

WORKERS' COMPENSATION RESOURCES RESEARCH REPORT

Issue 6

May 2013

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FEATURED TOPICS

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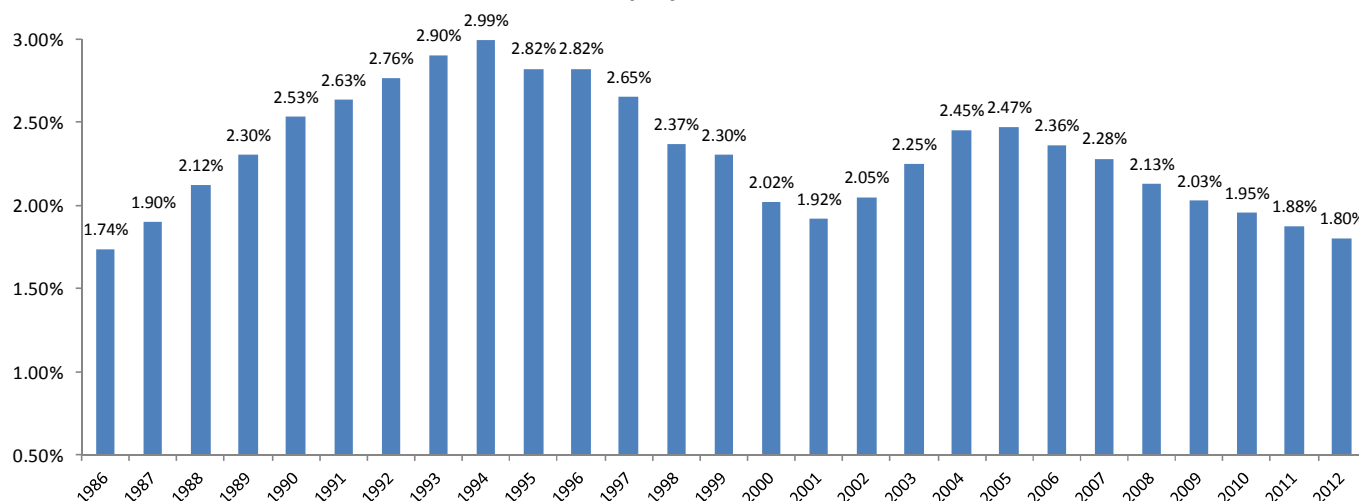
Summary of the Contents

Issue 6 of the *Workers' Compensation Resources Research Report (WCRRR)* examines the employers' costs of workers' compensation. Part I relies on data from the Bureau of Labor Statistics (BLS) to examine national trends from 1986 to 2012. For private-sector employers, as shown below, costs dropped for the seventh year in a row and represented 1.80 percent of payroll in 2012, the lowest figure since 1986. For all non-federal employers, costs of workers' compensation dropped to 1.79 percent of payroll in 2012, the lowest figure since the data series began in 1991.

Part II examines BLS data on the differences in the employers' costs of workers' compensation due to factors such as geographical location, industry, union status, and occupations of the firm's employees. The variations of workers' compensation costs among industries were significant in 2012, ranging from 4.47 percent of payroll in construction to 0.63 percent of payroll in the financial industry.

Part III provides state-level data on the employers' costs of workers' compensation from two sources: employer costs as a percent of payroll as reported by the National Academy of Social Insurance (NASI) and premium rates as a percent of payroll as measured by the Oregon Department of Consumer and Business Services (Oregon). For some states, the NASI and Oregon data are similar: for example, both measures indicate that California costs were 131 percent of the national median of costs in 2010. But there were 25 states where the two measures of employers' costs of workers' compensation differed by 20 percent or more. This is one reason, among others presented in Part III, why interstate comparisons of the employers' costs of workers' compensation must be done cautiously or even avoided.

Figure A - Workers' Compensation Costs as a Percentage of Gross Earnings, Private Industry Employees, 1986-2012



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

The Workers' Compensation Resources Research Report

Each issue of the ***Workers' Compensation Resources Research Report (WCRRR)*** focuses on a single topic and presents data and analysis not readily available elsewhere. The issues should be valuable for administrators, policymakers, practitioners, researchers, and other interested in workers' compensation.

The Editor of the ***WCRRR*** is John F. Burton, Jr. Burton is Professor Emeritus in the School of Management and Labor Relations (SMLR) at Rutgers University. Burton previously served as Dean of SMLR, as a faculty member at Cornell University, where he is also an Emeritus Professor, and at the Graduate School of Business at the University of Chicago. He graduated from Cornell University with a B.S. in Industrial and Labor Relations. He received a law degree and a Ph.D. in Economics from the University of Michigan. Burton is a member of the Workers' Compensation Data Study Panel of the National Academy of Social Insurance (NASI) and is the co-author (with Ishita Sengupta, Virginia Reno, and Marjorie Baldwin) of *Workers' Compensation: Benefits, Coverage, and Costs, 2010*, published by NASI in 2012. He is the author or co-author of other articles and books dealing with workers' compensation and other social insurance programs. He was the Chairman of the National Commission on State Workmen's Compensation Laws, which submitted its report to the President and Congress in 1972. Burton was President of the Industrial Relations Research Association (now the Labor and Employment Relations Association) in 2002. He is a Fellow of the American Bar Association's College of Workers' Compensation Lawyers.

Summary of the Contents of Issue 1 of the *WCRRR*

Issue 1 of the ***WCRRR***, published in September 2010, presented a report entitled "Workers' Compensation Insurance Industry Remains Profitable in 2009." Issue 1 was superseded by Issue 5 of the ***WCRRR***.

Summary of the Contents of Issue 2 of the *WCRRR*

Issue 2 of the ***WCRRR***, published in May 2011, contains a report on "Workers' Compensation Costs for Employers." Issue 2 was superseded by Issue 4 and Issue 6 of the ***WCRRR***.

Summary of the Contents of Issue 3 of the *WCRRR*

Issue 3 of the ***WCRRR***, published in August 2011, contains a report on "Workers' Compensation Incurred Benefits: 1985-2007" based on the latest available data. The national averages of workers' compensation benefits have been relatively stable in recent years, but there are substantial differences among jurisdictions in cash, medical, and total benefits. [Issue 3 can be downloaded without charge from www.workerscompresources.com](http://www.workerscompresources.com)

Summary of the Contents of Issue 4 of the *WCRRR*

Issue 4 of the ***WCRRR***, published in June 2012, contains a report on "Workers' Compensation Costs for Employers, 1986-2011." Issue 4 was superseded by Issue 6 of the ***WCRRR***.

Summary of the Contents of Issue 5 of the *WCRRR*

Issue 5 of the ***WCRRR***, published in December 2012, contains a report on "Workers' Compensation Industry Underwriting Results in 2011" as well as abstracts of two recent articles co-authored by John Burton. [Issue 5 can be downloaded without charge from www.workerscompresources.com](http://www.workerscompresources.com)

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WORKERS' COMPENSATION RESOURCES RESEARCH REPORT is not intended to be and should not be used as a substitute for specific Legal advice, since legal opinions may only be given in response to inquiries regarding specific factual situations. If legal advice is required, the services of counsel should be sought.

Workers' Compensation Costs for Employers: National and State Data

by John F. Burton, Jr.

Part I provides information on the national costs of workers' compensation for the period between 1986 and 2012 based on data published by the Bureau of Labor Statistics (BLS). The employers' costs of worker compensation as a percent of payroll decreased in 2012 for workers in the private sector and for all non-federal employees. This is the seventh year of declining costs for private sector employers and was the lowest cost for these employers since 1986. This is also the seventh year of declining costs for all non-federal employers and was the lowest figure since the data series began in 1991. Employers' costs relative to payroll for workers in the state and local government sector increased in 2012 for the second year in a row.

Part II presents information also based on data from the BLS on the variations among employers in the costs of workers' compensation in 2012 depending on the employers' region, industry, occupation of the firm's employees, and other factors. These variations can be substantial: for example, workers' compensation costs ranged from 4.26 percent of payroll for workers in natural resource, construction, and maintenance occupations to 0.79 percent of payroll for management, professional and related occupations.

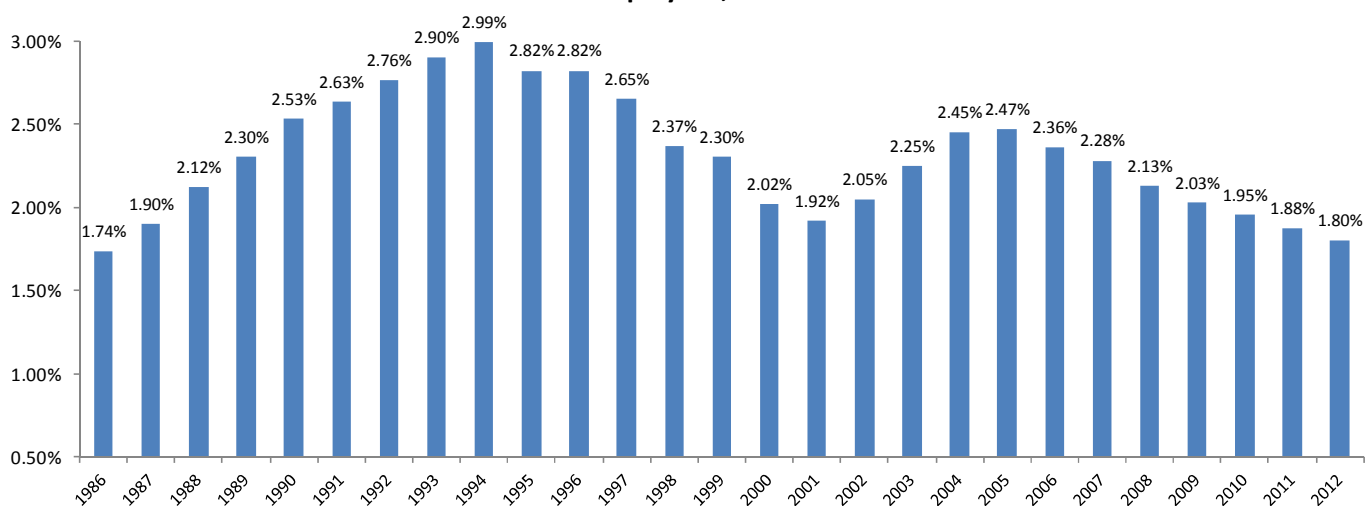
Part III presents state data on the employers' costs of workers' compensation from two sources. The National Academy of Social Insurance recently published

data on the employers' costs of workers' compensation per \$100 of payroll. The Oregon Department of Consumer and Business Services has published data on workers' compensation premium per \$100 of payroll on a biennial basis since 1986. The two measures of the employers' costs for 2010 are compared and the caveats that must be considered when using these sources of information on the costs of workers' compensation are presented.

