

Nonstandard Work Arrangements & The Future of Work

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Washington, D.C.**

**42nd Annual Meeting
Yuma Pacific Southwest Section
The Bay Club Hotel and Marina
San Diego, California**

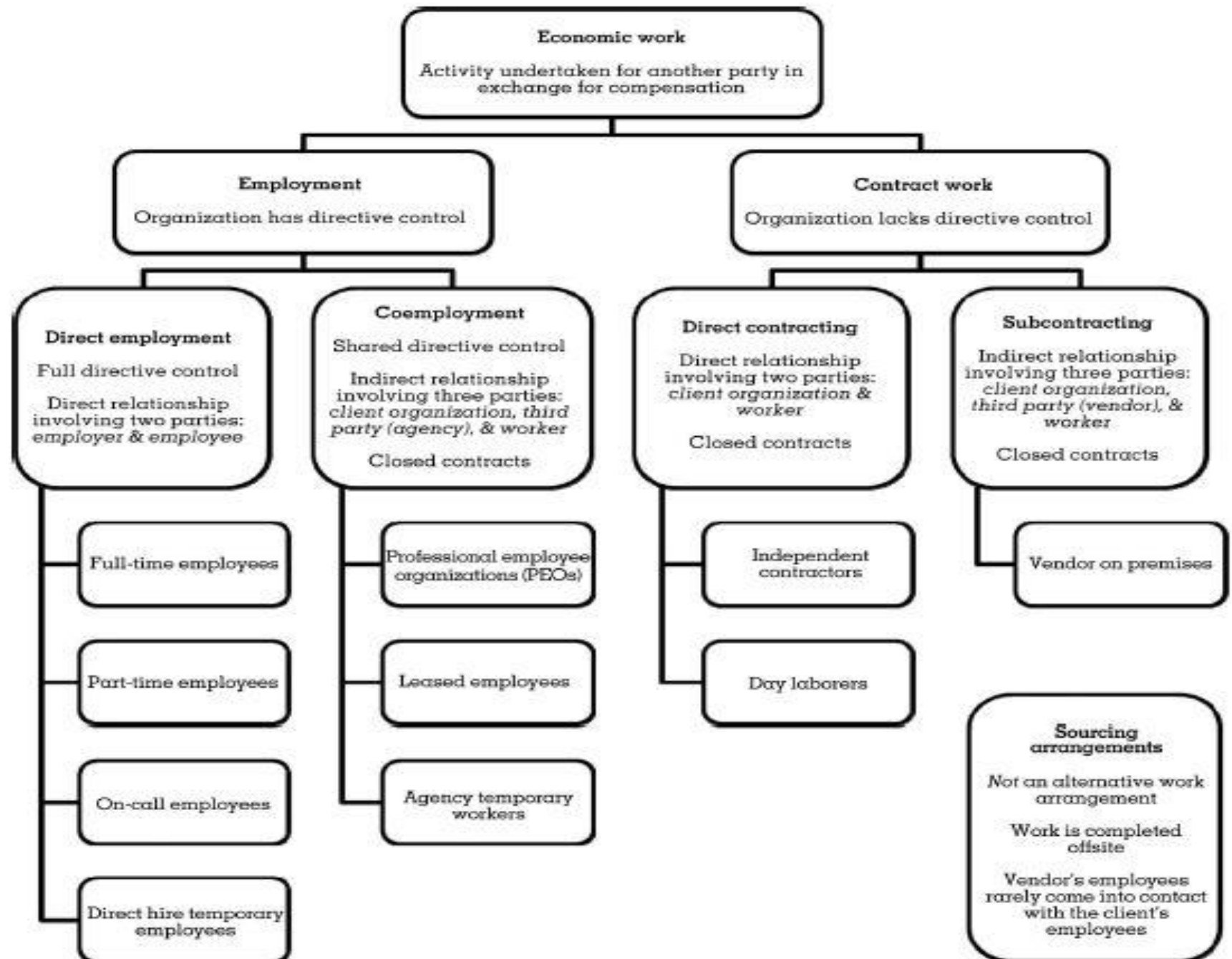
From *Stability* to *Precariousness*: 1880-1980

- Growth of companies created by industrial revolution
 - Vertical structure differentiated jobs from one another more clearly than ever before
- “Good” job was being an employee of a particular company for your entire working life (age 65)
- Government built social welfare laws along same lines
 - Workers got security, benefits, protections, and steady wage increases
 - Social Security (1935), FLSA (1938), Medicare (1965)
 - Companies got stable workforce in which they could invest with fair expectation of positive returns

Model in Trouble

- Erosion of traditional employer-employee relationship
 - Decline of *Standard* Employment Relationship
- Declining unionization
 - Private Sector losses >> Public sector
- Increasing life expectancies
 - Threats to social benefits solvency
- Rise of the virtual workplace
 - A series of locations technologically connected via a private network or the Internet without regard to geographic boundaries or time zones

Classification of Economic Work Arrangements



Types of Work Arrangements

- **Employment Work**

- Organization has directive control
 - Standard employment arrangement
 - One employer—employees
 - Co-employment arrangement
 - Dual employers—employees
 - Work can be temporary or longer term
 - Employers and employees exist

- **Contract Work**

- Organization lacks directive control
 - Independent contractor exist
 - Work usually project based and shorter term
 - Employees do not exist

- **Gig Work**

- Organization lacks directive control
 - Employer does not exist
 - Employees do not exist

