality of Working Life on Organizational Effectiveness." *Academy of Management Journal* 28(3): 509–26.

Kochan, Thomas A. 1979. "How American Workers View Labor Unions." *Monthly Labor Review* 102(4): 23–31.

———. 1988. "Wage Determination Under Collective Bargaining." Unpublished working paper. Cambridge, Mass.: MIT Sloan Institute for Work and Employment Research.

———. 2000. "Building a New Social Contract at Work: A Call to Action." *Perspectives at Work* 4(1): 3–12.

———. 2011. "Rethinking and Reframing U.S. Policy on Worker Voice and Representation." *ABA Journal of Labor & Employment Law* 26(2): 231–48.

———. 2013. "The Kaiser Permanente Labor Management Partnership: 2009–2013." Cambridge, Mass.: MIT Sloan Institute for Work and Employment Research.

Kochan, Thomas A., Harry C. Katz, and Robert B. McKersie. 1994. *The Transformation of American Industrial Relations*. Ithaca, N.Y.: ILR Press.

Kochan, Thomas A., Robert McKersie, and John Chalykoff. 1986. "The Effects of Corporate Strategy and Workplace Innovations on Union Representation." *ILR Review* 39(4): 487–501.

Kochan, Thomas A., and Paul Osterman. 1994. *The Mutual Gains Enterprise: Forging a Winning Partnership Among Labor, Management, and Government*. Boston, Mass.: Harvard Business School Press.

Kochan, Thomas A., and Christine A. Riordan. 2016. "Employment Relations and Growing Income Inequality: Causes and Potential Options for Its Reversal." *Journal of Industrial Relations* 58(3): 419–40.

Kochan, Thomas A., Duanyi Yang, William T. Kimball, and Erin L. Kelly. 2019. "Worker Voice in America: Is There a Gap Between What Workers Expect and What They Experience?" *ILR Review* 72(1): 3–38.

Krafcik, John F. 1988. "Triumph of the Lean Production System." *Sloan Management Review* 30(1): 41–52.

Levinson, Harold M. 1960. "Pattern Bargaining: A Case Study of the Automobile Workers." *Quarterly Journal of Economics* 74(2): 296–317.

Lewis, H. Gregg. 1962. "The Effects of Unions on Industrial Wage Differentials." In *Aspects of Labor Economics*. Princeton, N.J.: Princeton University Press.

———. 1986. "Union Relative Wage Effects." In *Handbook of Labor Economics*, vol. 2, edited by Orley Ashenfelter and David Card. New York: Elsevier.

Lichtenstein, Nelson. 1995. *Walter Reuther: The Most Dangerous Man in Detroit*. Urbana: University of Illinois Press.

Litwin, Adam Seth. 2011. "Technological Change at Work: The Impact of Employee Involvement on the Effectiveness of Health Information Technology." *ILR Review* 64(5): 863–88.

MacDuffie, John Paul. 1995. "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry." *ILR Review* 48(2): 197–221.

MacDuffie, John Paul, and John F. Krafcik. 1992. "Integrating Technology and Human Resources for High-Performance Manufacturing: Evidence from the International Auto Industry." In *Transforming Organizations*, edited by Thomas A. Kochan and Michael Useem. New York: Oxford University Press.

Madland, David. 2018. "Wage Boards for American Workers." Washington, D.C.: Center for American Progress. Accessed June 22, 2019. https://www.americanprogress.org/issues/economy/reports/2018/04/09/448515/wage-boards-american-workers.

Masters, Marick F., and Raymond F. Gibney. 2019. "The Tactics Media Unions Are Using to Build Membership." *Harvard Business Review*, January 9. Accessed June 22, 2019. https://hbr.org/2019/01/the-tactics-media-unions-are-using-to-build-membership.

Milano, Brett. 2018. "A 'Clean Slate' for the Future of Labor Law." *Harvard Law Today*, August 1. Accessed May 25, 2019. https://today.law.harvard.edu/clean-slate-future-labor-law.

Milgrom, Paul, and John Roberts. 1995. "Complementarities and Fit Strategy, Structure, and Organizational Change in Manufacturing." *Journal of Accounting and Economics* 19(2–3): 179–208.

National Labor Relations Board. 2019. "Election Reports." Last modified April 2019. Accessed June 22, 2019. https://www.nlrb.gov/reports-guidance/reports/election-reports.

National War Labor Board. 1946. "Termination Report of the National War Labor Board: Industrial Disputes and Wage Stabilization in Wartime." Washington: Government Printing Office.

Osterman, Paul. 2018. "In Search of the High Road: Meaning and Evidence." *ILR Review* 71(1): 3–34.

Quinn, Robert, and Graham Staines. 1992. "Quality of Employment Survey, 1977: Cross-Section: Version 1." Ann Arbor, Mich.: ICPSR—Interuniversity Consortium for Political and Social Research. Accessed June 22, 2019. https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/7689.

Rees, Albert. 1963. "The Effects of Unions on Resource Allocation." *Journal of Law and Economics* 6 (October): 69–78.

Rolf, David. 2016. *The Fight for Fifteen: The Right Wage for a Working America*. New York: The New Press.

Schmidt, Peter. 2017. "New Study Charts Recent Proliferation of Faculty Unions." *The Ticker* (Chronicle of Higher Education blog). January 27. Accessed June 22, 2019. https://www.chronicle.com/blogs/ticker/new-study-charts-recent-proliferation-of-faculty-unions/116611.

Slichter, Sumner H., James J. Healy, and E. Robert Livernash. 1960. *The Impact of Collective Bargaining on Management*. Washington, D.C.: Brookings Institution.

U.S. Department of Labor. 1947. "Work Stoppages Caused by Labor-Management Disputes in 1946." Bureau of Labor Statistics Bulletin no. 918. Washington: Government Printing Office. Accessed June 22, 2019. https://www.bls.gov/wsp/1946_work_stoppages.pdf.

Webb, Beatrice, and Sidney Webb. 1897. *Industrial Democracy.* London: Longman.

Weil, David. 2019. "Understanding the Present and Future of Work in the Fissured Workplace Context." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 5(5): 147–65. DOI: 10.7758/RSF.2019.5.5.08.

Western, Bruce, and Jake Rosenfeld. 2011. "Unions, Norms, and the Rise in U.S. Wage Inequality." *American Sociological Review* 76(4): 513–37.