Part I. National Costs of Workers' Compensation: 1986 to 2012

The findings in this report are based on data from the Bureau of Labor Statistics (BLS). Information on the BLS survey and the methodology used to prepare the information in this report are contained in Appendix A. The BLS published information on the employers' costs of workers' compensation for private sector employees for each March between 1986 and 1990. Between 1991 and 2001, the BLS published data on the employers' costs of workers' compensation for each March for private sector employees, for state and local government employees, and for all non-federal employees. These data are shown in Tables 1 and 2. Since 2002, the BLS has published data for workers' compensation on

Figure A - Workers' Compensation Costs as a Percentage of Gross Earnings, Private Industry Employees, 1986-2012



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

Table 1 - Total Remuneration, Wages and Salaries, and Workers' Compensation, 1986-1994

(In Dollars Per Hours Worked)

Panel A: Private Industry Employees		1986	1987	1988	1989	1990	1991	1992	1993	1994
(1)	Total Remuneration	13.25	13.42	13.79	14.28	14.96	15.40	16.14	16.70	17.08
(2)	Gross Earnings	10.90	11.08	11.32	11.72	12.24	12.55	13.06	13.43	13.69
(3)	Wages and Salaries	9.67	9.83	10.02	10.38	10.84	11.14	11.58	11.90	12.14
(4)	Paid Leave	0.93	0.93	0.97	1.00	1.03	1.05	1.09	1.11	1.11
(5)	Supplemental Pay	0.30	0.32	0.33	0.34	0.37	0.36	0.39	0.42	0.44
(6)	Benefits Other Than Pay	2.36	2.35	2.47	2.56	2.72	2.85	3.07	3.26	3.39
(7)	Insurance	0.73	0.72	0.78	0.85	0.92	1.01	1.12	1.19	1.23
(8)	Retirement Benefits	0.50	0.48	0.45	0.42	0.45	0.44	0.46	0.48	0.52
(9)	Legally Required Benefits	1.11	1.13	1.22	1.27	1.35	1.40	1.47	1.55	1.60
(9A)	Workers' Compensation	(0.19)	(0.21)	(0.24)	(0.27)	(0.31)	(0.33)	(0.36)	(0.39)	(0.41)
(10)	Other Benefits	0.02	0.02	0.02	0.02	*	*	0.02	0.04	0.04
(11)	Workers' Compensation as Percent of Remuneration	1.43%	1.56%	1.74%	1.89%	2.07%	2.14%	2.23%	2.34%	2.40%
(12)	Workers' Compensation as Percent of Gross Earnings	1.74%	1.90%	2.12%	2.30%	2.53%	2.63%	2.76%	2.90%	2.99%
Panel B: State and Local Employees							1991	1992	1993	1994
(1)	Total Remuneration						22.31	23.49	24.44	25.27
(2)	Gross Earnings						17.48	18.40	19.07	19.71
(3)	Wages and Salaries						15.52	16.39	17.00	17.57
(4)	Paid Leave						1.75	1.80	1.86	1.94
(5)	Supplemental Pay						0.21	0.21	0.21	0.20
(6)	Benefits Other Than Pay						4.84	5.08	5.36	5.57
(7)	Insurance						1.63	1.84	2.02	2.15
(8)	Retirement Benefits						1.85	1.82	1.87	1.90
(9)	Legally Required Benefits						1.34	1.40	1.44	1.49
(9A)	Workers' Compensation						(0.26)	(0.28)	(0.30)	(0.31)
(10)	Other Benefits						0.02	0.02	0.03	0.03
(11)	Workers' Compensation as Percent of Remuneration						1.17%	1.19%	1.23%	1.23%
(12)	Workers' Compensation as Percent of Gross Earnings						1.49%	1.52%	1.57%	1.57%
Panel C: All Non-Federal Employees							1991	1992	1993	1994
(1)	Total Remuneration						16.45	17.27	17.88	18.30
(2)	Gross Earnings						13.30	13.89	14.29	14.58
(3)	Wages and Salaries						11.81	12.33	12.68	12.95
(4)	Paid Leave						1.16	1.20	1.22	1.23
(5)	Supplemental Pay						0.33	0.36	0.39	0.40
(6)	Benefits Other Than Pay						3.16	3.38	3.59	3.72
(7)	Insurance						1.10	1.23	1.32	1.37
(8)	Retirement Benefits						0.65	0.67	0.70	0.73
(9)	Legally Required Benefits						1.39	1.46	1.53	1.58
(9A)	Workers' Compensation						(0.32)	(0.35)	(0.38)	(0.39)
(10)	Other Benefits						0.02	0.02	0.04	0.04
(11)	Workers' Compensation as Percent of Remuneration						1.95%	2.03%	2.13%	2.13%
(12)	Workers' Compensation as Percent of Gross Earnings						2.41%	2.52%	2.66%	2.67%

Notes: See Notes for Tables 1-3 and 5-10.**Sources:** Data in rows (1), (3) to (5), and (7) to (10) of Panels A, B, and C:**1986-1990:** U.S. Department of Labor, 2000b, Tables 140, 150, 158, 165, 169**1991-1994:** U.S. Department of Labor, 2000b, Tables 1, 3, 5, 17, 19, 21, 33, 35, 37, 49, 51, 53, 65, 67, 69, 81, 83, 85, 97, 99, 101, 112, 114, 116, 126, 128, 130

Table 2 - Total Remuneration, Wages and Salaries, and Workers' Compensation, 1995-2003
(In Dollars Per Hours Worked)

Panel A: Private Industry Employees		1995	1996	1997	1998	1999	2000	2001	2002	2003
(1)	Total Remuneration	17.10	17.49	17.97	18.50	19.00	19.85	20.81	21.92	22.69
(2)	Gross Earnings	13.81	14.19	14.69	15.19	15.62	16.37	17.16	18.00	18.47
(3)	Wages and Salaries	12.25	12.58	13.04	13.47	13.87	14.49	15.18	15.95	16.35
(4)	Paid Leave	1.09	1.12	1.14	1.16	1.20	1.28	1.37	1.45	1.47
(5)	Supplemental Pay	0.47	0.49	0.51	0.56	0.55	0.60	0.61	0.61	0.64
(6)	Benefits Other Than Pay	3.29	3.31	3.29	3.31	3.38	3.48	3.65	3.92	4.22
(7)	Insurance	1.15	1.14	1.09	1.10	1.13	1.19	1.28	1.43	1.58
(8)	Retirement Benefits	0.52	0.55	0.55	0.55	0.57	0.59	0.62	0.63	0.68
(9)	Legally Required Benefits	1.59	1.59	1.62	1.63	1.65	1.67	1.73	1.83	1.93
(9A)	Workers' Compensation	(0.39)	(0.40)	(0.39)	(0.36)	(0.36)	(0.33)	(0.33)	(0.37)	(0.42)
(10)	Other Benefits	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03
(11)	Workers' Compensation as Percent of Remuneration	2.28%	2.29%	2.17%	1.95%	1.89%	1.66%	1.59%	1.69%	1.83%
(12)	Workers' Compensation as Percent of Gross Earnings	2.82%	2.82%	2.65%	2.37%	2.30%	2.02%	1.92%	2.05%	2.25%
Panel B: State and Local Employees		1995	1996	1997	1998	1999	2000	2001	2002	2003
(1)	Total Remuneration	24.86	25.73	26.58	27.28	28.00	29.05	30.06	31.68	33.29
(2)	Gross Earnings	19.48	20.16	20.90	21.53	22.19	23.08	23.94	25.05	26.08
(3)	Wages and Salaries	17.31	17.95	18.61	19.19	19.78	20.57	21.34	22.31	23.24
(4)	Paid Leave	1.95	1.99	2.06	2.11	2.17	2.26	2.34	2.47	2.54
(5)	Supplemental Pay	0.22	0.22	0.23	0.23	0.24	0.25	0.26	0.28	0.30
(6)	Benefits Other Than Pay	5.38	5.56	5.69	5.76	5.81	5.97	6.13	6.63	7.21
(7)	Insurance	2.03	2.07	2.09	2.15	2.22	2.38	2.56	2.91	3.25
(8)	Retirement Benefits	1.78	1.90	1.95	1.94	1.91	1.84	1.73	1.78	1.93
(9)	Legally Required Benefits	1.55	1.56	1.61	1.63	1.64	1.70	1.78	1.87	1.96
(9A)	Workers' Compensation	(0.31)	(0.31)	(0.30)	(0.30)	(0.30)	(0.31)	(0.34)	(0.36)	(0.37)
(10)	Other Benefits	0.02	0.03	0.04	0.04	0.04	0.05	0.06	0.06	0.07
(11)	Workers' Compensation as Percent of Remuneration	1.25%	1.20%	1.13%	1.10%	1.07%	1.07%	1.13%	1.12%	1.12%
(12)	Workers' Compensation as Percent of Gross Earnings	1.59%	1.54%	1.44%	1.39%	1.35%	1.34%	1.42%	1.42%	1.43%
Panel C: All Non-Federal Employees		1995	1996	1997	1998	1999	2000	2001	2002	2003
(1)	Total Remuneration	18.21	18.68	19.22	19.76	20.29	21.16	22.15	23.36	24.30
(2)	Gross Earnings	14.62	15.05	15.59	16.11	16.57	17.33	18.14	19.04	19.63
(3)	Wages and Salaries	12.98	13.36	13.85	14.30	14.72	15.36	16.07	16.88	17.40
(4)	Paid Leave	1.21	1.24	1.27	1.30	1.34	1.42	1.51	1.60	1.64
(5)	Supplemental Pay	0.43	0.45	0.47	0.51	0.51	0.55	0.56	0.56	0.59
(6)	Benefits Other Than Pay	3.59	3.64	3.63	3.66	3.73	3.83	4.00	4.32	4.67
(7)	Insurance	1.28	1.27	1.23	1.25	1.29	1.36	1.46	1.65	1.83
(8)	Retirement Benefits	0.70	0.75	0.75	0.75	0.76	0.77	0.78	0.80	0.87
(9)	Legally Required Benefits	1.58	1.59	1.62	1.63	1.65	1.67	1.73	1.83	1.93
(9A)	Workers' Compensation	(0.38)	(0.38)	(0.38)	(0.35)	(0.35)	(0.33)	(0.34)	(0.37)	(0.41)
(10)	Other Benefits	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04
(11)	Workers' Compensation as Percent of Remuneration	2.09%	2.03%	1.98%	1.77%	1.72%	1.56%	1.53%	1.57%	1.69%
(12)	Workers' Compensation as Percent of Gross Earnings	2.60%	2.52%	2.44%	2.17%	2.11%	1.90%	1.87%	1.93%	2.09%