Federal & State Labor Rights

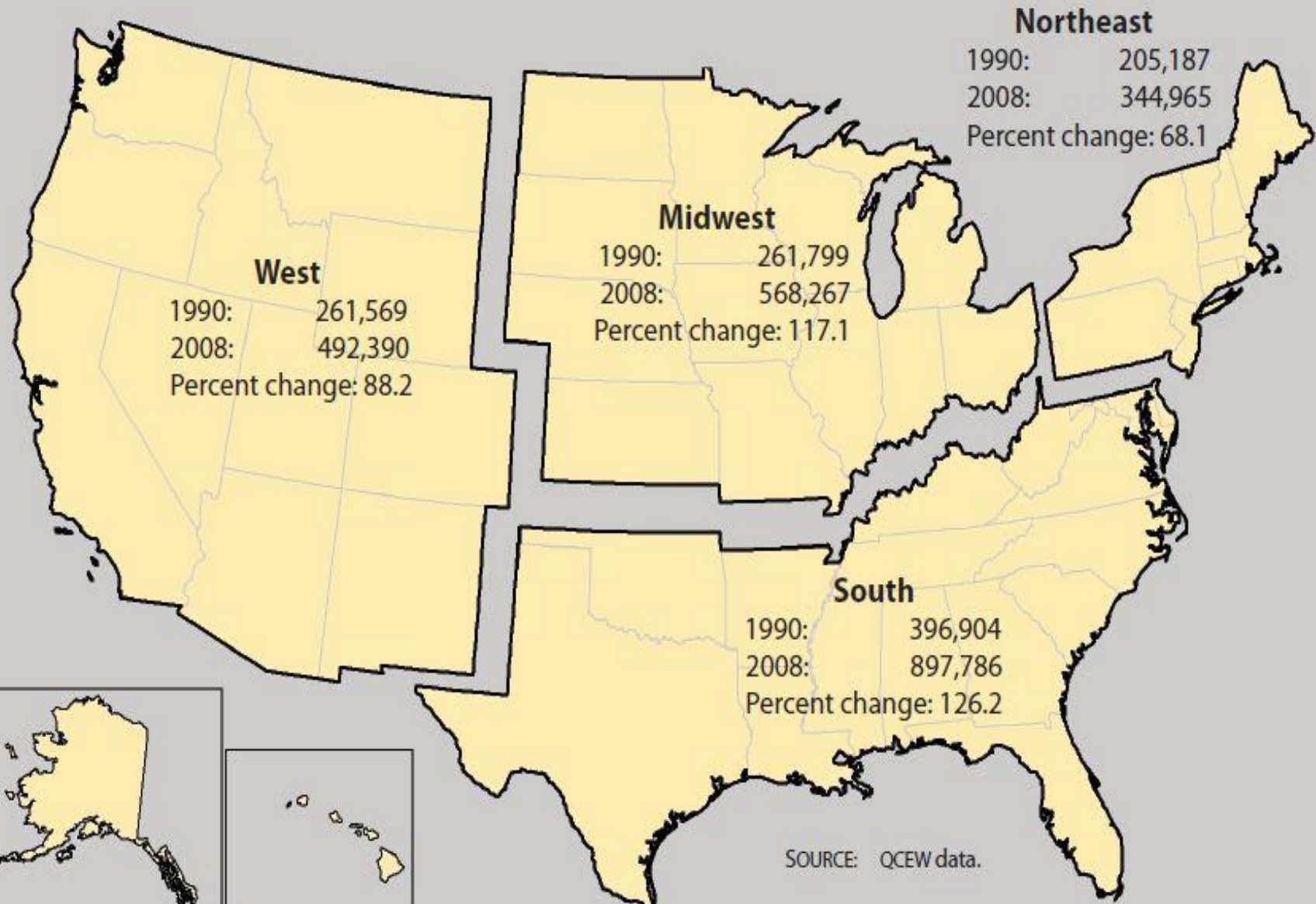
Applies Only to Standard Arrangement

- **Old-age assistance and disability benefits**
 - Social Security Act of 1935
- **Collective bargaining rights**
 - National Labor Relations Act, 1935
- **Minimum wage, overtime and child labor protections**
 - Fair Labor Standards Act, 1938
- **Employment discrimination protections**
 - Title VII of the Civil Rights Act, 1964
 - Age Discrimination in Employment Act, 1967
 - Americans with Disabilities Act, 1990
- **Workplace safety and health protections**
 - Occupational Safety and Health Act, 1970
- **Pension, health and other employee benefits**
 - Employee Retirement Income Security Act, 1974
 - Family Medical Leave Act of 1993
- **Unemployment insurance and workers compensation benefits**
 - Various Federal and state laws.

Prevalence of New Arrangements

- **1995—2005 (BLS)**
 - 9.3 to 10.1% of total employment
- **2005—2015**
 - 10.1 to 15.8% of total employment
 - Represents an increase of 9.4 million over ten year period
 - Greater than the rise in total employment for same period
 - Meaning there was a small net decline in number of workers in standard arrangements
 - Katz, L.F. & Krueger, A.B. (2016). NBER.
- **GAO, 2015**
 - Size of the contingent workforce can range from less than 5% to more than 33% of total employed labor force, depending on widely-varying definitions of “contingent” work
 - Gig workforce less than 0.5% (and mostly in transportation)

