# DRAYING AND PICKING: PRECARIOUS WORK AND LABOR ACTION IN THE LOGISTICS SECTOR

David Jaffee and David Bensman

Recent research on labor market conditions in the United States points to a rise in "precarious work," which is characterized by low wages, unstable and/or temporary work arrangements, underemployment, economic insecurity, and an absence of employer-provided benefits. This article examines the prevalence of precarious work in the growing logistics sector of the U.S. economy and the mechanisms facilitating these working conditions. These domestic developments are placed in the context of the geographic reorganization of production and the restructuring of the employment relationship under a neo-liberal political economic regime. This article bigblights two logistics industries, drayage trucking and warehouse/distribution centers (W/DCs)—and the challenges facing workers in these industries. For port truckers, this involves their misclassification as "independent contractors." For W/DC workers, the core issue is labor outsourcing and temporary work. The article concludes with an overview of recent labor actions taken to improve conditions for workers.

"Yesterday's manufacturing jobs are today's logistics jobs." North Carolina State Ports Authority

The current labor struggles in port trucking and warehousing are linked to the globalization of production and the associated restructuring of corporate organization in the expanding transportation and logistics sector. What macrostructural factors contributed to the growing prominence of the transportation and logistics sector of the U.S. economy, and the rise of precarious work? How have organizations restructured work in the logistics segment of global supply chains? What actions have been taken, and are being proposed, to address precarious work in this sector?

# Globalization and the Logistics Revolution

Globalization has given rise to the geographic dispersion of production processes and "the *functional integration* of such internationally dispersed activities" (Dicken 1998, 5). As a result, the study of globalization dynamics has focused on the interorganizational relations among interdependent entities, conceptualized as commodity chains (Gereffi and Korzeniewicz 1994), global production networks (Coe, Dicken, and Hesse 2008), or global value chains (Gereffi, Humphrey, and Sturgeon 2005), that serve as integrating mechanisms. While much of the literature has described the relocation of manufacturing to offshore and more profitable locations, and the dispersion of production to developing nations, transportation and logistics within the global chains or networks has received insufficient attention (Bonacich and Wilson 2008 is a notable exception). This element has become increasingly important due to the growing distance between the point of production and the point of consumption. Logistics and supply-chain management are now dominant foci of corporate strategy (Bensman 2008; Coe 2014; Hesse and Rodrigue 2006).

The global value chain is a sequence of activities ranging from product research, design, and development to production, marketing and sales (Kaplinsky and Morris 2001). Within this model, logistics is a relatively high value activity in relation to production (Gereffi, Humphrey, and Sturgeon 2005), but of lower value than research and development or marketing. It is recognized as indispensable for the entire value chain, because logistics operations connect the links. For the retail sector, this was facilitated by the containerization of cargo (Levinson 2006) and the intermodal system of transportation by truck, rail, and container ships, with maritime ports serving as gateways into national markets (Bonacich and Wilson 2008; Rodrigue, Comtois, and Slack 2009).

In the retail, or "buyer-driven," commodity/value chain along which the shipping containers are transported, Walmart stands out as the prototype for supply chain efficiency and cost effectiveness by squeezing costs out of production and logistics, thereby impacting workers across a range of occupations (Appelbaum and Lichtenstein 2006; Lichtenstein 2010). Retail competition requires firms to minimize transportation and distribution costs as so that they do not nullify the cost advantages of offshoring. The net result is the externalization of costs, which is reflected in the working conditions, arrangements, and compensation of logistics workers.

We describe these labor market conditions as forms of "precarious work," or jobs characterized by low wages, unstable work arrangements, temporary employment relationships, underemployment, economic insecurity, an absence of employer-provided benefits, and a lack of legal and regulatory protections (Kalleberg 2011; Standing 2011). Consistent with Standing's analysis of the "precariat," we regard these conditions as a direct product of globalization under neoliberal policies which sought to "maximize competition and competitiveness, and to allow market principles to permeate all aspects of life" (Standing 2011, 1). In the neoliberal model, government policies and corporate practices have made labor-market flexibility a key goal. Pursuing this goal, corporations have made adjustments in organizational structure, staffing, compensation, work design, benefits, and contractual obligation. As Standing (2011, 6) argues and documents, "as globalization proceeded, and as governments and corporations chased each other in making their labor relations more flexible, the number of people in insecure forms of labor multiplied." Or, as Kalleberg (2011, 37) puts it, "The institutional pressures on firms exerted by macrostructural forces - and employers' responses to them – are the central drivers of change in job quality."

On the level of organizational structure, job insecurity has been facilitated by a shift toward a more vertically disintegrated organizational form, where the ownership of upstream and downstream enterprises is abandoned in the name of "lean flexibility" and "core competencies" (Weil 2014). Lichtenstein (2014) chronicles this process as the historical movement from the visible hand of the vertically-integrated firm to the predominance of supply-chain relationships. He notes that while the supply-chain is "composed of a disparate set of legally and organizationally autonomous 'vendors'", in terms of governance they are as "well controlled and as hierarchical as the most vertically integrated corporation of the old economy" (13). Nevertheless, these firms avoid the personnel, human resource management, or "other social, legal, and contractual obligations that have increasingly been attached to employer status since the New Deal" (Gonos 1997, 86). Under this arrangement, the lead firms have control and command over competing venders/suppliers, but no legal responsibility or liability as employers.

A further advantage is based on a modification of how wages are determined. According to Weil, "Fissuring changes how gains are shared in a fundamental way: by shifting work out, lead firms no longer face a wage determination problem for that work but rather a pricing problem in selecting between companies vying for it. That change is critical because it results in fewer gains going to the workers who undertake those activities. It instead shifts those gains to investors" (Weil 2014, 76). This process reduces worker compensation in two ways. First, it eliminates the wage "demonstration effect" that results in efforts and negotiations by lower-paid workers to obtain levels of compensation provided to more highly skilled employees within the same firm or location. Second, with work outsourced to firms that compete for the lead company's business, there is further downward pressure on labor costs (Weil 2014).

# Precarious Work in Drayage Trucking and Warehouse/ Distribution Centers

These organizational strategies undermined workers' power in the American port drayage and warehouse/distribution (W/DCs) industries. For drayage, this involves outsourcing to "independent contractors"; for W/DCs, it involves outsourcing through several organizational layers.

#### Drayage

In the retail-dominated, or buyer-driven, commodity chain, consumer goods move in large containers. Containers are unloaded from ships at port container terminals, then transferred to another transport mode for movement off the terminal. The most common mode is short-haul trucking, known as "drayage," which entails hauling containers on trailer chassis by diesel-powered truck cabs. Drayage is an essential link in the movement of goods from the terminal to W/DC or rail. The industry is characterized by small logistics and trucking firms which compete for contracts with shippers. Drivers may be employees, but more commonly are "owner-operators."

Port truckers represent a significant segment of the logistics labor force. The best study of the working conditions of truck drivers is Belzer's Sweatshop On Wheels, a story of the decline in labor market conditions as trucking changed from the a protected and regulated, to an unprotected and deregulated, industry with the passage of The Motor Carrier Act of 1980 (Belzer 2000; Belman and Monaco 2001; Bensman 2009; Peoples and Talley 2004). Prior to deregulation, licensing requirements enforced by the Interstate Commerce Commission restricted the number of firms and trucks, thereby stabilizing prices and, with Teamster representation of drivers, providing truckers with attractive compensation and benefits. Rising wages and operating expenses were passed on in higher shipping costs. Deregulation was accomplished in 1980 on a nonpartisan basis, as liberals led by Sen. Edward Kennedy called for an end to corporate monopolies, conservatives advocated market competition, and African-Americans protested their exclusion from well-paying jobs. The Motor Carrier Act altered the landscape, allowing the entry of low-cost, nonunion firms. The resulting drop in the price of freight transport made the rapid expansion of offshoring and global trade possible, but it had a devastating effect on port truckers. The increasing number of players depressed compensation and union representation (Belzer 1995).

Prince describes the trucking labor force as internally stratified. "At the bottom of the pyramid are owner-operators hauling international containers – the fastest growing segment of intermodal traffic (Prince 2005, 13). Bonacich adds, "Of all the global trade related logistics workers, port truckers are the most oppressed" (2003, 46).