Notes: See Notes for Tables 1-3 and 5-10.

Sources: Data in rows (1), (3) to (5), and (7) to (10) of Panels A, B, and C:

1995-1999: U.S. Department of Labor, 2000b, Tables 1, 3, 5, 17, 19, 21, 33, 35, 37, 49, 51, 53, 65, 67, 69, 81, 83, 85, 97, 99, 101, 112, 114, 116, 126, 128, 130

2000: U.S. Department of Labor, 2000c, Tables 1, 3, and 5.

2001: U.S. Department of Labor, 2001, Tables 1, 3, and 5.

2002 Data:

March 2002: U.S. Department of Labor, 2002a, Tables 1, 3, and 5.

June 2002: U.S. Department of Labor, 2002b, Tables 1, 3, and 5.

September 2002: U.S. Department of Labor, 2002c, Tables 1, 3, and 5.

December 2002: U.S. Department of Labor, 2003a, Tables 1, 3, and 5.

2003 Data:

March 2003: U.S. Department of Labor, 2003b, Tables 1, 3, and 5.

June 2003: U.S. Department of Labor, 2003c, Tables 1, 3, and 5.

September 2003: U.S. Department of Labor, 2003d, Tables 1, 3, and 5.

December 2003: U.S. Department of Labor, 2004, Tables 1, 3, and 5.

Table 3 - Total Remuneration, Wages and Salaries, and Workers' Compensation, 2004 - 2012

(In Dollars Per Hours Worked)

Panel A: Private Industry Employees		2004	2005	2006	2007	2008	2009	2010	2011	2012
(1)	Total Remuneration	23.59	24.37	25.36	26.09	26.99	27.45	27.75	28.26	28.86
(2)	Gross Earnings	19.00	19.54	20.38	20.99	21.71	22.10	22.27	22.64	23.10
(3)	Wages and Salaries	16.83	17.28	17.91	18.44	19.09	19.43	19.61	19.93	20.30
(4)	Paid Leave	1.51	1.56	1.73	1.78	1.81	1.86	1.88	1.92	1.98
(5)	Supplemental Pay	0.65	0.70	0.74	0.78	0.82	0.82	0.78	0.79	0.82
(6)	Benefits Other Than Pay	4.60	4.84	4.98	5.10	5.28	5.35	5.49	5.63	5.75
(7)	Insurance	1.67	1.78	1.88	1.99	2.07	2.14	2.23	2.28	2.35
(8)	Retirement Benefits	0.84	0.89	0.92	0.91	0.96	0.94	0.97	1.02	1.03
(9)	Legally Required Benefits	2.05	2.13	2.17	2.21	2.25	2.26	2.29	2.33	2.37
(9A)	Workers' Compensation	(0.47)	(0.48)	(0.48)	(0.48)	(0.46)	(0.45)	(0.44)	(0.43)	(0.42)
(10)	Other Benefits	0.04	0.04							
(11)	Workers' Compensation as Percent of Remuneration	1.97%	1.98%	1.88%	1.83%	1.71%	1.63%	1.57%	1.50%	1.44%
(12)	Workers' Compensation as Percent of Gross Earnings	2.45%	2.47%	2.34%	2.28%	2.13%	2.03%	1.95%	1.88%	1.80%
Panel B: State and Local Employees		2004	2005	2006	2007	2008	2009	2010	2011	2012
(1)	Total Remuneration	34.56	35.92	37.54	38.63	38.64	39.65	39.98	40.65	41.44
(2)	Gross Earnings	26.72	27.46	28.58	29.10	28.98	29.56	29.61	29.93	30.32
(3)	Wages and Salaries	23.79	24.45	25.31	25.73	25.45	26.08	26.26	26.57	26.93
(4)	Paid Leave	2.63	2.70	2.94	3.03	3.19	3.14	3.02	3.03	3.05
(5)	Supplemental Pay	0.31	0.32	0.32	0.34	0.35	0.34	0.33	0.34	0.34
(6)	Benefits Other Than Pay	7.83	8.45	8.96	9.53	9.66	10.09	10.37	10.72	11.12
(7)	Insurance	3.57	3.87	4.12	4.37	4.37	4.55	4.75	4.87	4.99
(8)	Retirement Benefits	2.18	2.42	2.63	2.90	3.00	3.18	3.22	3.37	3.60
(9)	Legally Required Benefits	2.03	2.12	2.20	2.26	2.30	2.36	2.41	2.48	2.53
(9A)	Workers' Compensation	(0.40)	(0.46)	(0.47)	(0.47)	(0.44)	(0.46)	(0.46)	(0.49)	(0.51)
(10)	Other Benefits	0.05	0.05							
(11)	Workers' Compensation as Percent of Remuneration	1.16%	1.27%	1.24%	1.21%	1.14%	1.15%	1.14%	1.20%	1.24%
(12)	Workers' Compensation as Percent of Gross Earnings	1.51%	1.66%	1.63%	1.61%	1.52%	1.54%	1.54%	1.63%	1.69%
Panel C: All Non-Federal Employees		2004	2005	2006	2007	2008	2009	2010	2011	2012
(1)	Total Remuneration	25.21	26.06	27.14	27.93	28.75	29.37	29.68	30.15	30.74
(2)	Gross Earnings	20.13	20.70	21.58	22.18	22.81	23.28	23.42	23.75	24.18
(3)	Wages and Salaries	17.86	18.33	19.00	19.51	20.05	20.48	20.66	20.94	21.29
(4)	Paid Leave	1.68	1.73	1.90	1.96	2.02	2.06	2.06	2.09	2.14
(5)	Supplemental Pay	0.60	0.64	0.68	0.72	0.75	0.74	0.71	0.72	0.75
(6)	Benefits Other Than Pay	5.07	5.37	5.57	5.75	5.94	6.10	6.25	6.40	6.56
(7)	Insurance	1.95	2.09	2.21	2.34	2.42	2.52	2.62	2.68	2.75
(8)	Retirement Benefits	1.03	1.12	1.17	1.20	1.27	1.30	1.33	1.38	1.41
(9)	Legally Required Benefits	2.04	2.13	2.18	2.22	2.26	2.28	2.31	2.35	2.40
(9A)	Workers' Compensation	(0.46)	(0.48)	(0.48)	(0.48)	(0.46)	(0.45)	(0.44)	(0.44)	(0.43)
(10)	Other Benefits	0.04	0.04							
(11)	Workers' Compensation as Percent of Remuneration	1.80%	1.83%	1.76%	1.71%	1.61%	1.52%	1.47%	1.45%	1.41%
(12)	Workers' Compensation as Percent of Gross Earnings	2.26%	2.31%	2.21%	2.15%	2.03%	1.92%	1.87%	1.84%	1.79%