Temporary Employment by Region



Firms Using Temporary Workers by Size

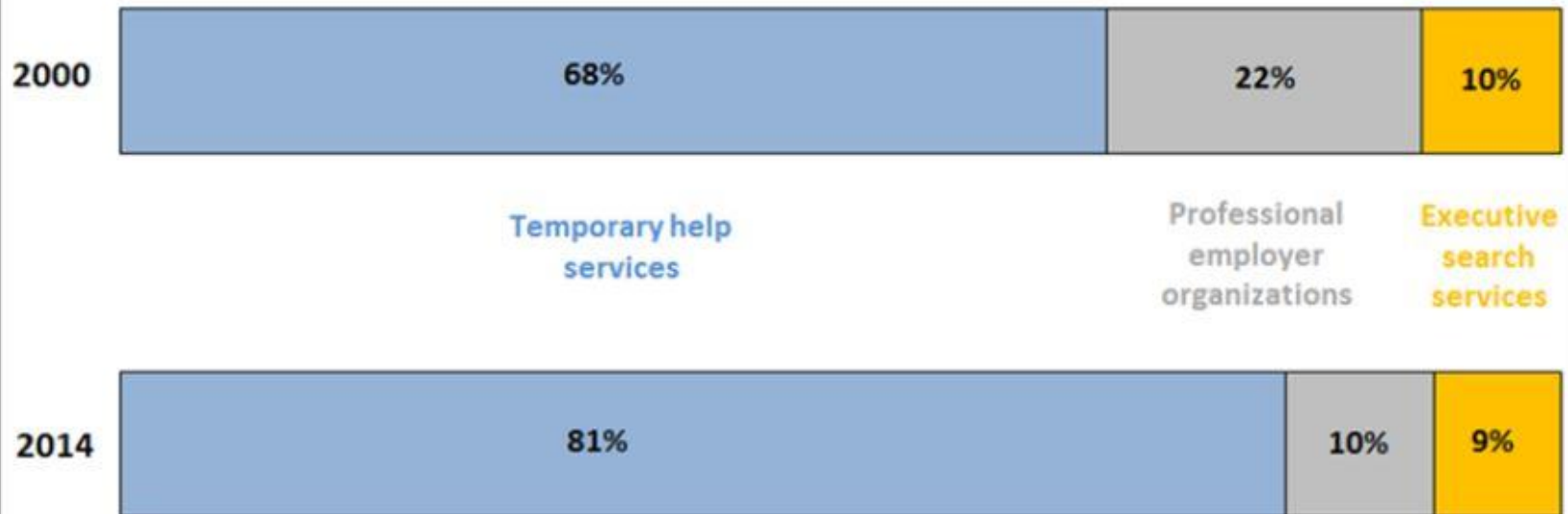
	25-99 Employees	Average 25+ Employees	100+ Employees
Percent of Firms Using Temporary or Leased Workers	12%	15%	24%

Source: American Staffing Association, Client Survey (ASA, 2011)

Temporary Services Industry

- As a share of the employment services industry, the temporary help industry has grown. In 2000, the temporary help industry accounted for 68% of all employment services industry jobs. By 2014, the share grew to 81%

Figure 1. Employment in Employment Services Industry, by Sub-Industry



Source: Bureau of Labor Statistics, Current Employment Statistics

Issues in Alternative Employment

- **Management**

- How do organizations decide which arrangement to use?
- How do workers in different arrangements working side by side alter the social context of work and managers' ability to get work done?
- Does every safety-related issue go through contractor?

- **Legal**

- Is there a difference direct employment and co-employment?
- How do you tell if you have employees or not?