The "independent contractor" arrangement represents the outsourcing model used in drayage trucking (Bensman 2009, 2014a). Trucking firms—rather than owning trucks and hiring workers as employees—contract with drivers who own or lease their vehicles. At the largest ports, Los Angeles and Long Beach, 86 percent of the drivers are owner operators (Monaco and Grobar, 2004). These drivers work for, but are not officially employed by, one and only one trucking company, and they are paid by the trip, rather than the hour. Contracting with owner-operators frees trucking companies from any obligations they would incur as employers, including social security taxes, unemployment compensation, workers' compensation, health benefits, pensions, and compliance with occupational health and safety and nondiscrimination statutes. This "independent contractor" model, while vulnerable to legal challenges, served to enhance the trucking firms' flexibility.

Further, and quite significantly, as an "independent business," the owner operator is prohibited from joining with other owner-operators to act collectively to improve wages and working conditions through a union or a business association. Doing so would violate federal anti-trust laws. (See Paul forthcoming).

Although the truck companies categorize these drivers as "independent contractors" when they file 1,099 forms with the Internal Revenue Service, the owner-operators are essentially "dependent" contractors who are not allowed to work for more than one trucking firm, receive no employee benefits, are compensated by the trip rather than the hour, and absorb all costs associated with the operation of their vehicles as well as with the inefficiency of the system. The latter includes routine but costly delays and bottlenecks (including terminal security clearance, dependence on terminal operations to locate containers, process paperwork, or provide roadworthy chassis, and traffic congestion). For owner-operators, who are paid by the trip, wait time is one of the most significant factors impacting compensation, contributing to the extended hours of the workday, and generating health-draining levels of stress (On compensation and overwork, see Bensman and Bromberg 2008; East Bay Alliance for a Sustainable Economy 2007; Harrison et al. 2007; Jaffee and Rowley 2009; Monaco and Grobar 2004; Port Jobs 2007; Smith, Bensman, and Marvy 2010; see also DePillis, 2014; for stress, see below).

Overall, drayage owner-operators work in a labor market characterized by high turnover, long working days, low earnings, the absence of employerprovided benefits, poor occupational safety outcomes, poor standards and entitlements, and high exposure to injuries, disease, and psychological distress. The drivers are responsible for maintenance, repairs, fuel, tire replacement, road taxes, insurance, tolls, traffic fines, radio, and/or telephone bills, truck leases and tax preparation (East Bay Alliance for a Sustainable Economy 2007; Port Jobs 2007; Smith, Bensman, and Marvy 2010).

The drivers' dependence on one firm limits the amount of work available to them to cover expenses. In a 2009 study (Jaffee and Rowley 2009), 98.1 percent of the owner-operators surveyed in Jacksonville indicated they were "not allowed to work for other firms". Other studies reported similar findings. Therefore, truckers are "misclassified" as independent contractors (Bensman 2014a; Smith, Bensman, and Marvy 2010; Smith, Marvy, and Zerolnick 2014). While they are strictly regulated by corporate entities to benefit the firms' production and economic advantage, they are considered "independent owner operators" when it comes to benefits, worker rights, maintenance, and repairs. The misclassification of drivers as "independent contractors" can be verified if one applies the defining conditions for employee classification to their labor market status. As outlined by Smith, Bensman, and Marvy (2010), these conditions include "behavioral control," "financial control," and "type of relationship." Behaviorally, the contracting firm determines what containers are moved, when and where, so there is no autonomy or discretion. Financially, the firms set a price for the container move, and drivers have no independent ability to determine their level of compensation. Finally, drivers are only permitted to move containers for one trucking company. These three conditions establish—as is demonstrated by repeated rulings by California courts-an absolute clear-cut case of the drivers' misclassification as "independent contractor."

In addition to the economic consequences of the independent contractor arrangement, there are implications for occupational health and safety, an area that deserves greater attention in the study of precarious work (Lewchuk, Clarke, and DeWolff 2011; Quinlan and Bohle 2009; Quinlan, Mayhew and Bohle 2001; Tompa et al. 2007). Trucking is classified as one of the highest risk occupations in the U.S. with Heavy and Tractor-Trailer Truck Drivers having the highest number of work fatalities of any occupation (Bureau of Labor Statistics 2012). Nearly fifteen million truck drivers are susceptible to occupationally-induced health conditions (Apostolopoulos, Sönmez, and Shattell 2010), including high morbidity and mortality rates associated with: exposures to poor air quality and toxins from prolonged exposure to diesel emissions; insufficient diets, limited availability of nutritional foods available in truck stops and gas stations; injuries from accidents; anxiety and stress from deadlines, scheduling, long work hours, truck repair responsibilities, traffic congestion, and safety concerns; being sedentary in truck cabs for long hours at a time; and unpaid wait times at ports, terminals and distribution centers (Apostolopoulos, Sönmez, Shattell 2010; Gonzalez et al. 2011; Hricko 2006; Williamson et al. 2009).

As owner-operators, the drivers are not provided with health insurance by their employer and thus may lack access to health care. More than two-thirds of port truckers in Houston, Seattle and Jacksonville reported lacking health insurance (Harrison et al. 2007; Jaffee and Rowley 2009; Port Jobs 2007). Of the owner operators who had insurance, less than one percent received it from their company (Bensman and Bromberg 2008).

### Warehouse/Distribution Centers

When shipping containers leave a port, they are transported by truck or rail to a W/DC. W/DCs are critical for inventory control and just-in-time delivery in the retail supply chain (see Bonacich and Wilson 2008, chapter 6). Under the tightly controlled "pull" system in buyer-driven commodity chains, the facilities' function has changed. The emphasis is no longer on stockpiling *just-in-case*, but rather on sorting, distributing, and consolidating goods so that they arrive *justin-time*. For this reason, logistics professionals eschew the term "warehouse." Accordingly, much activity is devoted to "cross-docking," where subsets of goods are removed from a container and placed directly in a truck docked on the opposite side of the W/DC for delivery elsewhere.

As the consumer goods industry became increasingly competitive, emphasizing rapid response times to meet shifting customer demand, the role of W/ DCS became increasingly important. Sanders and Ritzman explain, "Today's competitive environment, characterized by short response times, requires warehouses to be dynamic organizations that can rapidly respond to changes in the quantity and nature of demand. As companies and industries use customer service as a competitive tool, warehouses have begun to play an increasingly important role in facilitating this type of competition" (Sanders and Ritzman 2004, 251; also see Baker 2004).

The industry includes large and small firms, as well as large and small facilities. W/DCs may be owned and operated by manufacturers, retailers, or a third party logistics (3PL) firm. Most of the literature on W/DCs is technical mathematical models and operations research strategies for the design, planning, and control of W/DC systems (see e.g., Chow et al. 2006; Sanders and Ritzman 2004). When W/DCs are considered within the larger context of supply chains, they are linked with the concept of "agility."

There has been scant labor-related research conducted on W/DC workers (again, a noteworthy exception is Bonacich and Wilson 2008, chapter 9). Recent investigations of working conditions have been reported in various mass media publications (see e.g., Jamieson 2011; Myerson 2009). The majority of workers in the W/DC sector are "picker-packers." Picking involves locating, scanning, and sending an item, often on a conveyer belt to the packer who prepares it to leave the W/DC. These workers also move materials and, therefore, engage in a wide range of physical activities.

Unlike drayage, the factory-like workplace conditions in the W/DC sector provide opportunities for workers to communicate and act collectively. However, due to the strategic fragmentation of the industry into various types of ownership and management arrangements, this potential for collective action faces severe challenges (see Weil 2014). While the W/DC facilities might be owned and managed by a producer or large retailer, the W/DC function might be outsourced to a third-party logistics (3PL) company. That firm, in turn, contracts for labor services with temp staffing agencies, which are for-profit labor market intermediaries which grew rapidly beginning in the 1970s (Cho et al. 2012; Freeman and Gonos 2005; Weil 2014). This multi-tiered subcontracting arrangement is most common, and labor conditions are least favorable, in the W/DCs that serve the containerized cargo supply chain, where large retailers exert the greatest pressure to "sweat the assets"; that is to say, to squeeze costs out of the logistics network. This is done by reassigning workers to a variety of different tasks throughout the day, and by requiring them to walk long distances, endure extreme weather conditions, and lift and move heavy loads (Hernandez et al. 2014; Jamieson 2015). Furthermore, they are subject to irregular and abrupt shifts in schedules (Sanders and Ritzman 2004). Not surprisingly, warehouse work is plagued by higher than average employee turnover, and job security is the most significant factor that predicts recruitment and retention rates of warehouse workers (Min 2007). Studies of temporary workers have long identified warehouses as locations where employment is particularly insecure, poorly paid, and stressful (see McAllister 1998).