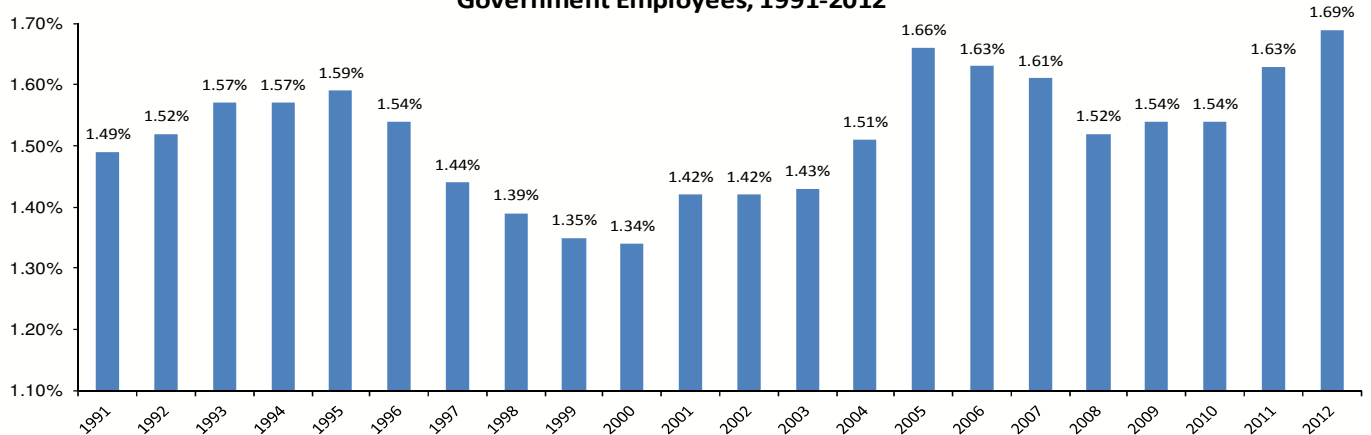
Notes: See Notes for Tables 1-3 and 5-10.**Sources:** Data in rows (1), (3) to (5), and (7) to (10) of Panels A, B, and C:**2004-2012 Data:****Data in Panel A:** U.S. Department of Labor, 2013b, Table 9.**Data in Panel B:** U.S. Department of Labor, 2013b, Table 5.**Data in Panel C:** U.S. Department of Labor, 2013b, Table 1.

Notes for Tables 1–3 and 5–10

Notes: * = \$0.01 or less

- (1) Table 1 and the text of this article use the term “remuneration” in place of the term “compensation” that is used in the BLS publications, and use the term “All non-federal Employees” in place of the term “Civilian Workers” that is used in the BLS publications.
- (2) Total remuneration (row 1) = gross earnings (row 2) + benefits other than pay (row 6).
- (3) Gross earnings (row 2) = wages and salaries (row 3) + paid leave (row 4) + supplemental pay (row 5).
- (4) Benefits other than pay (row 6) = insurance (row 7) + retirement benefits (row 8) + legally required benefits (row 9) + other benefits (row 10).
- (5) Workers’ compensation (row 9A) is one of the legally required benefits (row 9).
- (6) Workers’ compensation as percent of remuneration (row 11) = workers compensation (row 9A)/total remuneration (row 1).
- (7) Workers’ compensation as percent of gross earnings (row 12) = workers’ compensation (row 9A)/gross earnings (row 2).
- (8) Results in rows (2), (6), (11), and (12) were calculated by Florence Blum, Rebecca Burton, and/or John F. Burton, Jr.

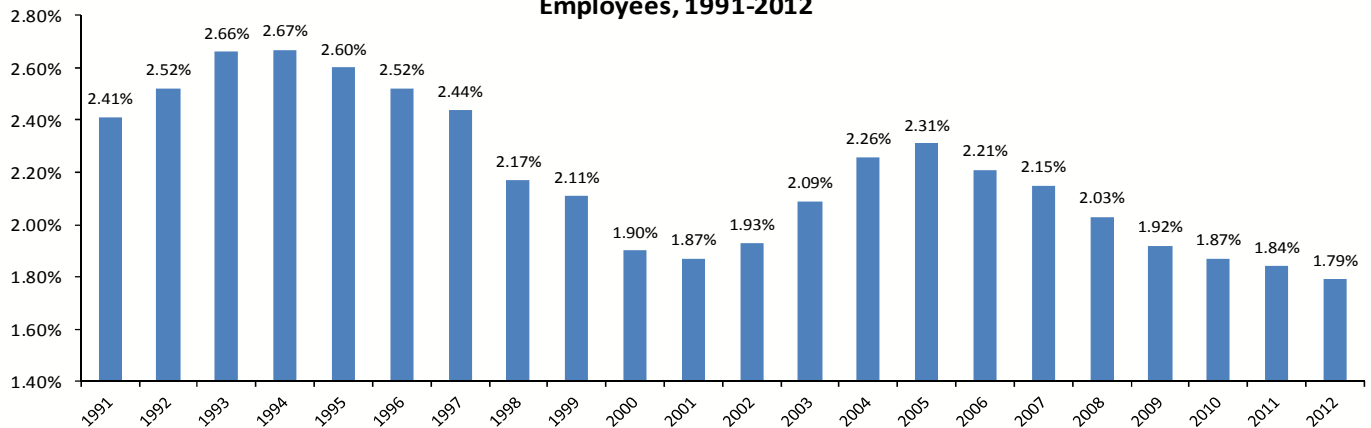
Figure B - Workers' Compensation Costs as a Percentage of Gross Earnings, State and Local Government Employees, 1991-2012



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

Figure C - Workers' Compensation Costs as a Percentage of Gross Earnings, All Non-Federal Employees, 1991-2012



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

a quarterly basis for these three categories of employers (private sector, state and local governments, and all non-federal employees). Annual averages of the data for 2002 to 2012 are included in Tables 2 and 3.

Workers' Compensation Costs as a Percent of Payroll

Tables 1 to 3 present information on two measures of the employers' costs of workers' compensation: in costs per hour worked (which is how the BLS reports the data) and in costs as a percentage of payroll (which were calculated for this report). For reasons explicated later in Part I, I believe the most useful measure of national costs of workers' compensation over time is workers' compensation costs as a percent of payroll.

Private Sector Employees. The employers' costs of workers' compensation as a percent of gross earnings (payroll) for private sector employees from 1986 to 2012 are shown in Figure A and in Panel A of Tables 1 to 3. Employers' expenditures on workers' compensation in private industry represented 1.74 percent of payroll in 1986, increased in each of the next eight years until peaking at 2.99 percent of payroll in 1994, and then declined for seven years until reaching 1.92 percent of payroll in 2001. Costs subsequently increased for the next four years until topping out at 2.47 percent of payroll in 2005. Employers' costs in the private sector then declined for seven years before reaching 1.80 percent of payroll in 2012, the lowest figure since 1986.

State and Local Government Employees. The employers' costs of workers' compensation as a percent of payroll for employees in the state and local government sector from 1991 to 2012 are shown in Figure B and Panel B of Tables 1 to 3. This sector's workers' compensation costs started at 1.49 percent of payroll in 1991, increased until reaching 1.59 percent of payroll in 1995, dropped to 1.34 percent of payroll in 2000, re-

bounded to 1.42 percent of payroll in 2001 and 2002, and increased to 1.66 percent of payroll in 2005. The costs of workers' compensation state and local government employees then declined for three years to 1.52 percent of payroll in 2007. Costs then increased to 1.54 percent of payroll in 2009 and 2010, 1.63 percent of payroll in 2011, and 1.69 percent of payroll in 2012, which represented the highest cost of workers' compensation in the state and local government sector since the data series began in 1991.

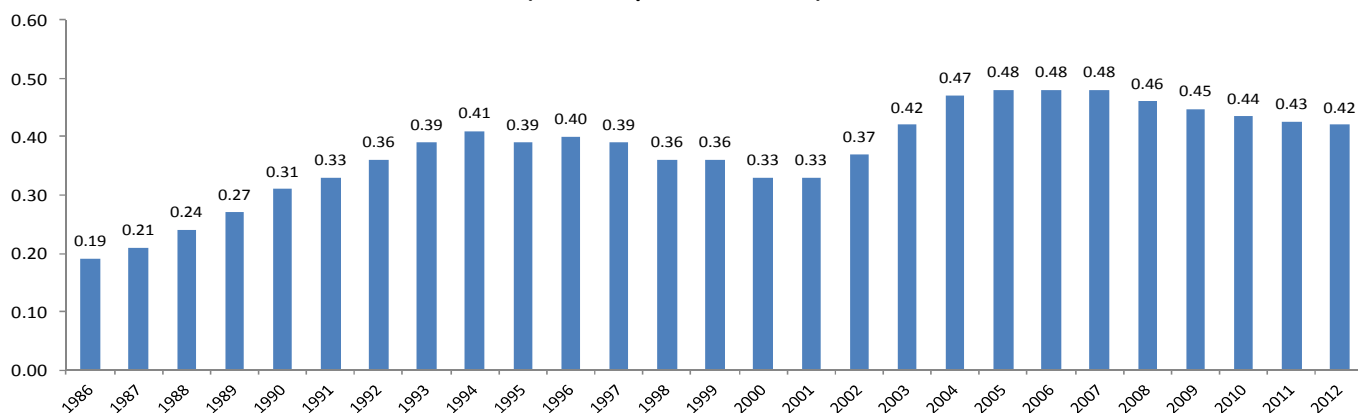
All Non-Federal Employees. Workers' compensation costs for 1991 to 2012 for all non-federal employees, a category that includes private industry employees along with state and local government employees, are presented in Figure C and in Panel C of Tables 1 to 3. Workers' compensation costs for employers of all non-federal employees represented 2.41 percent of payroll in 1991, increased to a peak of 2.67 percent in 1994, declined from 1994 to 2001, when it was 1.87 percent of payroll, and then increased for four years to 2.31 percent of payroll in 2005. Workers' compensation costs as a percent of payroll for all non-federal employees then dropped for seven years until reaching 1.79 percent in 2012, which is the lowest level of employers' costs for all non-federal employees since the series began in 1991.

Workers' Compensation Costs Per Hour Worked

An alternative measure of the employers' costs of workers' compensation is employers' expenditures on the program in dollars per hour worked.