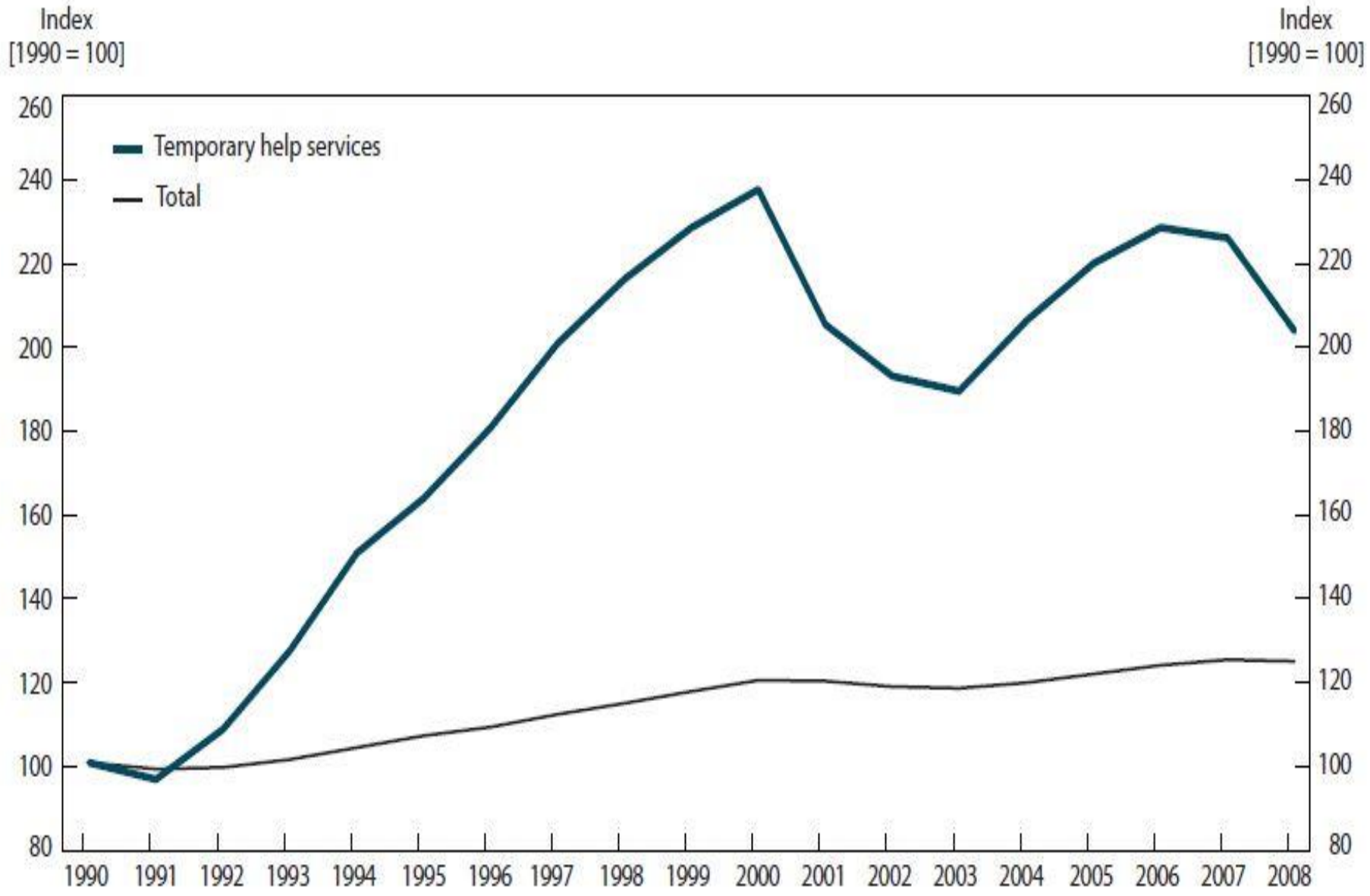
- **Health**

- How does OSHA protect workers who are not employees?
- How well do clients protect temporary employees?
- If alternative arrangements impact worker health and safety, how and what can be done?

Why Alternative Employment Is Attractive

- **Expertise**
 - Domestic outsourcing allows firm to tap into expertise
- **Flexible Staffing**
 - Helps adjust to fluctuations in demand—temporary help services and professional employer organization workers easier to replace
- **Cost Savings**
 - Cost of specialized services less if obtained in the market vs internally
 - Reduces health insurance, pension, workers' compensation, unemployment insurance costs
- **Capital Market Pressures**
 - Pressures arise from financial markets that incentivize corporations to shed all but their core business.
 - Gave rise to contractors, temporary or contingent workers working under a brand name, but actually working for a set of serial subcontractors
 - Pressures to structure work in the most efficient or leanest way possible—a contractor can do peripheral tasks cheaper than can primary employer--specialization
 - Insulates from legal liability, or does it?

Chart 1. Indexed employment of temporary help services and of all industries, 1990-2008

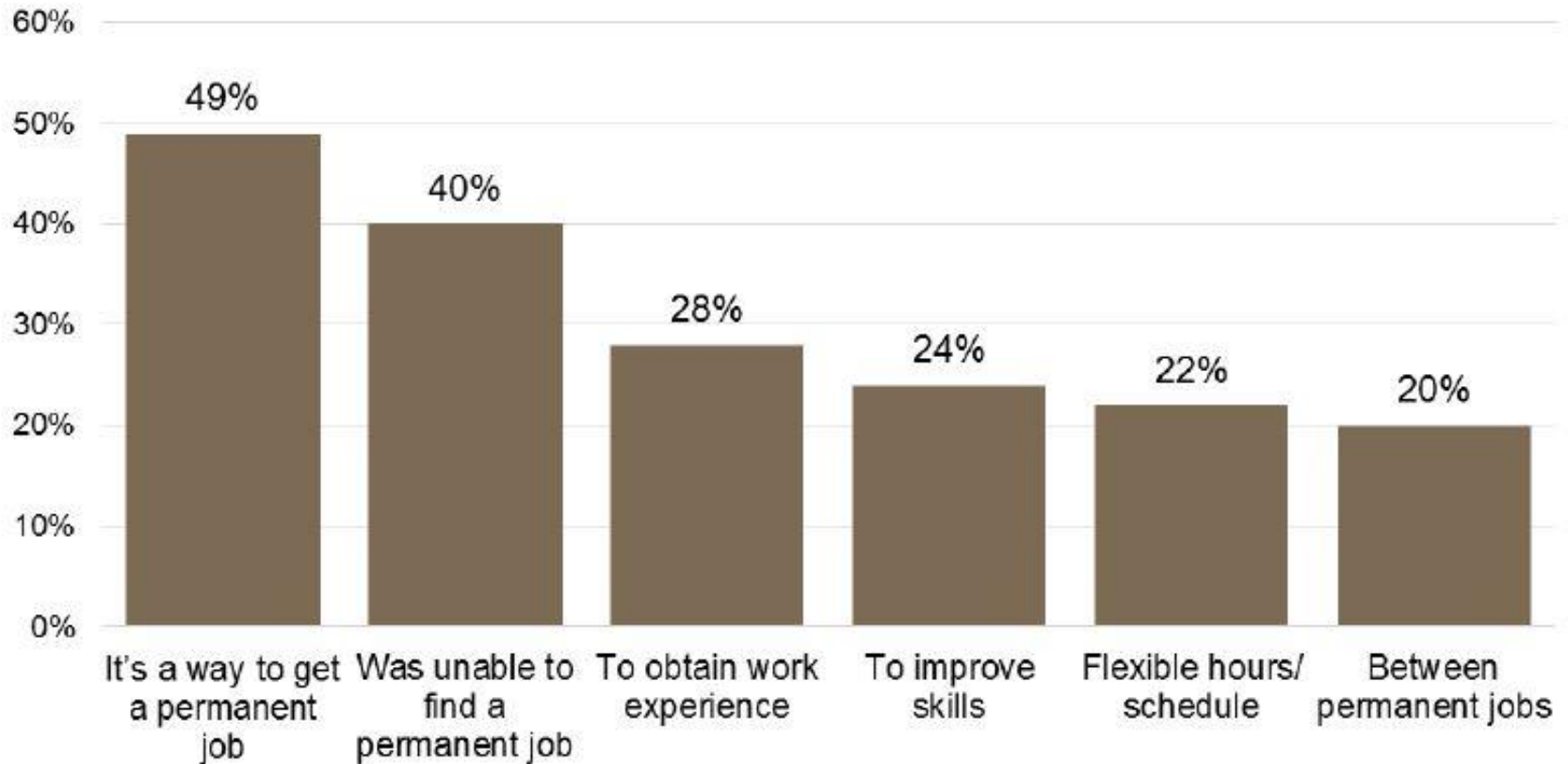


SOURCE: QCEW data.

