The Consequence of Workers' Compensation Filing

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Objective

- To examine compensation rates and the relationship between workers' compensation collecting behavior and income loss
- To explore the consequence of filing and contributors to workers' compensation collecting results

Background

- Half of injured workers never even file for workers' comp benefits
- Income loss was prevalent when workers injured
- The difference between workers who filed/collected and who had not filed/collected workers' comp among injured workers was rarely studied

Research Questions

- Which group loses their wages more than the other groups?
- How are job insecurity measures at different levels empirically related to lost wages?
- Are there negative effects of workers' compensation filing such as employment disadvantages?

Study Design and Population

- Longitudinal Study (GEE using SAS)
- 3,280 persons who involving 5204 workplace injury/illness during 1988 to 2000 (9 rounds interviews, 9 points of time, cover 13 years) among the NLSY 79 cohort

NLSY 79 Data

- The National Longitudinal Survey of Youth
- Rich, nationally representative data source with individual-level: 12,686 sample of people who were between the ages of 14 and 22 in 1979
- Not dependent upon self-report of disability or of WC receipt

Why NLSY 79?

- Significant limitation of the BLS survey using OSHA logs
  - exclude gov't workers and the self-employed
  - not captured if not reported by workers/supervisors (underreporting barriers)
- Population-based survey allows analysis of all workplace injuries, including unclaimed injuries
- 80.1% retention rate in 2000

Hypothesis

- Those who filed workers' comp are not equally compensated

- Workers in job insecurity group lose their wages more

- The probabilities of lost wages are different among filed/collected

Analyses

GEE Logistic Regression

$$\text{logit}(y) = \log(y/(1-y)) =$$

$$= \beta_0 + \beta_1 F_{ijt}(C_{ijt}) + \beta_2 JI_{ijt} + \beta_3 X_{ijt} + \beta_4 S_{ijt} + e_{ijt}$$

for $i = 1,\ldots,3280$ injured workers, $j =$ occupation

$t = 1,\ldots,9$ years

Y : P(Lost wage) $F(C)$: Filing (Collecting)

JI : Job Insecurity S : Severity

X : Individual Characteristics

(Sex, Race, Age, Edu/Income, Occup/Ind)

Key Variables

- Dependent: Probability of Lost Wages P(Lost Wage |Filing or Collecting) =1
- Independent :

- Filing (Collecting) status (yes/no)
- Job insecurity: Having an odd job and/or Recent unemployment exp
- Severity: Number of day missed (>5+ days)
- SES: Education (<high school), Low income (< 20000 USD)

Covariates

- Occupation and industry variables

  - Classify risk categories using the 1970 U.S. Census

  - JCQ Decision latitude linked measure (psychosocial factor at occupational level)
- Demographic characteristics: age, gender, race, marital status, region, residence
- Type of injury/illness (acute/chronic)

No. of Injury/Illness & WC filing

Year	Injury/Illness	filing	Collect	%Filing	%Collect
1988	845	403	188	47.7	22.3
1989	610	337	149	55.3	24.4
1990	620	352	173	56.8	27.9
1992	557	341	175	61.2	31.4
1993	446	248	115	55.6	25.8
1994	455	247	110	54.3	24.2
1996	606	362	156	59.7	25.7
1998	560	332	151	59.3	27.0
2000	505	299	139	59.1	27.5
Total	5204	2921	1356	56.1	26.1

Results: Characteristics

Characteristics	% Filed	Not Filed	Collected	Not collected
Age (Average)	32.6	32.1	32.5	32.6
Gender (Female)	36.2	37.5	33.1	38.5
Race (Black+ Others)	15.0	14.0	15.9	14.1
Residence (Rural)	28.9	25.7	27.7	29.9
Region (West)	21.6	19.3	24.0	19.6
Residence (Rural)	15.5	14.3	15.3	15.7
Job insecurity (Odd Job) (recent unemp exp)	1.3 3.8	3.1 4.5	1.4 4.6	1.2 3.2
Education (< 12)	71.8	64.1	73.4	70.7
Income (< 20000 USD)	54.8	58.9	57.7	52.4

Results: Characteristics

Characteristics	%Filed	Not filed	Collected	Not collected
Missed work days	52.0	26.0	75.0	17.3
> 5+ days	38.3	16.2	66.0	15.7
5<day<=10	7.5	5.1	9.4	6.0
10<day<=20	7.6	3.1	11.8	4.2
20<day<=30	5.7	2.9	10.9	1.4
> 30+ days	17.5	5.1	34.0	4.2
Physical effort at work (H: All or most)	58.7	56.6	60.4	58.1
Requiring lifting/kneeling	74.9	76.9	72.5	76.5
Activity (travel)	4.3	2.8	9.4	2.3