Private Sector Employees. The employers' costs of workers' compensation in dollars per hour worked for private sector workers from 1986 to 2012 are shown in Figure D and Panel A of Tables 1 to 3. Using this measure of employers' costs, the costs in the private

Figure D - Workers' Compensation Costs for Private Industry Employees, 1986-2012
(In Dollars per Hour Worked)



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

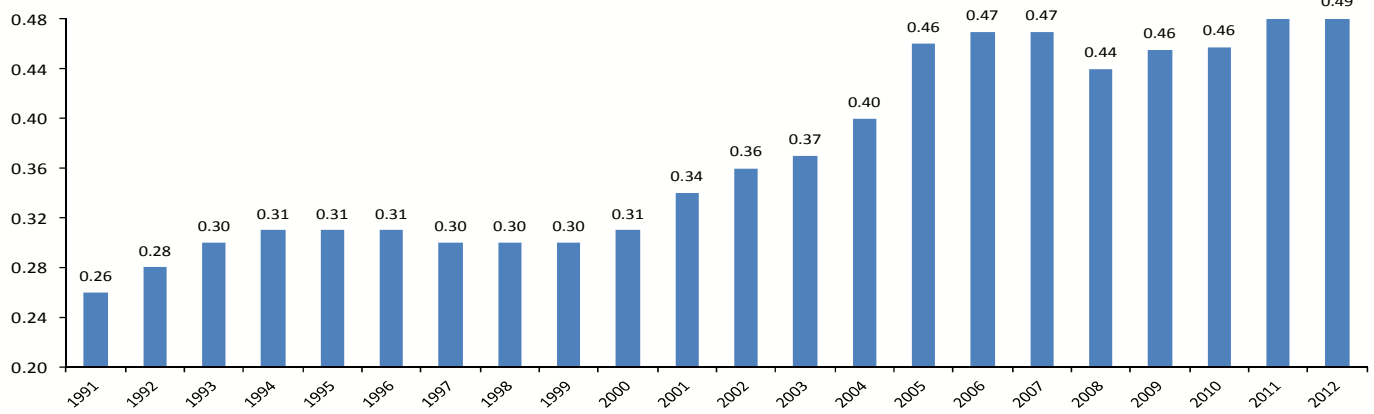
sector began at \$0.19 per hour in 1986, increased to \$0.41 per hour in 1994, declined in most years until reaching \$0.33 per hour in 2000 and 2001, then increased to \$0.48 in 2005, 2006, and 2007, before declining for five years and reaching \$0.42 per hour in 2012.

State and Local Government Employees. The employers' costs of workers' compensation in dollars per hour worked for workers in the state and local government sector from 1991 to 2012 are shown in Figure E and Panel B of Tables 1 to 3. The employers' costs of workers' compensation per hour worked in the state and local government sector were \$0.26 in 1991 (the first year with data), increased to \$0.31 in 1994, fluctuated in a narrow band between \$0.30 and \$0.31 per hour from 1994 to 2000, and then increased rapidly for six years until costs were \$0.47 per hour worked in 2006. Between 2007 and 2011, the costs of workers' compensation per hour worked varied between \$0.44

and \$0.49 per hour in the state and local government sector. In 2012, the costs of workers' compensation per hour were \$0.51 hour, which is the highest cost for employers in the state and local government sector since the data series began in 1991.

All Non-Federal Employees. The employers' costs of workers' compensation in dollars per hour worked for all non-federal government employees from 1991 to 2012 are shown in Figure F and Panel C of Tables 1 to 3. Workers' compensation costs per hour worked for all non-federal government employees were \$0.32 in 1991 (the first year with data), increased to \$0.39 in 1994, declined to \$0.33 in 2000, and then increased significantly to \$0.37 in 2002, \$0.41 in 2003, and \$0.46 per hour worked in 2004. Employers' costs for all non-federal employees increased to 2005 to \$0.48 per hour worked in 2005 to 2007, then declined over the next five years before reaching \$0.43 per hour worked in 2012.

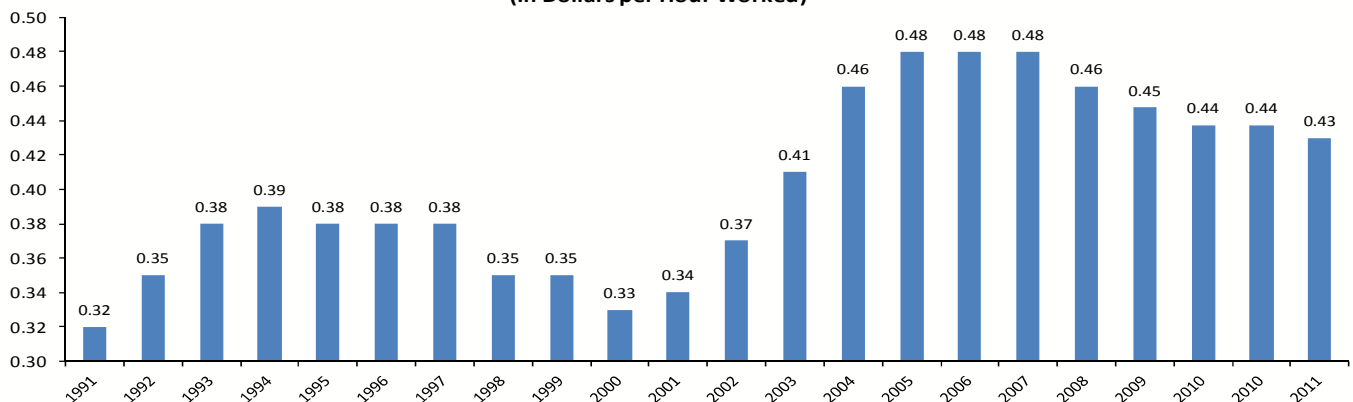
Figure E - Workers' Compensation Costs for State & Local Government Employees, 1991-2012 (In Dollars per Hour Worked)



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

Figure F - Workers' Compensation Costs for All Non-Federal Employees, 1991-2012 (In Dollars per Hour Worked)



Source: Tables 1, 2, and 3.

Note: Data for 2002-2012 are annual averages; data for earlier years are for March.

Employers' Costs in Historical Context

Workers' compensation costs as a percentage of gross earnings (or payroll) is the most common measure of employers' costs used in the workers' compensation literature. The rationale is that over time employer expenditures on remuneration for employees, including wages, health insurance, pensions and workers' compensation, increase. For example, between 1991 (March) and 2012 (annual), private sector employers' expenditures for workers' compensation increased from \$0.33 to \$0.42 per hour worked (Panel A, Tables 1 and 3), which represents a 27 percent increase. In isolation, a 27 percent increase in workers' compensation costs per hour worked may sound like a substantial increase. However, over that same period -- between 1991 (March) and 2012 (annual), the gross earnings (payroll) paid by employers for private sector employees increased from \$12.55 to \$23.10 per hour worked, which is an 84 percent increase. Workers' compensation costs per hour worked have increased much less rapidly than payroll since 1991, which helps put the workers' compensation cost developments in perspective.

Another way to put in perspective the developments over time in employer expenditures on workers' compensation is to compare them to payroll in each year. That workers' compensation expenditures for private sector employers represented 2.63 percent of payroll in 1991 (March) and 1.80 percent of payroll in 2012 (annual) provides information more useful than simply stating that workers' compensation costs per hour increased by 27 percent over those 20 years.

The recent decline in workers' compensation costs for private sector employers means that costs as a percent of payroll in 2012 were lower than in any year between 1987 and 2012. A similar finding pertains to the employers' costs as a percent of payroll for all non-federal employers, which were lower in 2012 than in all the years between 1991 and 2011. The "odd" sector is state and local government, where the employers' costs of workers' compensation as a percent of payroll were higher in 2012 than in any other since the data series began in 1991.

A Comparison of BLS and NASI National Data on Employers' Costs

The BLS information on employers' expenditures on workers' compensation has some advantages over other sources of data on workers' compensation. One significant advantage, compared to the annual data prepared by the National Academy of Social Insurance (NASI), is timeliness: the most recent NASI data pertain to 2010 (Sengupta, Reno, Burton, and Baldwin 2012), while BLS data for 2012 are already available. (The

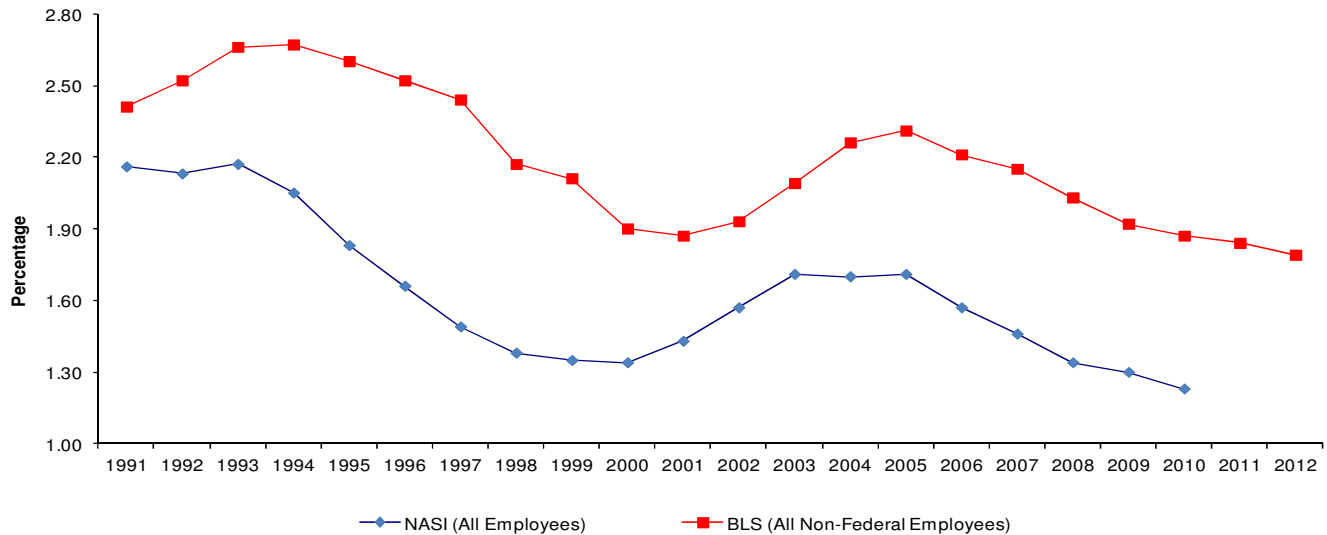
Table 4
Workers' Compensation Costs: Comparison of NASI and BLS Estimates