Why People Do Temporary Staffing Work

Source: ASA (2014) https://americanstaffing.net/wp-content/uploads/2014/08/Fact_Sheet_Aug_20141.pdf

Reasons for Choosing Temporary or Contract Work



Legal Issues

- **Employee or Independent Contractor?**
 - Defining an employee is a complex issue
 - Criticism: If large number of workers become contractors, then a company can get an exemption from specific employment laws that society has spent over a century constructing.
- **Employer Tax Obligations**
 - Employers pay taxes on employees but not on independent contractors, so misclassification of workers may result in tax evasion
 - Important issue for IRS and CA Franchise Tax Board
- **Labor Laws**
 - Independent contractors are not protected by most state and federal employment laws, including wage and hour, workers' compensation
 - Does this burden Social Security Administration/SSDI?

Legal Issues: Employee versus Not

- **How to decide if a worker is an employee or not?**
 - **OSHA**—Common Law Agency Test—Direct and Control (10 factors)
 - **DOL**—Economic Realities Test (FLSA)—Consider whether workers are economically dependent on the business for which they labor.
 - **IRS** uses a 20 factor test in three areas: (1) behavioral control; (2) financial control; and (3) the relationship of the parties
- No one test or grouping of factors has achieved national legal consensus because the definition of employee is adapted to meet the purpose of the individual act which makes for very fact-dependent analysis
 - Except Congress confined definition of employee under NLRA to the common law definition of employee (“right to control”), excluding independent contractors
- The law of the employment relationship remains unsettled



Wage and Hour Division

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Wage and Hour Division (WHD)

Misclassification of Employees as Independent Contractors

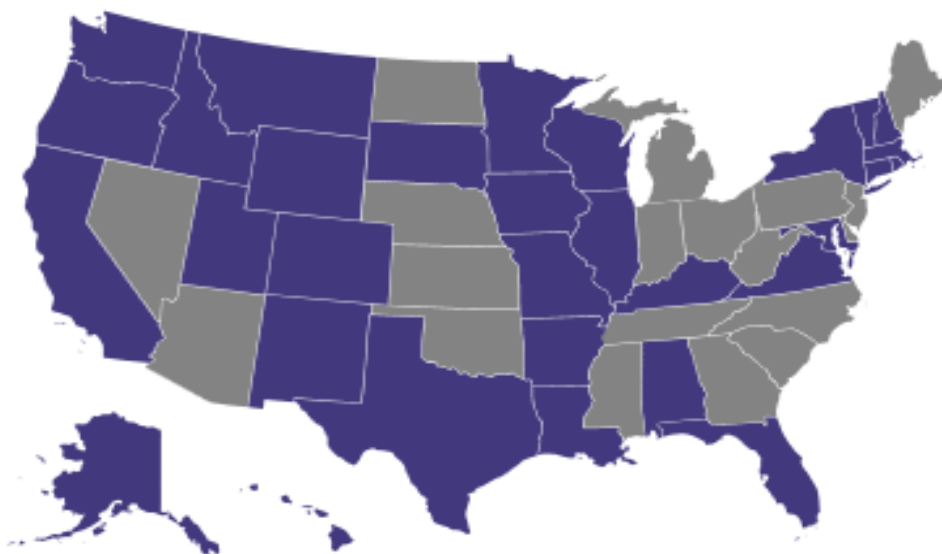
The misclassification of employees as independent contractors presents one of the most serious problems facing affected workers, employers and the entire economy.

Misclassified employees often are denied access to critical benefits and protections to which they are entitled, such as the minimum wage, overtime compensation, family and medical leave, unemployment insurance, and safe workplaces. Employee misclassification generates substantial losses to the federal government and state governments in the form of lower tax revenues, as well as to state unemployment insurance and workers' compensation funds. It hurts taxpayers and undermines the economy.

Quick Links

- [IRS MOU](#)
- [Misclassification News Room](#)
- [Resources](#)

The DOL Misclassification Initiative



Select a State

States: Oregon

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DEPUTY COMMISSIONER

BUREAU OF LABOR AND INDUSTRIES

ADVISORY OPINION OF THE COMMISSIONER OF THE BUREAU OF LABOR AND INDUSTRIES OF THE STATE OF OREGON

Regarding:

October 14, 2015

**THE EMPLOYMENT STATUS OF
UBER DRIVERS**

ADVISORY OPINION

States: Alaska

Heidi Drygas
Commissioner

www.labor.alaska.gov



P.O. Box 111149
Juneau, AK 99811-1149
907.465.2700

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Press Release

COMMISSIONER'S OFFICE

FOR IMMEDIATE RELEASE

September 3, 2015

No. 15-38

For more information: Rhonda Gerharz, Workers' Compensation Division
907-269-2012, Rhonda.Gerharz@alaska.gov

Uber Agrees to Stop Worker Misclassification in Alaska

Uber signs agreement to cease operations and pay settlement to state

- *Uber* has agreed not to operate in Alaska unless it classifies drivers as employees or otherwise complies with state law.

