

Alternative Work Arrangements and Their Effect on Income Risk After Workplace Injury

Nicholas Broten
Michael Dworsky
David Powell

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Justice Policy Program

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Disclaimer

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Research Questions

- How do alternative work arrangements affect employment, earnings after workplace injury?
- Do workers' compensation benefits serve to reduce—or magnify—differences in income risk associated with alternative work arrangements?

Alternative Work Arrangements Include Many Types of Employer-Employee Relationships

Work arrangement type	Paid a wage or salary	Implicit or explicit contract for continuing relationship	Predictable work schedule	Work supervised by firm that pays salary
Employee				
Traditional employee	Yes	Some	Yes	Yes
On-call worker	Yes	Some	No	Yes
Direct-hire temporary worker	Yes	No	Some	Yes
Contract company workers				
Temporary help agency worker	Yes	Some	No	No
PEO worker	Yes	Some	Yes	No
Other contract company worker	Yes	Some	Yes	No
Self-employed				
Business owners				
Incorporated business owner	Some	Some	Some	NA
Partner in a partnership	No	Some	Some	NA
Unincorporated sole proprietor	No	Some	Some	NA
Occasional contractor	No	No	No	NA
Day laborer	No	No	No	NA
On-demand/platform worker	No	No	No	NA

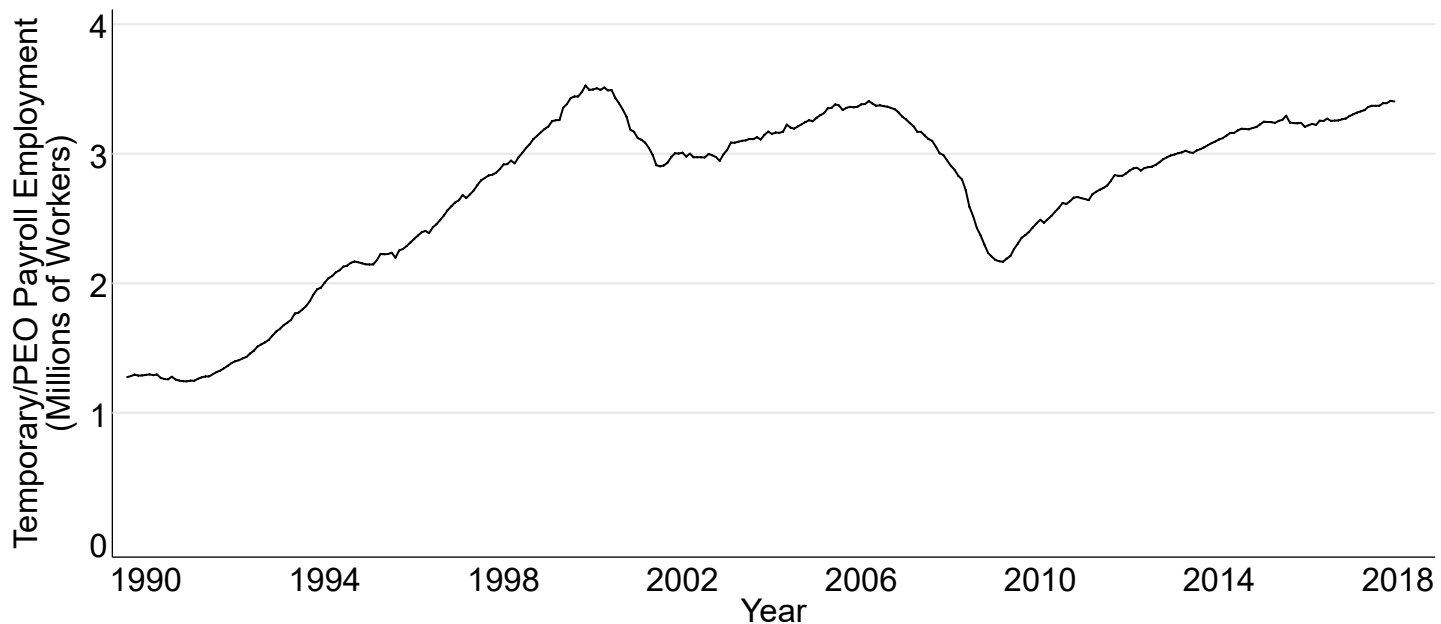
Source: Abraham, Katharine. 2018. "What Do We Know About Nonstandard Work?" Presented at Conference on Nonstandard Work and Social Insurance. [Federal Reserve Bank of Cleveland, 2018. "What Do We Know About Nonstandard Work?"](#) **FOR CLASS REVIEW ONLY. DO NOT QUOTE, REPRODUCE OR CIRCULATE WITHOUT PERMISSION.**