Several interrelated conditions characterize this sector—low wage compensation, antiunion activity, labor flexibilization, and racialization (Bonacich and Wilson 2008). The single largest physical concentration of W/DCs serving intermodal container cargo is found in California's Inland Empire. This is also where most research on working conditions has been conducted (Bonacich and Wilson 2008; DeLara 2013; Meyerson 2009). Bonacich and Wilson (2008, 226) estimate that 90,000 W/DC workers are employed there. Over half are Latino, and over half are employed through temporary agencies. Almost none are represented by unions (see also Ciscel, Smith, and Mendoza 2003 on immigrant labor and warehouse work).

Labor flexibilization, the externalization of cost, and nonunionization are all accomplished through the use of temporary staffing agencies. One survey of the literature makes the following human resource recommendation: "Flexibilization of labor is an important issue in warehouses. Flexibilization implies that throughout the day personnel are shifted between activities whenever extra capacity is needed. Furthermore, if the available labor capacity is insufficient, then temporary staff are hired from an agency. Accordingly, labor costs will be minimized" (van den Berg 1999, 760). Human resource and worker compensation costs are also avoided and externalized to the temp agencies. Bonacich and Wilson's analysis of the W/DC sector in the Inland Empire concludes that "one of the major motives for the use of temp agencies is to avoid dealing with workers' comp" (Bonacich and Wilson 2008, 226). Further, when a worker is employed by a temp agency, rather than by the company that owns the W/DC, his or her ability to engage in collective action is diminished. Jamieson reports that some large retailers outsource logistics at their biggest distribution hubs to firms that then subcontract to multiple staffing agencies within the same W/DC (Jamieson 2011, 2015). This insulates retailers, who are twice removed, from responsibility, accountability, and liability (Cho et al. 2012; Kalleberg and Marsden 2005). The result for workers is low wages, high stress, and insecure employment (see McClelland, 2012 for a colorful insider look at the retail W/DC).

Weil (2014, 160–7) provides a detailed description of the interfirm relations involved in the W/DC sector based on Walmart as the lead firm and the Inland Empire as the location. It fits the pattern described above. Walmart outsources its W/DC logistics functions to Schneider Logistics, an asset-based firm that provides a full range of services in North America and China. Schneider owns the DC, has direct employees, but also relies heavily on subcontractors for the increasingly large portion of its temporary workforce. One of these firms, now twice removed from Walmart, is Impact Logistics, which supplies the staffing. Among the services provided by Impact Logistics, and highlighted on its web page (Impact Logistics 2014), is "flex labor," with a fixed cost-per-unit-labor model, as well as on-site management, to establish work standards and procedures, and ensure worker communication, supervision, and training. In its promotional video (with Bachman Turner Overdrive's "Takin Care of Business" playing in the background), Impact touts its role as "the nation's leading labor provider," specializing in "professional freight handling" for which "you pay only for work performed, not hours worked," by an operation that will "consistently promote Christian principles" and motivate its associates using a "performance pay scale based on work completed." This exemplifies the growing trend in the W/DC sector toward piecework—that is, payment by the number of items picked, packed, or moved/unloaded, rather than by an hourly wage (Warehouse Workers for Justice 2010).

Warehouse Workers for Justice conducted an extensive study of the W/DC sector in the Chicago metropolitan area, which has seen rapid growth in logistics jobs due to its establishment as a distribution hub. Based on a sample of over 300 workers at 150 W/DCs, the group reported that 63 percent of workers were

temps; the median hourly wage was \$9.00; the majority of workers received poverty wages; temps were paid on average \$3.48 less than direct employees; 25 percent of workers relied on public assistance; 37 percent worked a second job; 4 percent of temps had health insurance; and 20 percent had been injured on the job (Warehouse Workers for Justice 2010).

Central and northern New Jersey have also seen rapid expansion of W/DCs (Gonos and Martino 2011; Rowe 2012). In their study of central New Jersey communities where there are many Latino immigrants, Gonos and Martino (2011) find a concentration of temp agencies that contract with the W/DC industry. They have set up locations in communities where the "shape up" is conducted daily. Workers show up at a specific time, accept assignments at various W/DCs, and travel to work in agency vans (for which a transportation fee is deducted from their paycheck). The agencies compensate workers at between \$7.15 and \$9.00 an hour which is insufficient to satisfy the self-sufficiency standard in New Jersey (Gonos and Martino 2011). The net effect is: "erratic work schedules, poverty wages, hazardous conditions, demeaning treatment, and no voice or job control for workers" (Gonos and Martino 2011, 500). Rowe (2012) followed up this study with a survey of employment conditions in the Central New Jersey W/DCs and found that the workers are "perma-temps" who work full-time at the same facility for at least two years, always through an agency that takes half the wage paid by the warehouse. More than 40 percent of these workers' families lived below the poverty line (Rowe 2012).

Like the dravage workers, W/DC workers face significant safety and health issues as a result of their precarious work status. According to Quinlan and Bohle, the factors that determine the unfavorable occupational safety and health status of precarious workers are pressure, disorganization, and regulatory failure (known as the PDR model). More specifically, negative safety and health conditions stem from pressures of economic insecurity that create competition and vulnerability, workplace disorganization in the form of unstable relationships and obligations, and absence of regulatory policy, enforcement, and worker rights awareness (Quinlan and Boyle 2009). This model has been applied to a qualitative study of temporary workers (Underhill and Quinlan 2011), which concludes that agency workers suffer heightened levels of vulnerability as a result of the triangular relationship among the workers, the agency, and the host firm. Employment and income insecurity lead to intense competition for work and thus "contribute to a range of hazardous practices including work intensification, cutting-corners, accepting hazardous tasks, working when injured and multiple job holding" (399). According to a study by ProPublica (Pierce, Larson and Grabell 2013), temporary workers are disproportionately concentrated in the highest risk occupation; they are 68 percent more likely to work in the 20 percent of occupations with the highest injury rates. An examination of workers' compensation claims for five states revealed that the incidence of workplace injury for temporary workers was between 36 and 72 percent higher than for nontemporary workers.

Not only are temp workers concentrated in hazardous jobs, but when they are paid by piece rate, work intensification arises, and this leads to higher risk of injury. Underhill and Quinlan found that "Work intensification was raised frequently by focus group participants, especially those performing repetitive low skilled tasks such as in call centres and warehousing. One agency storeperson contrasted his experience with that of host employees: 'When there's clocks on you and you're timed on a lot of things, you always run the risk of accidents happening more so than if you didn't have the clock on. The clock is on the agency people even more, you can just see the permanents work slower, because they know they've got a job'" (Underhill and Quinlan 2011, 406).

The triangular relationship also directly impacts occupational health and safety: "Most common was the inability of agency workers to get either party to respond to OHS concerns, both arguing that it was the other party's responsibility. A focus group of warehouse storepersons expressed frustration and a sense of powerlessness with the refusal of employers and hosts to respond to OHS concerns" (Underhill and Quinlan 2011, 409; see also Weil 2014).

Recently, concern about the health risks associated with temporary warehousing work has been raised by a Huffington Post article on the death of a picker at an Amazon warehouse near Richmond, Virginia. He died of a heart attack although he was only in his twenties. Prior to his death, Jamieson reported, the "warehouse had been open for four months. The local fire and EMS department had dispatched personnel to its address at least 34 times..." (Jamieson 2015).

While it is clear that a significant and growing portion of drayers and pickers are precarious workers, it is more difficult to determine how many workers hold these jobs. The Bureau of Labor Statistics Occupational Employment Statistics (BLS/OES) provides data on the numbers of workers and their wages for broad occupational categories and the subcategories that capture some logistics workers. In the annual May 2013 report of the BLS/OES, the majority can be found under the heading, Transportation and Material Moving Occupations (53-0000). In 2013, this broad category accounted for 6.8 percent of U.S. employment. Port truck drivers would be included under the subcategory of Heavy and Tractor-Trailer Truck Drivers (53-3032), which accounted for 17.6 percent of total employment within this occupational category. There is no way to determine the precise number of port truckers or how many are owner-operators.