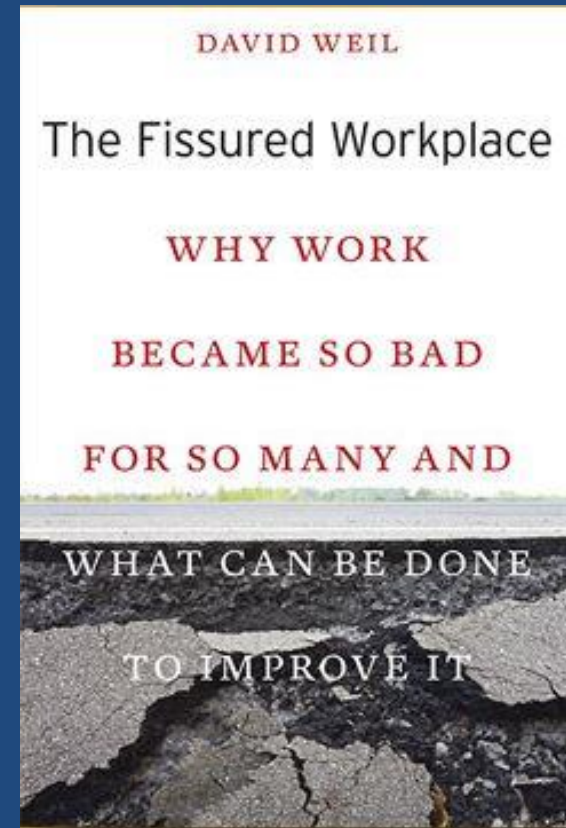
CA Uber Litigation

<http://uberlawsuit.com/>

- California Labor Commissioner ruled that an Uber driver was indeed an employee, not an independent contractor, and ordered Uber to reimburse the driver for her expenses. Uber has appealed.
- California Unemployment Insurance Appeals Board ruled that an Uber driver is an employees eligible to obtain unemployment benefits.
- *O'Connor v. Uber Techs., Inc.*
 - Alleged that Uber misclassified its drivers as independent contractors rather than employees and three years of contentious litigation followed.
 - Settlement reached with Uber under which it would pay up to \$100 million and make some significant changes in its policies
 - In August 2016, U.S. District court declined to approve the settlement.
- *Mohamed v. Uber*
 - Ninth Circuit Court of Appeals recently reversed the District Court judge on his ruling that Uber's arbitration clause is not enforceable.

“The Fissured Workplace”

- “For many businesses, sustaining the employer-employee relationship ranks below customer relationship management and investor value.”
- “Large corporations have shed their role as direct employers of the people responsible for their products, in favor of outsourcing work to small companies that compete fiercely with one another.”
 - Serial subcontracting
- Results Asserted:
 - “Declining wages, eroding benefits, inadequate health and safety protections, and ever-widening income inequality.”



Gig is Good

- **Benefits**

- Provide new employment opportunities, particularly for those who have a difficult time working a full-time job
- Open new frontiers for small businesses
- Reignite geographic mobility that has declined recently
- Potential to reduce social welfare spending significantly

- **Policies Needed to Promote A Gig Economy**

- Rollback in professional-licensing mandates
- Creation of a new employment status called “flexible worker”
- Recognition of a new class of employer call a “job platform”
- Create a largely private social safety net system made up of worker-controlled benefits exchanges to provide minimum level of social protection to these flexible workers.

- Lehrer E. [2016]. *National Affairs* (Summer)

United States Court of Appeals for the Seventh Circuit

- **ILLINOIS TRANSPORTATION TRADE ASSOCIATION, et al., Plaintiffs-Appellants,**
 - **Versus**
 - **CITY OF CHICAGO, Defendant-Appellee, DAN BURGESS, et al., Intervening Defendants-Appellees.**
- Decided: October 7, 2016

Taxi versus Uber

- Plaintiffs argue that the City has discriminated against them by failing to subject *Uber* to the same rules about licensing and that the taxi ordinance subjects the plaintiffs to.
- Judge Posner offered an interesting analysis

Cats versus Dogs

- Most cities and towns require dogs but not cats to be licensed.
- There are differences between the animals.
 - Dogs on average are bigger, stronger, and more aggressive than cats, are feared by more people, can give people serious bites, and make a lot of noise outdoors, barking and howling. Feral cats generally are innocuous, and many pet cats are confined indoors.
- Dog owners, other than those who own cats as well, would like cats to have to be licensed, but do not argue that the failure of government to require that the “competing” animal be licensed deprives the dog owners of a constitutionally protected property right, or alternatively that it subjects them to unconstitutional discrimination.
- Plaintiffs in the present case have no stronger argument for requiring that Uber be subjected to the same licensure scheme as the taxi owners.
- Just as some people prefer cats to dogs, some people prefer *Uber* to Yellow Cab. They prefer one business model to another.
- Sorry, taxi drivers, you lose!

Are Nonstandard Work Arrangements Harmful?

- Contingent employment increases negative consequences for an injured worker and society:
 - **Workers**
 - More hazardous work assigned to temporary workers.
 - Worker might quickly find herself out of a job and, depending on the severity of an injury, the prospects of new employment might be slim.
 - **Society**
 - Employer-based health insurance is a rarity for leased/temporary workers, so the costs of treating injuries are typically shifted to the worker or the public at large (SSA disability insurance)
 - **Employers**
 - Do not directly pay for workers' compensation and health insurance—they are insulated from premium adjustments based on the cost of workers' injuries.
 - Employers of contingent labor escape the financial incentives that drive decisions to eliminate hazards for other workers.

Why the Differential Risks?

- New economy jobs are more hazardous than standard jobs
 - Less experience & familiarity with operations due to short tenure at a worksite
 - Fewer hours of safety training relevant for the specific job assignment
 - More distant relationships with longer-term workers who could help navigate worksite hazards
- Limited availability & use of personal protective equipment
- Less likely to report unsafe conditions because of risks associated with precarious employment
- Confusion (real or perceived) about who is responsible for worker safety:
 - Who is the responsible employer? How do you tell?
 - Common law test, economic realities test, IRS test, various court cases

What Are the Exposures Affecting Health?

- **Temporariness**
 - Duration of current employment
 - Months working in previous year
- **Disempowerment**
 - How did you settle your wages or working hours?
- **Vulnerability**
 - Afraid to demand better working conditions or fair treatment?
- **Wages**
 - Cover basic needs?
 - Allow for unexpected expenses?
- **Rights**
 - Sick, medical & family leave
 - Paid holiday; Wage and hour protection
- **Exercise of rights**
 - Can you exercise any of the rights permanent workers have?