We Study Workers at Temporary Agencies, Professional Employer Organizations (PEOs)

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Employment Through Temporary Agencies and Contract Firms Has Grown Substantially in Recent Decades



Nationwide sum of seasonally adjusted employment in NAICS 56132 and 56133

Source: BLS Current Employment Statistics

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Temporary Workers Have More Injuries, Higher Injury Severity than Direct-Hires

- Temporary workers have higher workers' compensation injury rates than direct-hires in same industry (Smith et al., 2010; Zaidman, 2017)
- Disability duration higher for temporary workers (Park and Butler, 2002; Smith et al., 2010)
- There is no prior evidence on earnings or employment outcomes after end of WC claim

Alternative Work Arrangements Could Also Affect Worker Outcomes After Injury

- Alternative work arrangements, contingent work are associated with health and safety risks
(Benavides et al., 2006; Smith et al., 2010; Underhill & Quinlan, 2011)
- Employer incentives, policies influence return to work after injury

We Use Data on Workers' Compensation Claims and Earnings in California

- Combine data on WC claims with earnings data
 - Workers' compensation claims from WCIS
 - Link to EDD data on wage/salary employment
 - Study injuries occurring between 2005-2011
- Focus on lost-time injuries (3+ days) in jobs with high volumes of WC claims by temporary workers

We Compare Temporary, Direct-Hire Workers Injured Doing the Same Jobs

- Necessary to combine WC, UI data to select temporary workers, comparable direct-hires
- Classification code on WC claim identifies type of work at host employer for temporary workers
- Industry code at EDD identifies payroll employer
- Focus on workers employed through temporary agencies (NAICS 56132), PEOs (NAICS 56133)

We Study Class Codes with Large Volumes of Temporary Worker Injuries

Class Code	Total Injury Count	Temporary/PEO Injury Count	Share Involving Temporary/PEO Workers
Warehouses - General Merchandise	27,476	7,513	27.3%
Fruit - Dried Fruit Packing	1,216	275	22.6%
Carpentry - Not Otherwise Classified - Low Wage	5,556	1,128	20.3%
Garbage, Ashes or Refuse Dump Operations	2,722	397	14.6%
Fruit - Citrus Fruit Packing	1,668	236	14.1%
Stores - Clothing, Dry Goods - Wholesale	3,472	488	14.1%
Warehouses - Self Storage	1,496	207	13.8%
Medical Instrument Manufacturing - Electronic	2,367	308	13.0%
Printed Circuit Board Assembling	1,059	122	11.5%
Instrument Manufacturing - Electronic	14,169	1629	11.5%

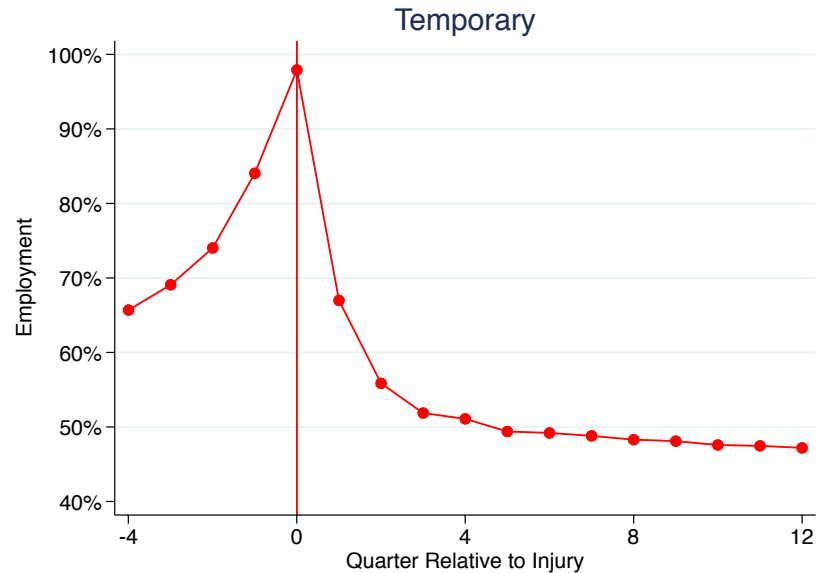
Table lists top 10 California class codes by proportion of injuries occurring among temp workers. Source: WCIS-EDD.