Year	Employer Costs per \$100 of Wages (NASI)	Costs for All Non-Federal Employees per \$100 of Payroll (BLS)
1980	\$1.76	N/A
1981	1.67	N/A
1982	1.58	N/A
1983	1.50	N/A
1984	1.49	N/A
1985	1.64	N/A
1986	1.79	N/A
1987	1.86	N/A
1988	1.94	N/A
1989	2.04	N/A
1990	2.18	N/A
1991	2.16	\$2.41
1992	2.13	2.52
1993	2.17	2.66
1994	2.05	2.67
1995	1.83	2.60
1996	1.66	2.52
1997	1.49	2.44
1998	1.38	2.17
1999	1.35	2.11
2000	1.34	1.90
2001	1.43	1.87
2002	1.57	1.93
2003	1.71	2.09
2004	1.70	2.26
2005	1.71	2.31
2006	1.56	2.21
2007	1.45	2.15
2008	1.33	2.03
2009	1.29	1.92
2010	1.23	1.87
2011		1.84
2012		1.79

Source: National Academy of Social Insurance (NASI) data: Sengupta, Reno, Burton, and Baldwin (2012), Table 13.
Bureau of Labor Statistics (BLS) Data: Tables 1-3.

BLS and NASI data since 1981 are shown in Table 4 and Figure G). The BLS data on employers' costs are also disaggregated by census region and division, major industry group, occupational group, establishment employment size, and bargaining status -- useful distinctions that are not available in the NASI data, which only includes data on employers' costs at the national level.¹

**Figure G - Workers' Compensation Costs as a Percentage of Payroll,
NASI and BLS Data, 1991-2012**



Source: Table 4.

The BLS data also have their limitations when compared to the NASI data. The foremost limitation of the BLS data is that they only measure costs to employers, not benefits paid to workers. The NASI data, in contrast, provide national and state-specific information on benefit payments that differentiate among the types of insurance arrangements (private carriers, state funds, and self-insurers) and that distinguish between medical and cash benefit payments. The NASI national data on benefits and costs also include the federal sector, which are missing from the BLS data on costs.

The NASI data and BLS data are, to a considerable degree, complementary and, as such, both sources of information are valuable. One problem, however, is that the two data series are not entirely consistent with one another. For example, the NASI data for 2010 (the latest year with data currently available from that source) indicate that the employers' costs of workers' compensation were 1.23 percent of covered payroll for employers in all sectors (including the federal government); the BLS data for all non-federal employees in 2010 estimates that workers' compensation costs for that group were 1.87 percent of payroll.² In addition, the NASI data show 1990 as the peak year (with employers' costs at 2.18 of payroll), while the BLS data (as shown in Figure C and Tables 1 and 2) for all non-federal employees show continuing increases in workers' compensation costs as a percent of payroll through 1994, with a decrease in costs only beginning in 1995. The NASI data also reached a trough in 2000 (at 1.34 percent of payroll) followed by a trough in the BLS data in 2001 (at 1.87 percent of payroll). However, the latest peak in the NASI data was in 2005 (at 1.71 percent of payroll),

which corresponds to the peak year for the BLS data (at 2.31 percent of payroll).

Even though the turning points in the BLS data have sometimes lagged behind the turning points in the NASI data, both sets of data indicate that the employers' costs of workers' compensation measured as a percent of payroll substantially declined during the latter half of the 1990s, increased until 2005, and then began a significant and substantial decline.

Part II: Regional, Industrial, and Other Variations in Workers' Compensation Costs in 2012

The employers' costs of workers' compensation vary among industries and occupations, according to the 2012 data published by the Bureau of Labor Statistics. The BLS data also indicate that workers' compensation costs differ by establishment size, by union-nonunion status, and by geographical location within the United States.

Cost Differences by Region

Workers' compensation costs as a percentage of wages and salaries are shown for the four census regions and the United States in Figure H and Table 5. (The states that comprise the four census regions are shown in the Notes to Table 5.) Employers' workers' compensation costs (measured as a percentage of gross earnings) are above the national average in one region, below the national average in two regions, and

equal to the national average in one region.³ The costs are highest in the West and lowest in the South.

The derivation of the national and regional figures shown in Figure H helps explain these findings. The BLS data used to construct Figure H are shown in Table 5. (Appendix A provides further information on the terms used in Table 5.) *Total remuneration* per hour worked averaged \$28.86 for employers in private industry throughout the United States in 2012 (row 1). The \$28.86 of total remuneration includes *gross earnings* that averaged \$23.10 per hour (row 2) and *benefits other than pay* that averaged \$5.75 per hour (row 6).

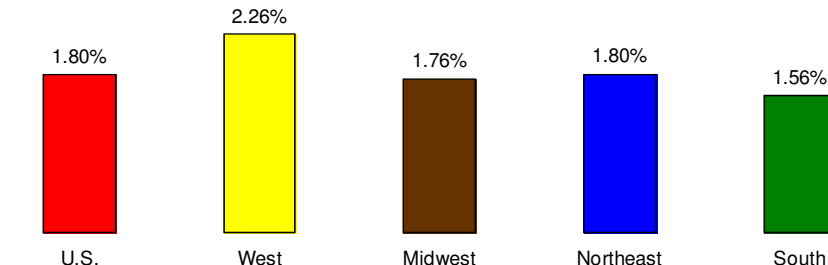
The gross earnings figure includes wages and salaries as well as paid leave and supplemental pay. The terms *gross earnings* and *payroll* are used interchangeably in this article.

Benefits

other than pay include employer contributions for insurance, retirement and savings, legally required benefits, and other benefits. *Workers' compensation*, which averaged \$0.42 per hour worked (row 9A), is one of the *legally required benefits* that are included in the BLS's total figure of \$2.37 per hour for that category (row 9).

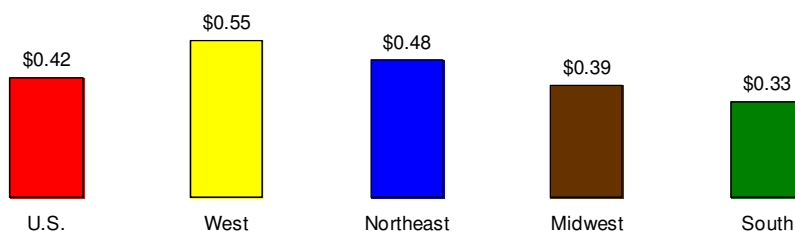
I used the BLS data in rows (1), (2), and (9A) of Table 5 to compute the figures listed in

Figure H - Workers' Compensation Costs as a Percentage of Gross Earnings by Region - 2012



Source: Table 5, Row 12.

Figure I - Workers' Compensation Costs Measured as Employer Expenditures per Hour Worked by Region - 2012



Source: Table 5, Row 9A.

Table 5
Workers' Compensation Costs by Census Region in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

	U.S.	Northeast	South	Midwest	West
(1) Total Remuneration	28.86	33.06	26.25	27.98	30.12
(2) Gross Earnings	23.10	26.33	21.32	22.07	24.12
(3) Wages and Salaries	20.30	22.84	18.79	19.45	21.31
(4) Paid Leave	1.98	2.47	1.74	1.86	2.05
(5) Supplemental Pay	0.82	1.02	0.79	0.77	0.76
(6) Benefits Other Than Pay	5.75	6.73	6.43	5.91	7.50
(7) Insurance	2.35	2.81	3.49	2.55	2.32
(8) Retirement Benefits	1.03	1.22	0.84	1.08	1.10
(9) Legally Required Benefits	2.37	2.71	2.10	2.29	4.08
(9A) Workers' Compensation	(0.42)	(0.48)	(0.33)	(0.39)	(0.55)
(10) Other Benefits					
(11) Workers' Compensation As Percentage of Remuneration	1.44%	1.44%	1.27%	1.39%	1.81%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	1.80%	1.56%	1.76%	2.26%

Notes: See Notes for Tables 1-3 and 5-10.

In addition, for Table 5:

The **Northeast** Census Region is comprised of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

The **South** Census Region is comprised of Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

The **Midwest** Census Region is comprised of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

The **West** Census Region is comprised of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Source: U.S. Department of Labor, 2013b, Table 12

rows (11) and (12) of that table. For the private sector in the United States in 2012, workers' compensation expenditures (\$0.42) were 1.44 percent of total remuneration (\$28.86) and 1.80 percent of gross earnings (or payroll) (\$23.10).