Research 1

- **Agreed on definitions** of economic work arrangements
 - Standard indicators for survey research needed
 - Precarious, contingent, temporary, alternative, new economy, gig
 - Definitions of new economy relationships lack standardization across intra- and inter-national databases
 - » Benach et al. (2012)
- **Improved surveillance** about extent of new economy arrangements and number of workers involved in each type is needed
 - Data challenges in measuring extent of new economy arrangements
 - Dynamic arrangements
 - » Bernhardt (2014)

Research 2

- **Are existing models for employment quality that relate to health outcomes useful?**
 - Pressures-Disorganization-Regulatory (PDR) Failure Model
 - Quinlan, M. et al. (2004).
 - Employment strain model (demand/control model)
 - Lewchuk, W. et al. (2008).
 - Rodger's multidimensional definition of precarious work
 - Rogers, G. (1989).
 - Employment Precariousness Scale (EPRES)(2012).
- **If so, use a model to:**
 - Organize data and understand links between employment & health
 - Encourage observation/testing of causal pathways & mechanisms
 - Identify potential entry points to implement interventions
 - Benach et al. (2016). What should we know about precarious employment and health in 2025? Framing the agenda for the next decade of research. *Int J. Epidemiol*, 45(1), 232-238.

Research 3

- **Possible Studies?**
 - Prospective study of health consequences of new economy employment
 - Chronic stressor vs shorter isolated exposures
 - Choice vs. forced
 - Intervention effectiveness study of a range of policy approaches
 - Boden et al. (2016)
- Emphasize study of the “new” organization of work as distinct research area
 - NIOSH
 - Healthy work design and worker well-being (NORA 3)

Some Final Thoughts

- **Risk from New Arrangements Are Real**
 - Evidence is unequivocal that employers are shifting burden of protecting workers from the things that go wrong in life to the worker.
 - Evidence suggests that workers employed in a triangular arrangements (co-employment) are at higher risk for occupational safety and health risks than workers in direct employment arrangements or direct contracting.
- **Better Taxonomy, Better Surveillance and New Research Methods and Research Needed!**

The image features the OSHA logo prominently in the center. The logo consists of a stylized 'O' with a blue and white circular design inside, followed by the letters 'S', 'H', and 'A' in a white, serif font. A registered trademark symbol (®) is located to the upper right of the 'A'. The background is a close-up of the American flag, showing the stars and stripes in a slightly blurred, dynamic perspective.

OSHA[®]

**Occupational Safety
and Health Administration**

OSHA/NIOSH Recommended Practices

- 8 recommendations for staffing agencies and host employers.
- <https://www.osha.gov/Publications/OSHA3735.pdf>
- <http://www.cdc.gov/niosh/docs/2014-139/pdfs/2014-139.pdf>

OSHA • NIOSH

Recommended Practices

Protecting Temporary Workers



Protecting Temporary Agency Employees

Temporary agency employees work for a “host employer” but are on the payroll of a “primary employer.” A primary employer can be either:

1. A temporary (temp) agency that hires workers and sends them to work for a host employer, or
2. A professional employer organization (PEO) that puts a host employer’s employees on the PEO’s payroll as its own employees.

In these dual-employer situations, both the primary employer and the host employer must protect employees from safety and health hazards and comply with Cal/OSHA regulations.

The primary employer issues the employee’s paycheck, administers workers’ compensation

A Real Case of Fatality

A temporary worker died from being entangled with the exposed rotating shaft of a mixer while mixing industrial adhesive. Had the host employer identified and safeguarded the worker against the hazards of working near the mixer, he would be alive today.

Primary employers must do the following:

- Take reasonable steps to evaluate conditions at the host employer’s worksite by doing periodic inspections.
- Ensure their employees are covered by an effective Injury and Illness Prevention Program (IIPP) and other safety programs required by the assigned work, and ensure they are properly trained and provided necessary personal protective equipment.
- Inform the employees that if they are assigned work they reasonably believe to be dangerous, they may refuse to do that work and may return to the primary employer for reassignment to other work without penalty.

[Cal/OSHA](#) recommends that the primary employer and host employer specify in their contract their respective responsibilities for complying with applicable Cal/OSHA regulations. However, such a contract does not eliminate each employer’s legal obligation to protect the employees.

Thank You!



Selected References

Alterman, T., Luckhaupt, S.E., Dahlhamer, J. M., Ward, B.W., & Calvert, G.M. (2013). *Am J Industrial Medicine*, 56, 647-659.

Asfaw, A., Pana-Cryan, R., Rosa, R. (2012). Paid sick leave and nonfatal occupational injuries. *Am J Public Health*, 102(9), e59-64.

Asfaw, A. (2014). Disparities in access to health insurance and workers' compensation benefit between non-contingent and contingent farm workers in U.S. agriculture. *J Health Disparities Research and Practice*, 7(3), 81-97.

Benach et al. (2016). What should we know about precarious employment and health in 2025? Framing the agenda for the next decade of research. *Int J. Epidemiol*, 45(1), 232-238.

Benach, J., et al. (2014). Precarious employment: Understanding an emerging social determinant of health. *Annual Review of Public Health*, 35, 229-253.

Benach, J. et al. (2012). The challenge of monitoring employment-related health inequalities. *J Epidemiol Community Health*, 66(12), 1085-1087.