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We Use Workers with Medical-Only Injuries to Control for Employment Dynamics

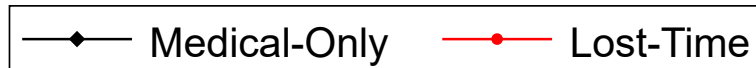
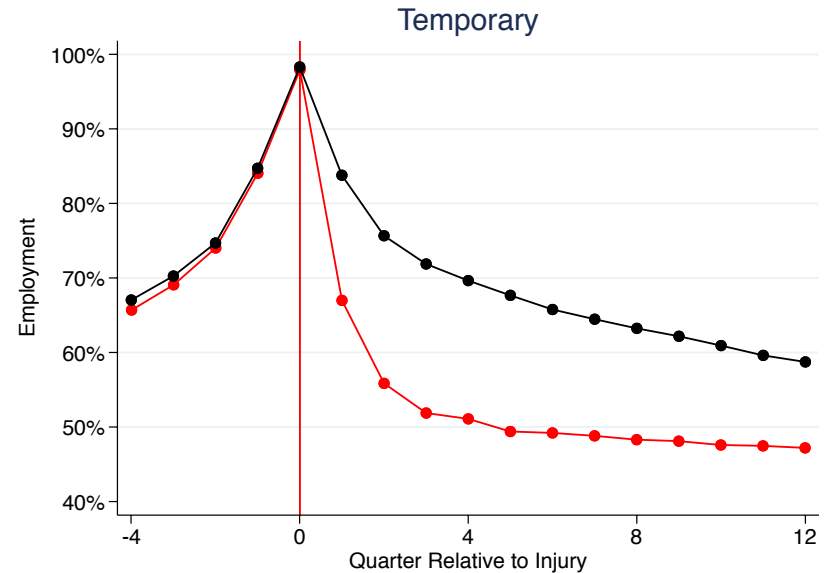
- Challenge: temporary workers have worse employment prospects even in absence of injury
- We compare outcomes within class code
 - before vs. after injury
 - lost-time vs. medical-only (minor) injuries
 - temporary vs. direct-hire
- Assume minor injuries do not reduce employment

Temporary Workers Less Likely to Work After Lost-Time Injury, But Also Before Injury