The same procedure used to calculate workers' compensation as a percentage of gross earnings (row 12 of Table 5) for the United States -- namely, to divide the workers' compensation expenditures per hour (row 9A) by gross earnings per hour (row 2) -- was used to calculate the regional results for workers' compensation as a percentage of gross earnings shown in Figure H and in row (12) of Table 5. Thus, for the Northeast, workers' compensation expenditures of \$0.48 per hour were divided by gross earnings of \$26.33 per hour to produce the figure of 1.80 percent -- which is workers'

compensation costs as a percentage of gross earnings in the Northeast in 2012 and which the same as the national average of 1.80 percent for workers' compensation costs as a percent of payroll.

An alternative way to measure regional differences in workers' compensation costs is shown in Figure I. Workers' compensation is measured as costs per hour worked, as shown in row (9A) of Table 5. In contrast to the results presented in Figure H -- which indicated that the Northeast had workers' compensation costs (as a percentage of gross earnings) equal to the national average -- the results presented in row (9A) of Table 5 and in Figure I indicate that the Northeast's workers' compensation costs (\$0.48 per hour) were above the national average (\$0.42).

Table 6
Workers' Compensation Costs by Census Region and Division in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

Panel A: Northeast and South Regions

	U.S.	Northeast	New England	Middle Atlantic	South	South Atlantic	E South Central	W South Central
(1) Total Remuneration	28.86	33.06	33.90	32.76	26.25	26.48	24.46	26.59
(2) Gross Earnings	23.10	26.33	27.10	26.06	21.32	21.57	19.55	21.63
(3) Wages and Salaries	20.30	22.84	23.70	22.54	18.79	19.11	17.24	18.90
(4) Paid Leave	1.98	2.47	2.49	2.47	1.74	1.78	1.57	1.72
(5) Supplemental Pay	0.82	1.02	0.91	1.05	0.79	0.68	0.74	1.01
(6) Benefits Other Than Pay	5.75	6.73	6.81	7.46	6.43	4.92	4.90	4.96
(7) Insurance	2.35	2.81	2.82	2.81	3.49	1.97	2.03	1.99
(8) Retirement Benefits	1.03	1.22	1.26	1.95	0.84	0.82	0.86	0.89
(9) Legally Required Benefits	2.37	2.71	2.73	2.70	2.10	2.13	2.02	2.08
(9A) Workers' Compensation	(0.42)	(0.48)	(0.40)	(0.48)	(0.33)	(0.33)	(0.37)	(0.31)
(10) Other Benefits		0.00			0.00			
(11) Workers' Compensation As Percentage of Remuneration	1.44%	1.44%	1.17%	1.46%	1.27%	1.26%	1.50%	1.18%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	1.80%	1.46%	1.83%	1.56%	1.54%	1.88%	1.44%

Panel B: Midwest and West Regions

	U.S.	Midwest	E North Central	W North Central	West	Mountain	Pacific
(1) Total Remuneration	28.86	27.98	27.98	27.98	30.12	27.82	31.16
(2) Gross Earnings	23.10	22.07	21.94	22.34	24.12	22.62	24.79
(3) Wages and Salaries	20.30	19.45	19.26	19.87	21.31	19.97	21.91
(4) Paid Leave	1.98	1.86	1.85	1.87	2.05	1.90	2.12
(5) Supplemental Pay	0.82	0.77	0.84	0.60	0.76	0.75	0.77
(6) Benefits Other Than Pay	5.75	5.91	6.04	5.63	7.50	5.20	6.37
(7) Insurance	2.35	2.55	2.63	2.36	2.32	1.96	2.49
(8) Retirement Benefits	1.03	1.08	1.10	1.04	1.10	1.02	1.13
(9) Legally Required Benefits	2.37	2.29	2.32	2.23	4.08	2.23	2.75
(9A) Workers' Compensation	(0.42)	(0.39)	(0.40)	(0.36)	(0.55)	(0.39)	(0.62)
(10) Other Benefits							
(11) Workers' Compensation As Percentage of Remuneration	1.44%	1.39%	1.43%	1.28%	1.81%	1.38%	1.98%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	1.76%	1.82%	1.60%	2.26%	1.70%	2.49%

Notes: See Notes for Tables 1-3 and 5-10.

In addition, for Table 6:

The **New England** Census Division is comprised of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

The **Middle Atlantic** Census Division is comprised of New Jersey, New York, and Pennsylvania.

The **South Atlantic** Census Division is comprised of Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia.

The **East South Central** Census Division is comprised of Alabama, Kentucky, Mississippi, and Tennessee.

The **West South Central** Census Division is comprised of Arkansas, Louisiana, Oklahoma, and Texas.

The **East North Central** Census Division is comprised of Illinois, Indiana, Michigan, Ohio, and Wisconsin.

The **West North Central** Census Division is comprised of Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

The **Mountain** Census Division is comprised of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

The **Pacific** Census Division is comprised of Alaska, California, Hawaii, Oregon, and Washington.

Source: U.S. Department of Labor, 2013b, Table 12

Appendix B examines how the regions can switch their relative costs compared to the United States, depending on which measure of workers' compensation costs is used. That inter-regional differences in workers' compensation can vary depending on which measure of workers' compensation costs is used leads to an obvious question: Which is the "proper" measure that should be used to compare regions in terms of their workers' compensation costs: workers' compensation costs as a percentage of gross earnings (as shown in Figure H) or workers' compensation costs per hour worked (as shown in Figure I)?

In my view, no measure of workers' compensation costs is invariably preferable for comparisons among regions or states. Rather, the choice of measurement depends on the purpose of the comparison. For example, an employer seeking a state or region with the least expensive operating environment may decide that workers' compensation costs per hour is the best measure of costs. In contrast, a policymaker concerned about adequacy of benefits may decide that workers' compensation costs as a percentage of payroll is the best measure.⁴

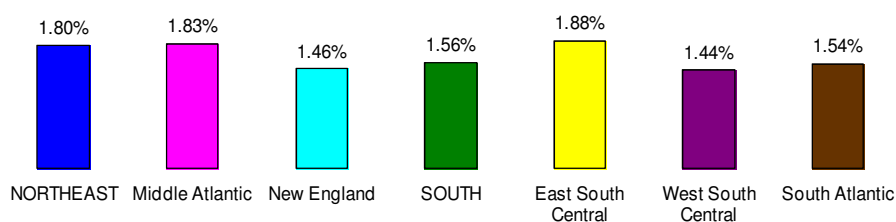
In the remainder of this article, I confine the discussion to workers' compensation costs as a percentage of gross earnings (or payroll). This format reflects the most common approach in workers' compensation studies. The reader who wishes to make comparisons in terms of workers' compensation costs per hour will be able to do so, however, because hourly cost data are also presented in all of the tables in this article.

Cost Differences by Census Division

The BLS data on the employers' costs of workers' compensation are available for the nine census divisions shown in Table 6 and in Figures J and K. The four census regions analyzed in the previous sections are composed of the nine census divisions examined in this section. (The states that comprise the nine census divisions are shown in the Notes to Table 6.)

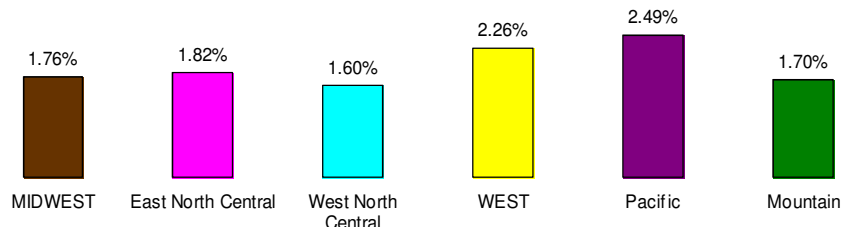
Panel A of Table 6 and Figure J provide data on the employers' costs of workers' compensation in the North-

Figure J - Workers' Compensation Costs as a Percentage of Gross Earnings by the Northeast and South Census Regions and by Divisions in those Regions - 2012



Source: Table 6, Panel A, Row 12.

Figure K - Workers' Compensation Costs as a Percentage of Gross Earnings by the Midwest and West Census Regions and by the Divisions in those Regions - 2012



Source: Table 6, Panel B, Row 12.

east region and its two components (the New England and Middle Atlantic divisions) and the South region and its three components (the South Atlantic, East South Central, and West South Central divisions). One interesting result is that the census region with the highest employers' costs as a percent of payroll (East South Central) is part of the South Region and the census region with the lowest employers' costs (West South Central) is also part of the South region.

Panel B of Table 6 and Figure K provide data on the employers' costs of workers' compensation in the Midwest region and its two components (the East North Central and West North Central divisions) and the West region and its two components (the Mountain and Pacific divisions). One result shown in Figure K is that workers' compensation costs as a percent of payroll are lower than the national average in two of the four census divisions in the Midwest and West regions. Costs are higher than the national average in two of the census divisions in Midwest and West regions.

Among the nine census divisions included in Figures J and K, a striking result is that the Pacific census division is distinguished by having both the highest workers' compensation costs measured as dollars per hour worked (\$0.62) and the highest workers' compensation costs as a percent of payroll (2.49 percent) among the nine census divisions (Table 5, Panels A

and B, lines (9A) and (12)). The presence of California in the Pacific census division helps explain these results.

Cost Differences by Industry

The BLS data for 2012 also reveal that employers' costs of workers' compensation as a percentage of gross earnings vary among industries in the private sector (Figures L and M and row 12 of Tables 7A and 7B).