Benach, J. & Muntaner, C. (2011). Employment and working conditions as health determinants. In *Improving Equity in Health by Addressing Social Determinants*, eds. JH Lee, R. Sadana, pp. 165-195. Geneva: WHO.
<https://www.cugh.org/sites/default/files/Improving%20Equity%20in%20Health%20by%20Addressing%20Social%20Determinants.pdf>

Bernhardt, A. (2014). Labor standards and the reorganization of work: Gaps in data and research. Institute for Research on Labor and Employment Paper No. 100-14. Retrieved from <http://www.irle.berkeley.edu/workingpapers/100-14.pdf>

Boden, L., Spieler, E.A., & Wagner, G. (2016). The changing structure of work: Implications for workplace safety and health in the U.S. USDOL/OSHA.
http://www.dol.gov/asp/evaluation/completed-studies/Future_of_Work_the_implications_for_workplace_health_and_safety.pdf

Cappelli, P. & Keller, J.R. (2013). Classifying work in the new economy. *Academy of Management Review*, 38(4), 575-596

Chow, M. (2016). The economic impact of H.R. 932 and mandatory paid sick leave on U.S. small businesses. NFIB.
http://www.nfib.com/assets/BSIM_HealthyFamiliesAct2015-Jan-14-20161.pdf

Cummings, K.J. & Kreiss, K. (2008). Contingent workers and contingent health. *JAMA*, 299(4), 448-450.

DeRigne, L., Stoddard-Dare, P., & Quinn, L. (2016). Workers without paid sick leave less likely to take time off for illness or injury compared to those with sick leave. *Health Affairs*, 35(3), 520-527.

Dey, M., Houseman, S., & Polivka, A. (2010). What do we know about contracting out in the United States? In Abraham, K.G., Spletzer, J.R., & Harper, M.J. (Eds.), *Labor in the New Economy* (pp.267-304). Chicago, IL: University of Chicago Press.

Ferrie, J.E., Westerlund, H., Virtanen, M., Vahtera, J., Kivimaki, M. (2008). Flexible labor markets and employee health. *Scand J Work Environ Health Supp*, 6, 98-110.

General Accountability Office. (2015). Contingent workforce: Size, characteristics, earning and benefits. (GAO-15-168R). Retrieved from
<http://www.gao.gov/products/GAO-15-168R>

Goh, J. et al. (2015). Exposure to harmful workplace practices could account for inequality in life spans across different demographic groups. *Health Affairs*, 34, 1761-1768.

GREDS (Health Inequalities Research Group). <https://www.upf.edu/greds-emconet/en/presentacio/>

Hill, S. (2015). *Raw Deal: How the uber economy and runaway capitalism are screwing American workers*. New York: St. Martin's Press.

Howard J. (2017). Nonstandard Work Arrangements and Worker Health and Safety. *Am J Ind Med*. 60, 1-10.

Katz, L.F. & Krueger, A.B. (2016). The rise and nature of alternative work arrangements in the United States, 1995-2015. NBER.
http://scholar.harvard.edu/files/lkatz/files/katz_krueger_cws_v3.pdf?m=1459369766

Kivimaki, M. et al. (2003). Temporary employment and risk of overall and cause-specific mortality, *Am J Epidemiology*, 158(7), 663-668.

Klaas, B.S., Yang, H., Gainey, T., & McClendon, J.A. (2005). HR in the small business enterprise: Assessing the impact of PEO utilization. *Human Resource Management, 44*, 433-446.

Kochan, T.A., et al (1994). Human resource strategies and contingent workers: The case of safety and health in the petrochemical industry. *Human Resource Management, 33*, 55-77.

Lehrer E. (2016). The Future of Work. *National Affairs*, 35-52.

Lewchuk, W., Clarke, M., DeWolff, A. (2008). Working without commitments: Precarious employment and health. *Work, Employment & Society, 22*, 387-406.

Luo, T., Mann, A., & Holden, R. (2010). The expanding role of temporary help services from 1990 to 2008. *Monthly Labor Review*, August 2010.

Muhl, C.J. (2002). What is an employee? The answer depends on federal law. *Monthly Labor Review, 125*, 3-11.

Muzaffar, S., et al. (2013). Factors associated with fatal mining injuries among contractors and operators. *J Occup Environ Med, 55*, 1337-1344.

Nicholson, J.R. (2015). *Temporary help workers in the U.S. labor market*. (ESA Issue Brief #03-15). Retrieved from U.S. Department of Commerce website at <http://www.esa.doc.gov/sites/default/files/temporary-help-workers-in-the-us-labor-market.pdf>

OSHA/NIOSH (2015). Protecting temporary workers. Available at <http://www.cdc.gov/niosh/docs/2014-139/pdfs/2014-139.pdf>

NIOSH. (2015, June 16). *Addressing the Hazards of Temporary Employment*. NIOSH Science Blog. <http://blogs.cdc.gov/niosh-science-blog/2015/06/16/temp-workers/>

Pierce, O., Larson, J. & Grabell, M. (2013). *How we calculated injury rates for temp and non-temp workers*.

PROPUBLICA, December 18. <https://www.propublica.org/article/temporary-work-lasting-harm>

Quinlan, M. & Bohle, P. Contingent work and occupational safety. In: Baralng, J, Frone MR (eds). *The Psychology of Workplace Safety*. Washington, D.C.: American Psychological Association, 2004.

Rebitzer, J.B. (1995). Job safety and contract workers in the petrochemical industry. *Industrial Relations: A Journal of Economy and Society*, 34, 4—57.

Reich, R. (2015). *Saving capitalism: For the many, not the few*. NY: Knopf.

Rogers, G. Precariousness work in Western Europe. In: Rogers, J., Rogers, G (eds). *Precarious Jobs in Labour Market Regulation: The Growth of Atypical Employment in Western Europe*. Geneva: International Institute for Labour Studies, 1989.

Smith, C.K. et al. (2010). Temporary workers in Washington state. *Am J Ind Med*, 53, 135-145.

Stone, K.V.W. (2006). Legal protections for atypical employees: Employment law for workers without workplaces and employees without employers. *Berkeley Journal of Employment and Labor Law*, 27, 251-286.

Virtanen, M. et al. (2006). Temporary employment and health: A review. *International Journal of Epidemiology*, 34(3), 610-622.

Virtanen, M., et al. (2005). Temporary employment and health: A review. *International Journal of Epidemiology*, 34, 610-622.