Within the broad Transportation and Material Moving Occupations category are two subcategories—"Laborers and Freight, Stock, and Material Movers, Hand" (53-7062) and "Packers and Packagers, Hand" (53-7064). Both include the W/DC workers described above. Together the two account for 32.8 percent of the nine-million transportation and material moving jobs (BLS 2013).

Examining the BLS/OES data organized by industry reveals the proportion of drayers and pickers working through staffing agencies. One classification is Employment Services (NAICS 561300). Overall, Transportation and Material Moving occupations account for 21 percent of workers in Employment Services. More specifically, Laborers and Freight, Stock, and Material Movers make up 64 percent, and Packers and Packagers 17 percent, of these service workers. The trend for both occupations is toward greater temp agency employment. From 2009 to 2013, the proportion of workers in these two occupations combined, working through employment agencies, increased from 14.0 to 19.3 percent. This trend toward greater precariousness is consistent with the general labor market experience of U.S. workers (see National Employment Law Project 2012).

Heavy and Tractor-Trailer Truck Drivers, and Laborers and Freight, Stock, and Material Movers rank eighth and ninth among the twenty fastest growing occupations, with estimated growth of 21 and 15 percent, . Growth of these sectors will increase precariousness in the labor market unless actions are taken to stem the tide.

#### Improving Conditions of Work: Worker Actions and Policy Proposals

## Labor Action in Port Trucking

When the International Brotherhood of Teamsters (IBT) began organizing port truckers in 1998, its challenges were many. First, since most of the drivers worked as "independent contractors," they were barred from joining a union under existing legal interpretations of the National Labor Relations Act. Furthermore, the industry was fragmented, atomized, and competitive. Cost pressures compelled companies to squeeze their contracted drivers, resulting in a race to the bottom with regard to wages and working conditions, and a high rate of turnover among drivers (Husing, Brightbill, and Crosby 2007). Scholars have long regarded drayage as an industry immune to union organization (Belzer 2000; Belman and Monaco 2001). But the organizing landscape is changing as organizers have recognized the growing and strategic importance of logistics for the larger economy. In 2005, a Cornell University conference on global unionism included a panel on organizing in the logistics industry, featuring representatives from the International Transport Workers' global union federation. In the following two years, the Teamsters signed an agreement with the Change to Win Federation to partner in organizing port truckers, and Change to Win unveiled a campaign to organize warehousing.

In the beginning, the Teamsters/Change-to-Win campaign exerted political pressure on port authorities to require trucking companies hauling freight to and from the port to provide emission-compliant vehicles and employee drivers. The latter provision—known as the "employee-mandate"—would, proponents argued, reduce the number of owner-operators, increase the number of employee drivers, provide them with greater economic compensation and security, and make it legal for them to organize a union.

This campaign was launched in several ports. The Coalition for Clean and Safe Ports—joining together labor, environmental, environmental justice, community, and faith-based organizations—established a presence in Long Beach/ Los Angeles, Oakland, Portland, Seattle/Tacoma, Miami, and Newark/ Elizabeth. It developed most fully in Los Angeles/Long Beach, where the Los Angeles Association for a New Economy, the National Resource Defense Council, the Long Beach Alliance for Children with Asthma and the Southern California Environmental Health Sciences Center proved effective partners. Organizing under the banner of improving air quality and improving public health in port-adjacent communities, the Coalition enlisted the support of local politicians, including L.A. Harbor Commissioner Janice Hahn, who later was elected to the County Board of Supervisors and then to the U.S. Congress, and Los Angeles Mayor Ramon Villaraigosa.

In October, 2008, the Los Angeles Harbor Commission adopted a Clean Trucks Program containing a concession model and an employee mandate. Implementation was halted, however, by a court injunction lawsuit filed by the American Trucking Association. A Federal appeals court struck down the employee-mandate, in 2011, ruling that it was pre-empted by federal maritime regulations. The ruling meant that the Coalition had to adopt a different strategy (While the employee mandate died, the Clean Trucks program did succeed in forcing the Southern California drayage industry to replace old trucks with a fleet compliant with 2007 federal emission standards).

The organizing strategy shifted to attacking the basis of the drayage industry's business model, which was the misclassification of its labor force as "independent contractors." This strategy had been rejected at the time the IBT/ Change to Win alliance had been constructed, on the grounds that proving misclassification would be time-consuming and expensive, because each lawsuit alleging violation of employment laws would have to be based on the facts discovered at each drayage company. Nevertheless, once it became clear that federal preemption was going to prevail, the campaign shifted to proving that most owner operators were indeed dependent on the drayage companies, not independent businessmen.

The strategy moved on two fronts. Political mobilizing and lobbying pressure achieved success when the California state legislature revised the law defining employment and misclassification on September 8, 2011. According to the California Division of Industrial Relations, the new law "prohibited the willful misclassification of individuals as independent contractors." It created "civil penalties of between \$5,000 and \$25,000 per violation," and it prohibited charging fees to or making deductions from the compensation paid to those misclassified workers." Going further, the law provided that "(w)orkers who do not receive minimum wages, overtime pay, or pay for meals and breaks because their employer misclassifies them as an independent contractor can file a wage claim with the Division of Labor Standards Enforcement" (State of California 2011).

This legislation, which includes the strongest language prohibiting misclassification in the United States, grew out of not only the alliance's political mobilization, but also the success of California's then-Attorney General Jerry Brown's prosecution of cases involving misclassification in drayage. In 2008, Brown launched a series of lawsuits "prosecuting California port trucking companies for engaging in employee misclassification, and for failing to provide workers with Social Security, worker's compensation, and Medicare benefits that they are legally entitled to, according to California state law" (Howard Law 2010). Five successful lawsuits were filed. One suit, filed against Pacifica Trucking, argued that "the drivers for Pacifica should have been classified as employees, with all of the legal benefits that employees are entitled to under state law, and not independent contractors–as Pacifica Trucks maintained total control over the drivers, by providing and covering the trucks, gas, equipment, and other employee expenses related to their business, including repairs." California's Superior Court in Los Angeles County upheld Brown's complaint, after which Brown warned California employees "that if they cheat California workers out of their legally entitled employee benefits according to California state law— 'we're coming after you'" (Howard Law 2010).

At the same time the Coalition was making progress in California, the National Employment Law Project launched research on the misclassification of port truck drivers. The work culminated in two reports—The Big Rig (Smith, Bensman and Marvy 2010), and a follow-up study, The Big Rig Overhaul (Smith, Marvy, and Zerolnick 2014), documenting how most port truck drivers were misclassified as "independent operators" when they were, according to the relevant labor and employment laws, actually employees whose rights were ignored by trucking companies and government regulatory agencies. The reports fueled an IBT/Change-to-Win campaign against misclassification throughout the nation. In New Jersey, the campaign persuaded the Legislature to pass a bill revising the state's labor and employment laws by making explicit that formal guidelines should be used to judge whether or not port truckers were employees. However, after the Legislature passed the bill, Gov. Christie vetoed it.

Nevertheless, the campaign against misclassification continued to rack up numerous victories. Between the publication of the two Big Rig reports, up to 400 complaints were filed with the California Division of Labor Standards Enforcement for wage theft associated with misclassification (Smith, Marvy, and Zerolnick 2014). In one representative case, seven drivers working for Pacer Cartage were awarded \$2.2 million for "unlawful deductions, reimbursable business expenses, interest, waiting time penalties and attorney fees" (TruckingInfo 2014). The hearing officer in the case declared that "The defendant considered the plaintiffs to be independent contractors; however, the amount of control exhibited by the defendant over the plaintiffs was to such a degree that the defendant knew or should have known that the plaintiffs were employees" (TruckingInfo 2014). Further, there have been more than 115 official rulings since 2011 regarding the misclassification of port truckers, with state and federal courts and agencies concluding that the port drivers meet the criteria of employees rather than independent contractors (Smith, Marvy, and Zerolnick 2014; Smith 2015). The mounting legal violations are stimulating action at all government levels. "By treating employee drivers as independent contractors, port trucking companies are violating a host of state and federal labor and tax laws, including provisions related to wage and hour standards, income taxes, unemployment insurance, organizing, collective bargaining, and workers' compensation" (Smith, Marvy, and Zerolnick, 2014, 4) Most recently, the Los Angeles County Board of Supervisors opened an investigation about how it could be more rigorous in regulating work conditions in the local drayage industry (Smith 2015).