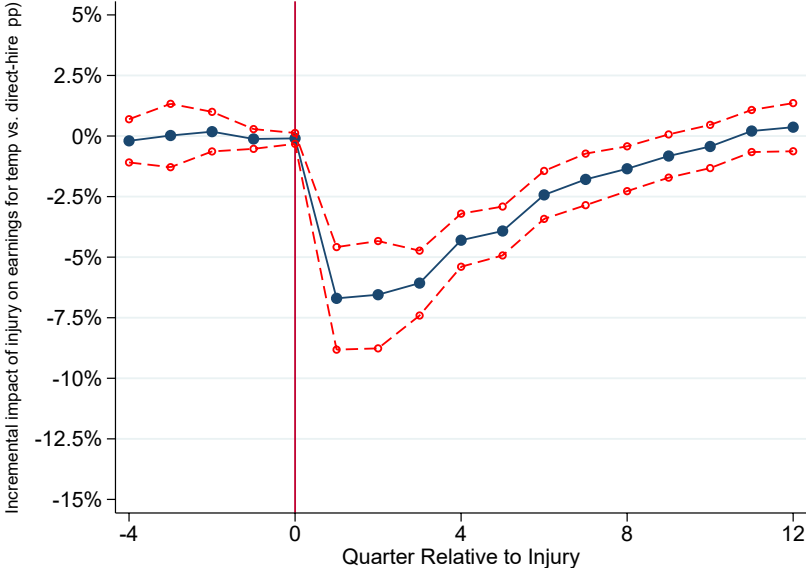
—●— Lost-Time

Medical-Only Injuries Allow Us to Control for Differences in Employment Dynamics

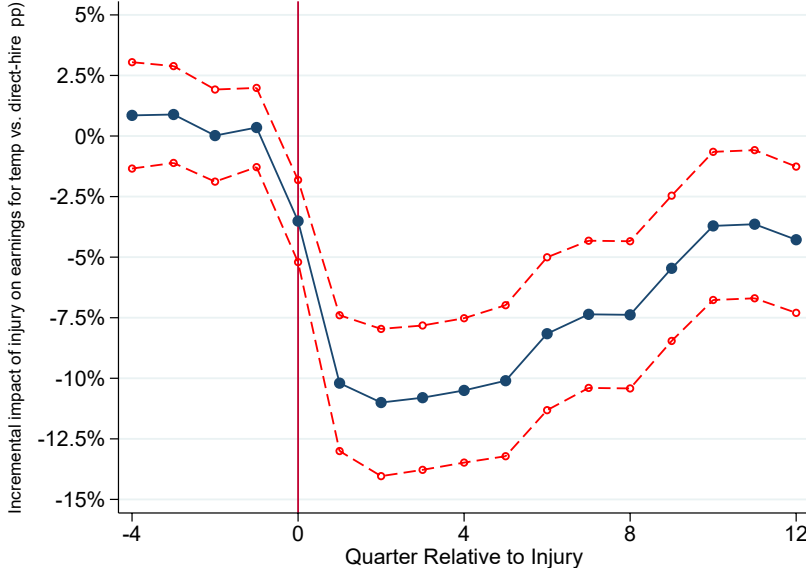


Temporary Workers Have Larger Employment Losses, But Recover Over Time

Employment

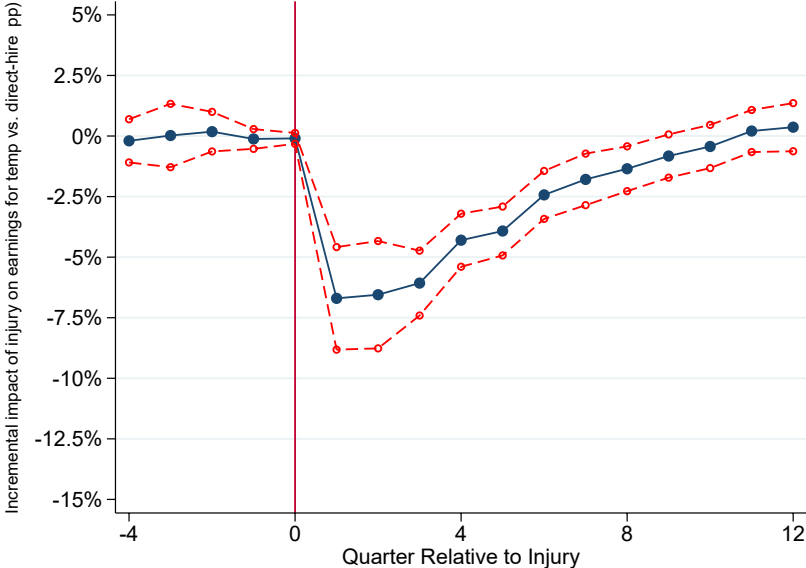


Earnings

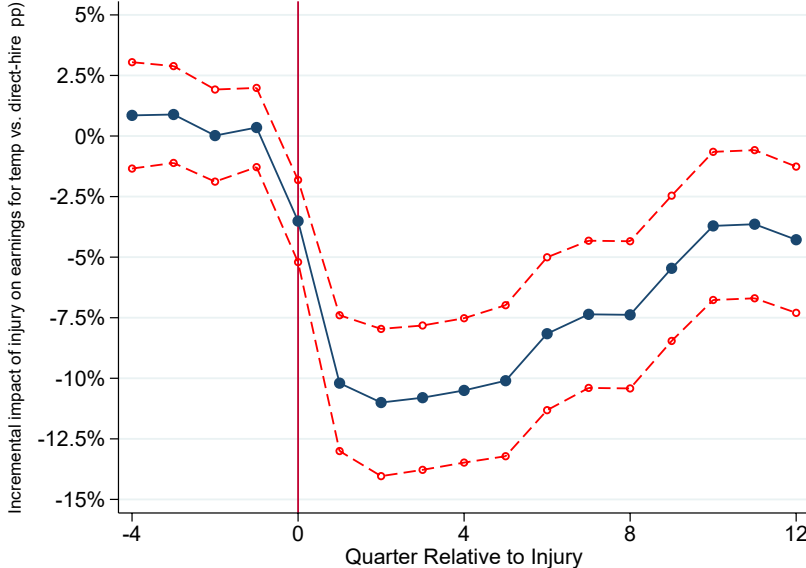


Incremental Earnings Losses More Persistent Through Three Years After Injury

Employment



Earnings



Impact of Injury on Labor Market Outcomes for Temporary vs. Direct-Hire Workers

Time After Injury	Employment	Earnings
1 Year (4 Quarters)	-3.88%*** (0.68%)	-11.5%*** (1.92%)
2 Years (8 Quarters)	-0.82% (0.73%)	-8.22%*** (1.95%)
3 Years (12 Quarters)	0.89% (0.58%)	-5.19%** (1.92%)
N (Person-Quarters)	5,113,560	5,113,560