Results: Characteristics

Type of injury/illness	Filed	Not filed	Collected	Not collected
MSDs (including illness)	31.8 (8.0)	23.4 (5.2)	36.0 (12.4)	28.3 (4.4)
Fractures	8.6	4.7	12.5	5.5
Open Wound	14.8	18.1	8.0	20.3
Burns	2.5	3.6	1.5	3.3
Superficial Injury	9.6	9.6	6.9	11.9
Traumatic and unspecified injury	5.3	5.3	4.9	5.7
Mental illness	0.9	2.4	0.8	1.0
Disease of peripheral	3.4	1.4	4.5	2.4
Health Status (Limit)	10.0	7.3	15.6	94.5

Results: Occupation

Occupation	Filed	Not filed	Collected	Not collected
1.Professional,Technical	15.0	18.7	13.3	16.2
2. Managers, Officials	4.2	5.3	3.5	4.8
3. Sales	4.1	5.1	4.7	3.6
4. Clerical	10.3	8.9	8.9	11.3
5. Craftsmen, Foremen	31.9	31.7	32.0	31.7
6. Operatives, Laborers	15.5	14.3	15.3	15.7
7. Farmers	5.9	5.2	7.9	4.2
8. Service	10.3	8.8	11.5	9.5
9. Other (Armed force)	2.9	2.0	3.0	2.9

Results: Industry

Industry	Filed	Not Filed	Collected	Not collected
1. Agriculture, forestry, fisheries	3.6	4.3	4.2	3.2
2. Mining	1.5	1.1	1.9	1.2
3. Construction	10.8	12.4	13.4	8.7
4. Manufacturing	23.6	21.5	23.2	23.9
5. Transportation and communication	10.0	7.1	10.5	9.5
6. Wholesale and retail trade	18.9	17.1	17.9	19.6
7. Finance, insurance, RE	2.7	2.1	3.0	2.5
8. Business, repair services	5.4	6.1	5.1	5.7
9. Personal services	2.7	4.9	2.2	3.1
10. Entertainment services	1.8	1.3	1.6	1.9
11. Professional services	13.4	17.2	13.0	13.7
12. Public administration	5.8	5.0	3.9	7.0

Results: Correlations between odd job and other job insecurity measures

JI	Gamma	OR (odd job vs. JI measure)	JI	Gamma	OR (odd job vs. JI measure)
Unemp exp (recent) (time t-2)	 0.57 0.54	 2.94(2.44_3.55) 2.58(2.11_3.14)	JCQ DL linked	0.33	1.36(1.26_1.46)
Cum. total unemp exp	0.45	2.27(1.86_2.77)	No-health insurance	0.79	8.44(6.10_11.7)
Local Unemp Rates	0.38	1.90(1.64_2.18)	No-union member	0.53	3.45(1.88_6.33)
JCQ job security linked	0.25	1.34(1.25_1.44)	Temp contract	0.96	48.9(40.5_59.2)

OR of job insecurity measures for lost wage (GEE Log Reg)