On the federal level, the Federal District Court for Central California reinforced the truckers' local victories on September 30, 2014 by rejecting the request of a trucking company, Shippers' Transport Express, to dismiss a complaint filed by port truckers citing seven causes of legal action including failure to pay minimum wage, failure to reimburse for business expenses, unlawful coercion, failure to provide accurate itemized wage statements, and unfair business practices. The Court's decision cleared the way for Shippers' drivers to claim their rights as employees (United States District Court 2014).

This was followed by another legal victory when a San Diego Superior Court upheld the \$2 million award to employees of Pacer Cartage who had been "improperly misclassified as independent owner operators" (Rosenberg 2015).

Emboldened by their victories in state regulatory bodies and in the courts, Southern California port drivers have been taking labor actions aimed at organizing for collective bargaining. In the fall of 2013, Los Angeles port drivers for Green Fleet Systems, Pac 9 Transportation and American Logistics International struck. In the Spring of 2014, the Teamsters supported a 48-hour work stoppage at LA/Long Beach by drivers for four trucking companies to address wage theft, workers' rights, and misclassification. They were joined by drivers at the Port of Savannah who were also protesting their status as independent contractors. The campaign escalated in the summer of 2014, when port drivers in LA engaged in a wider work stoppage with Pac 9 Transportation, Green Fleet Services, and Total Transportation Services that temporarily shut down three Marine Terminals including Evergreen Container Terminal, one of the port's largest, as longshore workers walked off the job in support. Unlike prior strikes, that had been scheduled to last 48 hours, this strike was open-ended (Bradbury 2014). Four months later, drivers struck what ultimately became eight trucking companies. This action occurred at the same time as the shipping industry and the West Coast longshoremen's union, the ILWU, were in the midst of tense negotiations, while containers were piling up on the docks. As a result of these coordinated actions, all eight trucking companies agreed to formal talks for resolving the issue of misclassification (Bensman 2014a).

Together, the IBT/Change to Win campaign's legal victories, and its escalating mobilizations bore fruit in the winter of 2015 when Shippers Transport, Inc., recognizing that a resounding defeat in District Court was impending, recognized its drivers as employees. The union quickly signed up members, won recognition with an 80 percent vote, and bargained a contract approved by a 65-5 vote. The agreement included an hourly wage boost of three dollars an hour, to twenty-one dollars, overtime pay, full medical insurance, a defined benefit pension plan, paid holiday and sick leave, and a union grievance procedure (Rosenberg 2015.).

And then the Teamsters unveiled a new strategy to clinch its transformation of drayage, in April 2015, following another strike at the southern California ports. After the drayage firm Green Fleet announced that it would reclassify its drivers as employees, and negotiate a contract with the Teamsters—an action that the courts had all but forced the company to take—the Teamsters announced that L.A. Mayor Eric Garcetti would hold a press conference. Surrounded by representatives from the Teamsters and Change-to-Win, and Alex Paz, a port driver leader, as well as by executives of a drayage firm, the Mayor announced the formation of a new company that would revolutionize the industry. With capital raised by a private equity firm that owned one drayage company, Ecoflow Transportation would employ drivers, acknowledge their right to organize, operate with a union contract, buy new trucks, and introduce technological and operational innovations that would enable it to compete with companies paying much less. With help from the Teamsters and port truckers fighting misclassification, Ecoflow would recruit 600 drivers during a period when its much-smaller competitors were suffering a driver shortage. The age of wage theft in port trucking was over, Garcetti announced (Watt 2015).

### Labor Action in Warehouse/Distribution Center Sector

In 2009, Warehouse Workers United launched a campaign to improve conditions for what is now one of the fastest growing sectors of the logistics industry. The goals were a living wage, ending the use of temporary staffing, providing health benefits, and allowing workers to organize a union. The effort was focused on the Inland Empire, east of the ports of Los Angeles and Long Beach (see Bonacich and De Lara 2009). Several high-profile events and media reports followed, drawing attention to conditions in the industry and region (Arrieta 2009; Meyerson 2009). A second group, Warehouse Workers for Justice, emerged in Illinois to build solidarity among W/DC workers, in metro Chicago, a logistics hub (Bybee 2009). A third front in the campaign to transform the W/DC industry began in 2011, after the International Association of Machinists and Aerospace Workers (IAM) won an election to represent production workers at an Ikea-owned plant in Danville, Va. This was followed by organizing Ikea workers in Maryland and Georgia W/DCs (Vail 2012).

Walmart's W/DC workers are also on the offensive. Joined by the Teamsters and United Food and Commercial Workers, Walmart warehouse workers have marched and struck at warehouse and store locations as well as at the Walmart world headquarters. There, they presented petitions and talked with executives about wages, working conditions, and anti-union intimidation (Moberg 2013; Slaughter 2012).

On the legal front, in a significant case, Warehouse Workers United filed suit in 2011 against Schneider Logistics and two staffing agencies—Premier Warehousing Ventures and Impact Logistics—for oppressive working conditions and subminimum wages at W/DCs operated for Walmart in Mira Loma, California (Fowler 2012; Medina 2012; Weil 2014). The three firms were fined a total of \$1 million for the violations. More recently, Schneider paid \$21 million to settle a broader class action brought by 1,800 warehouse workers who charged illegal underpayment based on piece-rate and noncompensated time

on the job, denial of required overtime compensation, and retaliation for filing a complaint. Noteworthy in the latter case was that Walmart, given its direct hand in the warehouse operations as well as the terms and conditions of employment of workers, was designated a joint employer (See Milam-Perez 2014). By linking responsibility for working conditions to the lead firm in the subcontracting-outsourcing cascade, this case established a precedent that may fuel future efforts of W/DC workers. As Weil (2014, 203) has outlined, this could encourage lead companies to "choose to keep employment inside the organization" or, if they continue outsourcing-subcontracting arrangements, "they might do so with greater scrutiny in the selection, monitoring, and coordination of those subordinate organizations given their heightened responsibility." The National Labor Relations Board's ruling on August 25, 2015, that Browning Ferris Industries was a joint employer with Leadpoint, a staffing agency that hired workers at a recycling plant, suggests that companies may find it more difficult in future to shed their employment responsibilities (National Labor Relations Board 2015).

The National Law Employment Project (Cho et al. 2012; Smith, Bensman and Marvy 2010; Smith, Marvy, and Zerolnick 2014) and Warehouse Workers for Justice (WWJ 2010) have conducted studies on working conditions in the drayage and W/DC industries. WWJ recommends pathways to establish stable work, including permanent employment, regular hours, and living wages. This could be facilitated through incentives and taxpaver support to firms that institute fair policies. Labor regulations could also be established and enforced, particularly as they apply to temporary/day labor and fair compensation procedures. These should include eliminating illegal barriers to the right to organize and engage in collective bargaining. With regard to the Walmart-style of outsourcing and subcontracting logistics services and staffing, NELP (Cho et al. 2012) recommend not only aggressive enforcement of labor laws but the adoption of innovative laws requiring transparency in contracting relations, holding the supply chain head responsible for both conditions and violations, and establishing a code of ethics for contractors and subcontractors.

In New Jersey, the New Labor Worker Center focuses on regulating staffing agencies, which provide labor to the warehouses and distribution centers processing the containers unloaded at regional ports. Armed with the research of Gonos and Martino (2010), and Rowe (2012), New Labor joined with community organizations to prevail on the municipal government of New Brunswick to regulate the agencies; those that are found guilty either in court or by the state Department of Labor of wage theft, including, "not paying for all hours worked, not paying at least the minimum wage, or not paying overtime" can be denied renewal of operating licenses. After New Brunswick adopted this legislation in 2013, the township of Princeton followed suit in 2014 (Kalet 2014).