***Significance .1%, ** Significance 1%, * Significance 5%. Standard errors in parentheses clustered on class code and quarter of injury (e.g., citrus fruit packers injured in 2005Q1). Controls include class codes, worker, job, injury characteristics, and all 2-way interactions.

Sensitivity Analyses Consistent with Main Estimates

- Limit sample to traumatic injuries to minimize injury reporting differences
- Limit sample to workers with both temporary, direct-hire employment during 2 years before injury to reduce self-selection into temporary work
- Control variables have little effect on estimates

Caveat: Results Are Not Directly Applicable to Other Alternative Work Arrangements

- Temporary workers are covered by WC and UI
- Independent contractors are not in our data
- Mechanisms affecting *safety* likely to generalize
 - Less safety training/hazard communication (Foley, 2017)
 - Weak safety incentives for host employer (MacEachen et al., 2016)
- But more work needed to pinpoint mechanisms affecting post-injury earnings, employment

Main Findings on Earnings and Employment Risks After Injury

- Temporary work associated with:
 - Lower employment, earnings after lost-time injury
 - Employment effect fades by 2 years after injury
 - Earnings effect remains significant 3 years after injury
 - Over 3 years after injury, temporary workers lose additional 9% of income relative to similar direct-hire workers injured in same job

Does Workers' Compensation Protect Temporary Workers Against Additional Risk?

- Temporary workers face additional earnings risk after workplace injury compared to direct-hires
- We calculate the sum of labor earnings + WC benefits and test whether WC benefits close this gap in post-injury income
- Caveat: analysis uses pre-tax earnings

We Group Benefits into 5 Categories and Estimate Impacts on Income Loss after Injury

Cumulative Benefit Amounts (\$)	Direct-Hire	Temporary/Contract
Temporary Disability Benefits	7,077.19	4,995.61
+ Permanent Disability Benefits	10,915.52	8,166.09
+ Disability Benefit Settlements	11,909.21	9,037.82
+ Unspecified Settlements	13,127.84	11,803.31
+ Medical Settlements	14,442.03	12,585.15
Percentage Receiving Benefits		
% with TTD benefits	87.99%	83.02%
% with PPD benefits	37.39%	34.70%
% with a TTD or PPD settlement	8.33%	7.97%
% with an unspecified settlement	6.70%	20.16%
% with a medical settlement	8.09%	5.34%

WC Benefits (Including Settlements) Offset Incremental Income Loss After Injury

	Forms of Income Included in Estimates					
Earnings	Y	Y	Y	Y	Y	Y
TD Benefits		Y	Y	Y	Y	Y
PD Benefits			Y	Y		Y
Indemnity Settlements						Y
Unspecified Settlements						Y
Medical Settlements						Y
Difference in Income for Temporary Workers	-9.1%***	-6.3%***	-4.0%**	-3.4%*	0.6%	0.6%
	(1.6%)	(1.5%)	(1.4%)	(1.4%)	(1.4%)	(1.4%)

***Significance .1%, ** Significance 1%, * Significance 5%. N = 1,278,390 injured workers. Poisson regression estimates. Outcomes refer to the total earnings and benefits received in the three years post-injury ("Post-Injury") or the one year pre-injury.

Conclusion: Temporary Workers Face Greater Income Risk After Injury, But WC Benefits Appear to Offset These Additional Losses

- Over 3 years after injury, temporary workers lose additional 9% of income relative to similar direct-hire workers injured in same job
- Workers' compensation benefits offset this gap in pre-tax earnings when settlements are included

Implications for Coverage of WC and Debates Over Worker Classification

- Other non-standard workers may value WC if they face similar differences in income risk
- Our estimates are not directly applicable to other arrangements (e.g., independent contractors)
- Potentially relevant to AB 5 impacts if compliance achieved by shifting independent contractors to temporary/contract employee status



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