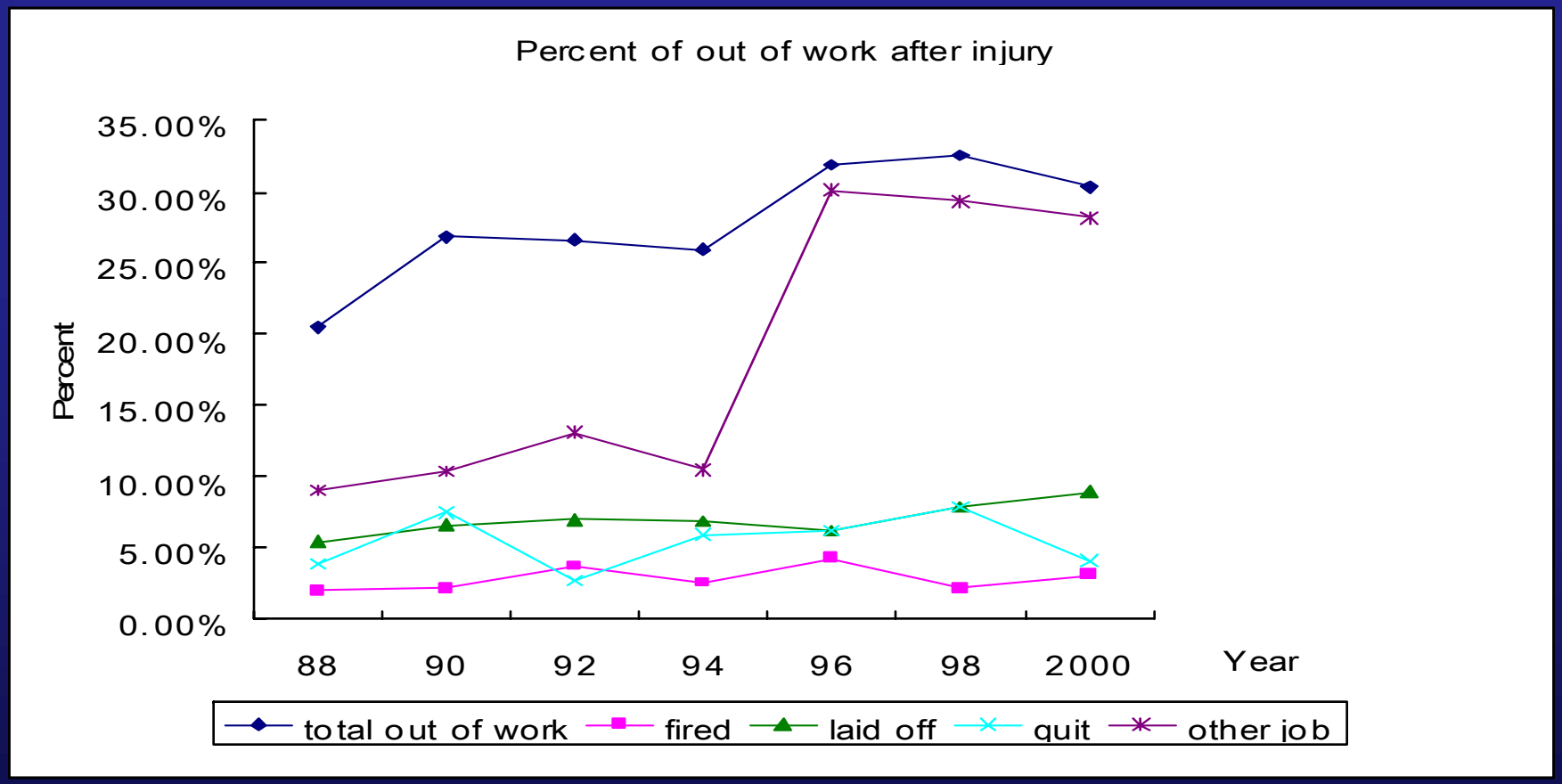
Job insecurity measure	OR (95% C I) w/ occupation (Risk)	OR (95% C I) w/ occupation (DL)
Unemployment experience - recent (time t-1) - time t-2 (Psychosocial/Ind. Level)	 1.90 (1.56_2.32)* 1.39 (1.11_1.75)*	 1.92 (1.58_2.33)* 1.41 (1.13_1.77)*
- Cumulative total exp for study period (13yrs) (Work History level)	1.40 (1.21_1.62)*	1.41 (1.22_1.63)*
Unemployment rate (Macro/Local Economy level)	1.03 (0.87_1.21)	1.04 (0.88_1.22)

Job insecurity measure	OR (95% C I) w/ occupation (Risk)	OR (95% C I) w/ occupation (DL)
JCQ job insecurity linked measure	1.01 (0.94_1.09)	1.07 (0.98_1.16)
JCQ decision latitude (Occup/Psycho level)	1.06 (0.99_1.12)	1.06 (0.99_1.12)
No-union membership	0.98 (0.78_1.25)	1.01 (0.80_1.28)
No-health insurance	1.55 (1.31_1.84)*	1.63 (1.37_1.93)*
Odd job (Organizational level)	1.71 (1.11_2.63)*	1.78 (1.16_2.73)*
Combined measure (Both odd Job and recent unemployment experience)	1.82 (1.52_2.17)*	1.84 (1.54_2.19)*

Odds Ratios of covariates for lost wage

Covariates	OR (95% C I) w/ Risk	OR(95% C I) w/DL
WC collecting status	1.07 (0.86_1.32)	1.09 (0.89_1.35)
Income (Low <20000 USD)	1.94 (1.60_2.36)*	2.06 (1.70_2.50)*
Severity (High > 5 missed days)	1.85 (1.71_2.01)*	1.84 (1.70_2.00)*
Education (Low < 12 grade)	1.06 (0.89_1.26)	1.14 (0.96_1.35)
Industry (Manufacturing)	1.12 (0.99_1.27)	1.23 (1.10_1.39)*
Occupation (Manual job vs. Low DL)	1.84 (1.51_ 2.24)*	1.11 (1.02_ 1.20)*
Acute injury	0. 64 (0.38_1.09)	0. 66 (0.39_1.12)
Region (West)	1.16 (1.06_ 1.28)*	1.15 (1.05_ 1.26)*
Sex, Race, Age, Residence	1.01 (0.99_1.03)	0.94 (0.77_1.15)

Percentage of out of work



Out of work (20.5% to 32.5%), Assigned to other jobs(9.1% to 15.0%), Laid off (5.4% to 8.9%), Quit (2.7% to 7.9%)

Strength and Weakness

- Allow analysis of all workplace injuries, including unclaimed injuries.
- Analyze psychosocial factors,all industries and health outcomes
- Examine different types of job insecurity measures
- Closed cohort- not include immigrant workers- underestimate incidence

Conclusion and Discussion

- Workers who have severe injury, low income, job insecurity and manual jobs were more likely to lose wages when they filed/collected workers' compensation benefits.

Conclusion and Discussion

- There are negative effects of workers' comp filing (lost earnings/job and under-compensation) which might lead to under-report for workers' compensation