In Southern California, Warehouse Workers United (WWU) organized a worker center in 2011, and immediately began documenting unsafe working conditions. Working with UCLA's Labor Occupational Safety and Health program, they trained warehouse workers to conduct a survey. Their report, "Shattered Dreams and Broken Bodies," documented pervasive safety problems, including not only numerous injuries, but also dangerous chemical exposures. Furthermore, the report highlighted warehouse managers' practices of not reporting injuries to state agencies (Warehouse Workers United and D Cornelio 2011). In January, 2012, the California Division of Occupational Safety and Health issued "\$256,445 in citations for more than sixty violations found during an inspection of warehouses in Chino, California, including excessive heat, dangerous forklifts and other machinery, unsafe stacking of boxes, and lack of health and safety training" (Warehouse Workers United). WWU's campaign was reinforced by subsequent research by the University of Southern California, the University of California at Riverside, and the National Employment Law Project (Cho et al. 2012; DeLara 2013, University of California at Riverside Policy Matters 2012).

The attack on safety problems was just the opening salvo. Since then, WWU filed suits against numerous logistics companies. The previouslydiscussed \$21 million settlement with Schneider Logistics, was the biggest victory (Milam-Perez 2014).

In the Chicago metro area, near the extensive rail yards, Warehouse Workers for Justice joined with local scholars to expose working conditions. The 2010 report, "Bad Jobs in Goods Movement: Warehouse Work in Will County, Illinois," documented contracted temporary jobs and unsafe work conditions similar to those in Southern California and New Jersey. Organizing by the Warehouse Workers for Justice, in conjunction with community organizations and by the faith-based organization, Interfaith Worker Justice, prompted the Cook County government to adopt a wage-theft ordinance in 2015 (Caldarone 2015).

#### **Discussion and Conclusion**

Scholars of organization, work, and labor would be well-advised to "follow the goods." Not only will they discover under-analyzed areas of organizational and workplace dynamics, but they will find sources of shifting labor market practices linked to large-scale global processes. Situated between production and consumption are workers who toil in the transportation and distribution of commodities. The pressure on companies to reduce logistics labor costs, so that the price advantage of offshoring is not lost in the movement of goods, provides an entry point for analyzing organizational and labor practices which are emblematic of the growing terrain of precarious labor.

More specifically, analysis of the drayage and W/DC segments of the intermodal logistics supply chain reveals contrasting employer strategies to reduce costs and enhance flexibility. Both strategies have ensured precariousness and forestalled labor organization. For port truck drivers, *misclassification* is central to their precarious work status and inability to organize and bargain. For the W/ DC workers, the core issue is *outsourcing/subcontracting*, which insulates the lead companies from responsibility for labor conditions in the W/DCs that process and distribute their goods. Labor actions by workers in these sectors have relied on a range of strategies, from walkouts and slowdowns to coalition building with existing labor unions, environmental groups, and academic research institutes, and to legal challenges based on the violation of labor laws. On the latter front, class action suits against transportation firms as well as state/federal legislation and legal enforcement actions taken against logistics subcontractors and labor recruitment firms, which hold the lead companies accountable, have the potential to address the precariousness. Together, these efforts have won significant gains for workers in particular locations. Ultimately, national standards should be established and enforced.

More generally, future prospects for enhancing the bargaining power of logistics workers are linked to the fact that supply chains are dependent not only on low costs but also on moving goods quickly. Once containerized cargo arrives at a port, it is vital, given the "just in time" supply-chain system, to move it quickly and efficiently, This imperative provides labor with a strategic opportunity to exercise power. As Silver observes, "Transport workers have possessed and continue to possess relatively strong workplace bargaining power. This is especially clear after we conceptualize their workplace as the entire network in which they are enmeshed. Thus, the source of the workplace bargaining power is to be found less in the direct impact of their actions on immediate (often public) employers and more on the upstream/downstream impact of the failure to deliver goods, services, and people to their destinations"(Silver 2003, 100). The desire by capital to ensure stability and certainty in the movement of cargo works to the advantage of labor, which is able to exercise "interdependent power" (Piven 2006).

This logic has led observers to describe ports as nodal chokepoints in global commodity chains (Bonacich 2003) where labor engages in disruptive action that can cripple the global movement of commodities. Lund and Wright (2003) have explored how the tight integration of supply chains, using information technologies, poses both threats to and opportunities for union bargaining power. As they note, the sequential interdependence of the intermodal system has "the potential for a shut-down or stoppage of one enterprise to have a domino-like effect throughout the broader supply chain potentially wreaking havoc within and across industries." (103). As an example they point to the United Parcel Service strike of 1997 which was enabled by the dependence of the powerful company on the compliance and cooperation of subordinate classes and groups. This model of disruption has a long history of successfully advancing progressive social change (Piven 2006). The port truckers' strikes of 2014 in Los Angeles and Long Beach are a recent example. Amidst the port congestion that slowed goods movement during the ILWU/shippers' negotiations in the winter of 2014-5, these strikes proved effective at forcing employers to talk with the Teamsters and striking truck drivers.

As workers organize to resist company efforts to divest themselves of the responsibilities of employment, they are converting latent sources of power based on strategic location into progress in the courts, in legislatures, and at bargaining tables. As unions and worker centers bring workers together, the latter are becoming more aware of their rights and more conscious of their ability to disrupt the flow of commerce. Unions' successes coalescing with environmentalists, community organizations, workers' centers, and faith-based organizations are changing the way labor is strategizing to craft public policies aimed at enhancing the common good, rather than simply at increasing union rights (Loomis 2015). These trends indicate that increasing precarity at work is not inevitable. There are signs in these two industries that collective bargaining can be reinstated, regulatory enforcement can be reinvigorated, and labor and employment laws can be revised to meet the challenges posed by shifting business strategies and new technologies.

The fact that W/DC employees joined port truckers on strike against common employers at the ports of Los Angeles and Long Beach at the end of October, 2015 (Gorman 2015) suggests that the logistics sector is emerging as a central location for this countermovement against precarious work in the neoliberal political economy (Bensman 2014b).

**David Jaffee** is professor in the department of Sociology, Anthropology, and Social Work, University of North Florida.

**David Bensman** is professor in the Department of Labor Studies and Employment Relations, Rutgers University, SMLR, New Brunswick, NJ. USA. Address correspondence to David Jaffee and David Bensman: Emails: djaffee@unf.edu and dbensman@smlr.rutgers.edu

#### References

- Apostolopoulos, Y., S. Sönmez, and M. Shattell. 2010. Worksite-induced morbidities of truck drivers in the United States. AAOHN Journal 58 (7):285–96.
- Appelbaum, R., and N. Lichtenstein. 2006. A new world of retail supremacy: Supply chains and workers' chains in the age of Wal-Mart. *International Labor and Working-Class History* 70:106–25.
- Arrieta, R. M. 2009. In Inland Empire, 'temp' workers demand living wage. In These Times, October 29.
- Baker, P. 2004. Aligning distribution center operations to supply chain strategy. International Journal of Logistics Management 15 (1):111–23.
- Belman, D. L., and K. A. Monaco. 2001. The effects of deregulation, de-unionization, technology, and human capital on the work and work lives of truck drivers. *Industrial and Labor Relations Review* 54 (2A):502–24.
- Belzer, M. H. 1995. Collective bargaining after deregulation: Do the teamsters still count? Industrial and Labor Relations Review 48 (4):636–55.

Bensman, D. 2008. Globalization and the labor markets of the logistics industry. Sloan Industries Studies Conference, Boston Massachusetts, May 2, 2008.

——. 2009. Port trucking down the low road: A sad story of deregulation. DEMOS, http://www.demos.org/ pubs/trucking\_072009.pdf (accessed March 4, 2012).

- ——. 2014a. Misclassification: Workers in the borderland. Journal of Self-Governance and Management Economics. 2 (2):7–24.
- 2014b. The battle over working time: A new workers' right. *The American Prospect*, November 2014. http://prospect.org/article/fair-work-schedules-next-new-human-right (accessed February 10, 2016).

- Bensman, D., and Y. Bromberg. 2008. Port truckers survey at New Jersey ports. New Brunswick, NJ: Rutgers University.
- Bonacich, E. 2003. Pulling the plug: Labor and the global supply. New Labor Forum, 12 (2):41-8.
- Bonacich, E., and J. B. Wilson. 2008. *Getting the goods: Ports, labor, and the logistics revolution*. Ithaca, NY: Cornell University Press.
- Bonacich, E., and J. D. De Lara. 2009. Economic crisis and the logistics industry: Financial insecurity for warehouse workers in the inland empire. UC Los Angeles: Institute for Research on Labor and Employment. http:// www.Escholarship.org/uc/item/8rn2h9ch (accessed December 19, 2012).
- Bradbury, A. 2014. California port truckers strike closes three terminals. *Labor Notes* (July 8), http://www. labornotes.org/blogs/2014/07/california-port-truckers-strike-closes-three-terminals (accessed September 15, 2015).
- Bureau of Labor Statistics. 2012. *Census of Fatal Occupational Industries*. United States Department of Labor, Bureau of Labor Statistics. http://www.bls.gov/iif/oshcfoi1.htm#2012
- 2013. National Occupational Employment and Wage Estimates, United States Department of Labor, Bureau of Labor Statistics. http://www.bls.gov/oes/tables.htm (accessed May 4, 2014).
- Bybee, R. 2009. The shipping point: Between China and big box stores, minimum wage 'temp' workers take a stand. *In These Times*, December 18.
- Caldarone, A. 2015. Cook county passes wage theft ordinance; Businesses face harsh sanctions for violations of state and federal wage laws, JD Supra Business Advisor, http://www.jdsupra.com/legalnews/cook-county-passes-wage-theft-ordinance-28151/(accessed March, 13, 2015).
- Cho, E. H., A. Christman, M. Emsellem, C. K. Ruckelshaus, and R. Smith. 2012. Chain of greed: How Walmart's domestic outsourcing produces everyday low wages and poor working conditions for warehouse workers. National Employment Law Project, July 2012.
- Chow, H. K. H., K. L. Choy, W. Lee, and K. Lau. 2006. Design of a RFID case-based resource management system for warehouse operations. *Expert Systems with Applications*, 30 (4):561–76.
- Ciscel, D. H., B. E. Smith, and M. Mendoza. 2003. Ghosts in the machine: New immigrants and the redefinition of work. *Journal of Economic Issues* 37 (2):333–41.
- Coe, N. M. 2014. Missing links: Logistics, governance and upgrading in a shifting global economy. Review of International Political Economy 21 (1):224–56.
- Coe, N. M., P. Dicken, and Hess, M. 2008. Global production networks: Realizing the potential. *Journal of Economic Geography*, 8 (3), 271–95.
- DeLara, J. 2013. Warehouse work: path to middle class or road to economic insecurity. USC Program for Environmental and Regional Equality. http://dornsife.usc.edu/assets/sites/242/docs/WarehouseWorkerPay\_web.pdf (accessed August 10, 2014).
- DePillis, L. 2014. Trucking used to be a ticket to the middle class. Now it's just another low-wage job. Washington Post, April 28. http://www.washingtonpost.com/blogs/wonkblog/wp/2014/04/28/trucking-usedto-be-a-ticket-to-the-middle-class-now-its-just-another-low-wage-job/
  - ——. 2015. We're doing a terrible job measuring the modern workforce, and the feds know it. *Washington Post*, October 9.
- Dicken, P. 1998. Global shift: Transforming the world economy. 3rd ed. New York, NY: Guilford Press.
- East Bay Alliance for a Sustainable Economy. 2007. *Taking the low road*. Oakland, CA: East Bay Alliance for a Sustainable Economy.
- Fowler, L. 2012. State investigators, workers cite labor abuses in warehouse empire. *Fair Warning*, March 5. http://www.fairwarning.org/2012/03/lawsuit-investigations-cite-abuse-of-workers-in-warehouseempire/#sthash.CCwkut5y.dpuf
- Freeman, H., and G. Gonos. 2005. Regulating the employment sharks: Reconceptualizing the legal status of the commercial temp agency. Working USA: The Journal of Labor and Society 8:293–314.
- Gereffi, G., J. Humphrey, and T. Sturgeon. 2005. The governance of global value chains. *Review of Interna*tional Political Economy 12:78–104.
- Gereffi, G., and M. Korzeniewicz. 1994. *Commodity chains and global capitalism*. Westport, CT: Greenwood Pub Group.
- George, G. 1997. The contest over 'Employer' status in the postwar United States: The case of temporary help firms. *Law & Society Review* 31 (1):81–110.
- Gonos, G., and C. Martino. 2010. Temp agency workers in New Jersey's logistics hub: The case for a union hiring hall. WorkingUSA: The Journal of Labor and Society 14:499–525.
- Gonzalez, P. A., M. Minkler, A. P. Garcia, M. Gordon, C. Garzón, M. Palaniappan, S. Prakash, and B. Beveridge. 2011. Community-based participatory research and policy advocacy to reduce diesel exposure in West Oakland, California. *American Journal of Public Health, Framing Health Matters* 101:e1–e10.

Gorman, S. 2015. Labor friction intensifies between port truckers, shippers. The New York Times, October 27, 2015.

- Harrison, R., N. Hutson, J. West, and J. Wilke. 2007. Characteristics of drayage operations at the port of Houston, Texas. *Transportation Research Record*, 2033 (1), 31–7.
- Hernandez, G., L. Kimmel, B. Marshall, C. Martino, M. Ochsner, and M. Pabellon. 2014. Bending toward justice: How Latino immigrants became community and safety leaders. Washington, DC: CPWR. http://elcosh. org/record/document/3915/d001351.pdf. (accessed February 10, 2016).
- Hesse, M., and J. P. Rodrigue. 2006. Global production networks and the role of logistics and transportation. *Growth and Change* 37 (4):499–509.
- Howard Law, PLC. 2010, California attorney general fights employee misclassification and workers' rights violations. http://www.howardlawpc.com/lawyer-attorney-2237106.html (accessed July 9, 2010).
- Hricko, A. M. 2006. Ships, trucks, and trains: Effects of goods movement on environmental health. *Environmental Health Perspectives* 114 (4):A204–5.
- Husing, J., T. Brightbill and T. Crosby. 2007. San Pedro bay ports clean air action plan: Economic analysis. September 7.
- Impact Logistics. 2014. http://www.loadingservice.com/
- Jaffee, D., and A. Rowley. 2009. Hauling containers: Port drayage drivers in the logistics supply chain. Presentation at the annual Southern Sociological Society meetings, April, 2009, Atlanta.
- Jamieson, D. 2011. The new blue collar: Temporary work, lasting poverty and the American warehouse. *Huffington Post*, December 20. http://www.huffingtonpost.com/2011/12/20/new-blue-collar-temp-warehouses\_n\_1158490.html
  - —\_\_\_\_. 2015. The life and death of an Amazon warehouse temp. *Huffington Post*, http://highline.huffington-post.com/articles/en/life-and-death-amazon-temp/(accessed October 22, 2015).
- Kalet, H. 2014. Taking a bigger bite out of wage theft in the Garden State. New Jersey Spotlight, July 17, 2014. http://www.njspotlight.com/stories/14/07/17/taking-a-bigger-bite-out-of-wage-theft-in-the-garden-state/ (accessed February 10, 2016).
- Kalleberg, A. L. 2011. Good jobs, bad jobs: The rise of polarized and precarious employment systems in the United States, 1970s-2000s. American Sociological Association. New York, NY: Russell Sage Publishers.
- Kalleberg, A. L., and P. V. Marsden. 2005. Externalizing organizational activities: Where and how US establishments use employment intermediaries. *Socio-Economic Review* 3 (3), 389.
- Kaplinsky, R., and M. Morris. 2001. A handbook for value chain research. Available online at: http://www.prism. uct.ac.za/Papers/VchNov01.pdf
- Levinson, M. 2006. The box: How the shipping container made the world smaller and the world economy bigger. Princeton, NJ: Princeton University Press.
- Lewchuk, W., M. Clarke, and A. DeWolff. 2011. Working without commitments: The health effects of precarious employment. Montreal, Quebec, Canada: McGill-Queen's Press-MQUP.
- Lichtenstein, N. 2014. Two cheers for vertical integration: corporate governance in a world of global supply chains. Unpublished manuscript. University of California-Santa Barbara.

----. 2010. The retail revolution. New York: Picador.

- Loomis, E. 2015. Out of sight: The long and disturbing story of corporations outsourcing catastrophe. New York: The New Press.
- Lund, J., and C. Wright. 2003. Integrating the supply chain: Industrial relations implications in US grocery distribution. New Technology, Work and Employment 18 (2):101–14.
- McAllister, J. 1998. Sisyphus at work in the warehouse: Temporary employment in Greenville, South Carolina. *Contingent Work: American Employment Relations in Transition*, 221–42.
- McClelland, M. 2012. I was a warehouse wage slave. *Mother Jones*, March/April. http://www.motherjones. com/politics/2012/02/mac-mcclelland-free-online-shipping-warehouses-labor (accessed July 15, 2014).
- Medina, J. 2012. As California warehouses grow, labor issues are a concern. New York Times, July, 22.
- Mentzer, J. T., W. DeWitt, J. S. Keebler, S. Min, N. W. Nix, C. D. Smith, et al. 2001. Defining supply chain management. *Journal of Business Logistics* 22 (2):1–26.
- Milam-Perez, L. 2014. Walmart potentially liable for wage claims asserted by contract workers at its warehouse. *Wolters Kluwer*. http://www.employmentlawdaily.com/index.php/news/walmart-potentially-liable-forwage-claims-asserted-by-contract-workers-at-its-warehouse/#sthash.qRwsoT3u.dpuf
- Min, H. 2007. Examining sources of warehouse employee turnover. International Journal of Physical Distribution & Logistics Management 37 (5):375–88.
- Moberg, D. 2013. Fired warehouse workers want action from Walmart. In These Times, March 18. http://inthesetimes.com/working/entry/14742/fired\_warehouse\_workers\_want\_action\_from\_walmart/
- Monaco, K., and L. Grobar. 2004. A study of drayage at the ports of Los Angeles and Long Beach. Unpublished Research Study, California State University, Long Beach, Department of Political Science.

- Myerson, H. 2009. The shipping point. The American Prospect, July 25. http://prospect.org/article/shippingpoint
- National Employment Law Project. 2012. The low wage recovery and growing inequality. http://www.nelp. org/page/-/Job\_Creation/LowWageRecovery2012.pdf (accessed October 30, 2015).
- National Labor Relations Board. 2015. Board issues decision in Browning Ferris industries. August 27. https:// www.nlrb.gov/news-outreach/news-story/board-issues-decision-browning-ferris-industries (accessed November 1, 2015).
- Paul, S. (forthcoming). The enduring ambiguity of antitrust liability for worker collective action. Loyola University Law Journal 47.
- Peoples, J., and W. K. Talley. (2004). 9. Owner-operator truck driver earnings and employment: Port cities and deregulation. *Research in Transportation Economics* 10:191–213.
- Pierce, O., J. Larson, and M. Grabell. 2013. How we calculated injury rates for temp and non-temp workers. Pro Publica, December 18. http://www.propublica.org/nerds/item/how-we-calculated-injury-rates-fortemp-and-non-temp-workers
- Piven, F. F. 2006. Challenging authority: How ordinary people change America. Lanham, MD: Rowman & Littlefield Pub Inc.
- Port Jobs. 2007. Big rig, short baul: A study of port truckers in Seattle. Port Jobs, Seattle, WA. http://www.portjobs.org/storage/documents/bigrig\_shorthaul.pdf
- Prince, T. 2005. Endangered species: Economic instability threatens drayage operators and their customers. Journal of Commerce 12–16.
- Quinlan, M., C. Mayhew, and P. Bohle. 2001. The global expansion of precarious employment, work disorganisation, and consequences for occupational health: A review of recent research. *International Journal of Health Services* 31 (2):335–414.
- Quinlan, M., and P. Bohle. 2009. Over-stretched and unreciprocated commitment: reviewing research on the OHS effects of downsizing and job insecurity. *International Journal of Health Services* 39 (1):1–44.
- Rodrigue, J.-P., C. Comtois, B. Slack. 2009. *The geography of transport systems*. New York: Routledge. Available online at: http://www.people.hofstra.edu/geotrans/index.html
- Rosenberg, P. 2015. Port truckers have gained two key victories, but the pain of deregulation persists. *Salon*, February 19.
- Rowe, J. 2012. New Jersey's supply chain pain: Warehouse and logistics work under Walmart and big box retailers. *New Labor*, http://newlabor.org/wp-content/uploads/2012/05/white-paper-V-FINAL.pdf
- Sanders, N., and L. Ritzman. 2004. Using warehouse workforce flexibility to offset forecast errors, Journal of Business Logistics, 25 (2):251–69.
- Silver, B. J. 2003. Forces of labor: Workers' movements and globalization since 1870. New York, NY: Cambridge University Press.
- Slaughter, J. 2012. Strikes at Walmart warehouses expose threats to supply chain. Labor Notes, September 24. http://labornotes.org/2012/09/strikes-walmart-warehouses-expose-threats-supply-chain?language=en
- Smith, R. 2015. Los Angeles county board of supervisors reviewing port truckers' concerns. Bloomberg Daily Labor Report, May 22, 2015.
- Smith, R., D. Bensman, and P. Marvy. 2010. The big rig: Poverty, pollution, and the misclassification of truck drivers at America's ports. National Employment Law Project.
- Smith, R., P. Marvy, and J. Zerolnick. 2014. The big rig overhaul: Restoring middle-class jobs at America's ports through labor law enforcement. *National Employment Law Project*.
- Standing, G. 2011. The precariat. Bloomsbury.
- State of California. 2011. Wage theft protection act. Department of Industrial Relations. http://www.dir.ca. gov/dlse/governor\_signs\_wage\_theft\_protection\_act\_of\_2011.html (accessed February 11, 2016).
- Stone, K. V. 2006. Flexibilization, globalization, and privatization: three challenges to labour rights in our time. Osgoode Hall L7 44:77.
- Tompa, E., H. Scott-Marshall, R. Dolinschi, S. Trevithick, and S. Bhattacharyya. 2007. Precarious employment experiences and their health consequences: Towards a theoretical framework. Work: A Journal of Prevention, Assessment and Rebabilitation, 28 (3):209–24.
- TruckingInfo. 2014. California rules seven port truckers wrongly classified as independents. *TruckingInfo*, April 2. http://www.truckinginfo.com/news/story/2014/04/california-rules-seven-port-truckers-wrongly-classified-as-independent-contractors.aspx
- Underhill, E., and M. Quinlan. 2011. How precarious employment affects health and safety at work: the case of temporary agency workers. *Relations industrielles/Industrial Relations* 397–421.
- United States District Court, Central California, Grayling Taylor et al. v. Shippers Transport Express, Inc. et al. September 30, 2014.

- University of California at Riverside Policy Matters, "Unsafe and Unfair: Labor Conditions in the Warehouse Industry," 2012.
- Vail, B. 2012. Machinists rapidly unionizing Ikea warehouses: 3 down, 2 to go. In These Times, December 10.
- Van den Berg, J. P. 1999. A literature survey on planning and control of warehousing systems. *IIE Transactions* 31 (8):751–62.
- Warehouse Workers for Justice. 2010. Bad jobs in goods movement: Warehouse work in Will County, IL. Chicago, IL: Warehouse Workers for Justice.
- Warehouse Workers United, website, http://www.warehouseworkersunited.org/(accessed March 19, 2015).
- Warehouse Workers United and D. Cornelio. 2011. Shattered dreams and broken bodies: A brief review of the Inland Empire warehouse industry. Fontana, CA: Warehouse Workers United. http://www.warehouseworkers.org/wp-content/uploads/Shattered\_Dreams\_and\_Broken\_Bodies718.pdf (accessed February 23, 2016).
- Watt, B. 2015. New port trucking company opens with employees, not independent contractors. KPCC Radio. http://www.scpr.org/news/2015/05/05/51447/new-port-trucking-company-launches-with-employees/ (accessed August 5, 2015).
- Weil, D. 2014. The fissured workplace: Why work became so bad for so many and what can be done to improve it. Cambridge, MA: Harvard University Press.
- Williamson, A., P. Bohle, M. Quinlan, and D. Kennedy. 2009. Short trips and long days: Safety and health in short-haul trucking. *Industrial Labor Relations Review* 62 (3):415–29.