Workers' compensation data on industries throughout the United States can be compared at two levels of disaggregation. First, a distinction can be made between "goods-producing" industries (mining, construction, and manufacturing) and "service-providing" industries (including transportation, communication, and public utilities; wholesale and retail trade; finance, insurance, and real estate; services; and other service industries as shown in the notes to Tables 7A and 7B). In 2012, national workers' compensation costs were, on

average, 2.78 percent of gross earnings (payroll) for all goods-producing industries and 1.57 percent of gross earnings (payroll) for all service-providing industries (see row 12 of Tables 7A and 7B and Figures L and M).

Workers' compensation data on industries can be further disaggregated to show employers' costs for specific goods-producing industries and specific service-providing industries. As shown in Figure L and Table 7A, the employers' costs of workers' compensation for all goods-producing industries was 2.78 percent of payroll, and for specific goods-producing industries ranged from 4.57 percent of payroll for the construction industry to 2.06 percent of payroll for the manufacturing industry.

In a similar manner, as shown in Figure M and Table 7B, the employers' costs of workers' compensation for all service-providing industries was 1.57 percent of payroll, and for specific service-providing industries ranged from 2.49 percent of payroll for trade, transportation, and utility industries and 2.39 percent of payroll for leisure and hospitality to 0.63 percent of payroll for financial industries. There is obviously a wide disparity of workers' compensations costs for employers within the service sector. Of particular interest, two service-producing industries (trade, transportation, and utilities, with workers' compensation costs at 2.49 percent of payroll, and, leisure, with costs at 2.39 percent of payroll) have higher workers' compensation than the average for all employers (namely 1.80 percent of payroll).

Cost Differences by Occupation

The employers' costs of workers' compensation as a percentage of payroll also vary among major occupational groups in the private sector, as shown in Figure N and in Table 8. The national average cost of employers' workers' compensation was 1.80 percent of payroll in 2012. (See Table 8, row 12, "All Workers" column.) Three occupational groups had, on average, workers' compensation costs that exceeded the national average: natural resources, construction, and maintenance workers, for whom workers'

Table 7A
Workers' Compensation Costs by Major Goods-Producing Industry Groups in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

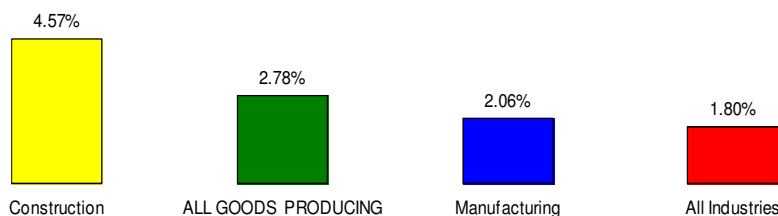
	All Goods- Producing	Construction	Manufacturing
(1) Total Remuneration	33.95	33.45	33.23
(2) Gross Earnings	26.23	25.65	26.24
(3) Wages and Salaries	22.67	23.28	21.85
(4) Paid Leave	2.21	1.41	2.97
(5) Supplemental Pay	1.35	0.96	1.42
(6) Benefits Other Than Pay	7.73	7.81	7.49
(7) Insurance	3.21	2.54	3.46
(8) Retirement Benefits	1.53	1.78	1.29
(9) Legally Required Benefits	2.99	3.49	2.74
(9A) Workers' Compensation	(0.73)	(1.17)	(0.54)
(10) Other Benefits			
(11) Workers' Compensation As Percentage of Remuneration	2.15%	3.51%	1.63%
(12) Workers' Compensation As Percentage of Gross Earnings	2.78%	4.57%	2.06%

Notes: See Notes for Tables 1-3 and 5-10.

In addition, for Table 7A: **All Goods-Producing** includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

Source: U.S. Department of Labor, 2013b, Table 11

Figure L - Workers' Compensation Costs as a Percentage of Gross Earnings by Industry for Goods Producing Industries - 2012



Source: Table 7A, Row 12.

Table 7B
Workers' Compensation Costs by Major Service-Providing Industry Groups in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

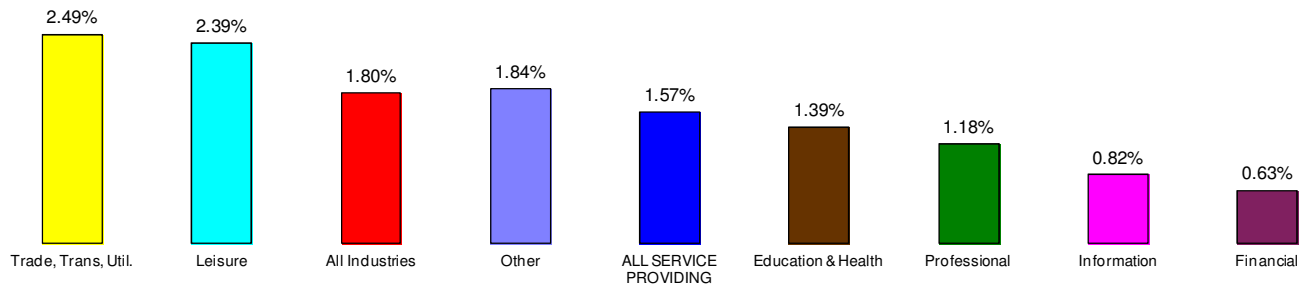
	All Service Providing	Trade Transportation & Utilities	Information	Financial Activities	Professional & Business Services	Education & Health Services	Leisure & Hospitality	Other Services
(1) Total Remuneration	27.81	24.26	45.22	40.11	34.84	38.23	12.25	25.26
(2) Gross Earnings	22.46	19.15	35.22	32.41	28.66	24.85	10.23	20.37
(3) Wages and Salaries	19.82	17.14	29.84	27.01	25.13	21.93	9.72	18.48
(4) Paid Leave	1.93	1.44	4.01	3.33	2.59	2.35	0.38	1.54
(5) Supplemental Pay	0.72	0.58	1.38	2.08	0.94	0.57	0.13	0.36
(6) Benefits Other Than Pay	5.35	5.10	10.00	7.70	6.18	5.88	2.02	4.89
(7) Insurance	2.18	2.13	4.29	3.39	2.40	2.54	0.56	1.77
(8) Retirement Benefits	0.93	0.84	2.61	1.63	1.10	0.97	0.13	0.92
(9) Legally Required Benefits	2.25	2.14	3.10	2.69	2.69	2.37	1.33	2.20
(9A) Workers' Compensation	(0.35)	(0.48)	(0.29)	(0.21)	(0.34)	(0.35)	(0.25)	(0.38)
(10) Other Benefits		0.00	0.00	0.00	0.00	0.00	0.00	0.00
(11) Workers' Compensation As Percentage of Remuneration	1.27%	1.97%	0.64%	0.51%	0.97%	0.98%	2.00%	1.49%
(12) Workers' Compensation As Percentage of Gross Earnings	1.57%	2.49%	0.82%	0.63%	1.18%	1.39%	2.39%	1.84%

Notes: See Notes for Tables 1-3 and 5-10.

In addition, for Table 7B: **All Service-Providing** includes utilities; w wholesa trade; transportation and w arehousing; information; finance and insurance; real estate and rental and leasing; professional and technical services; management of companies and enterprises; administrative and waste services; educational services; health care and social assistance; arts, entertainment and recreation; accommodation and food services; and other services, except public administration.

Source: U.S. Department of Labor, 2013b, Table 11

Figure M - Workers' Compensation Costs as a Percentage of Gross Earnings by Industry for Service-Providing Industries - 2012



Source: Table 7B, Row 12.

Table 8
Workers' Compensation Costs by Major Occupational Groups in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

	All Workers	Management Professional & Related Occupations	Sales & Office Occupations	Service Occupations	Nat. Resources Construction & Maintenance Occupations	Production Transportation & Material Moving Occupations
(1) Total Remuneration	28.86	46.87	22.67	(1.02)	31.77	24.32
(2) Gross Earnings	23.10	41.93	18.07	11.46	24.13	18.53
(3) Wages and Salaries	20.30	35.95	16.18	10.61	21.52	16.23
(4) Paid Leave	1.98	4.36	1.40	0.59	1.66	1.42
(5) Supplemental Pay	0.82	1.62	0.49	0.27	0.95	0.88
(6) Benefits Other Than Pay	5.75	9.22	4.60	2.62	7.64	5.79
(7) Insurance	2.35	3.61	2.11	0.93	2.76	2.58
(8) Retirement Benefits	1.03	2.09	0.65	0.22	1.72	0.83
(9) Legally Required Benefits	2.37	3.52	1.84	1.46	3.17	2.38
(9A) Workers' Compensation	(0.42)	(0.33)	(0.23)	(0.31)	(1.03)	(0.70)
(10) Other Benefits		0.00	0.00 *		0.00	0.00
(11) Workers' Compensation As Percentage of Remuneration	1.44%	0.65%	1.03%	2.20%	3.23%	2.86%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	0.79%	1.29%	2.71%	4.26%	3.75%

Notes: See Notes for Tables 1-3 and 5-10.

Source: 2013b, Table 9

compensation costs averaged 4.26 percent of payroll; production, transportation, and material moving workers, for whom workers' compensation costs averaged 3.75 percent of payroll; and service workers, for whom employers' workers' compensation costs averaged 2.71 percent of payroll. In sharp contrast, employers' workers' compensation costs for sales and office workers were, on average, only 1.29 percent of payroll, and workers in management positions had workers' compensation costs that were only 0.79 percent of payroll in 2011. (See Table 8, row 12 and Figure N). These substantial cost differences presumably reflect the differences in the number and severity of workplace injuries and diseases experienced by workers in these occupations.

Cost Differences by Establishment Size

An establishment is defined as an economic unit that: 1) produces goods or services at a single location (such as a factory or store) and 2) is engaged in one type of economic activity.⁵ Many firms (or companies) thus consist of more than one establishment.

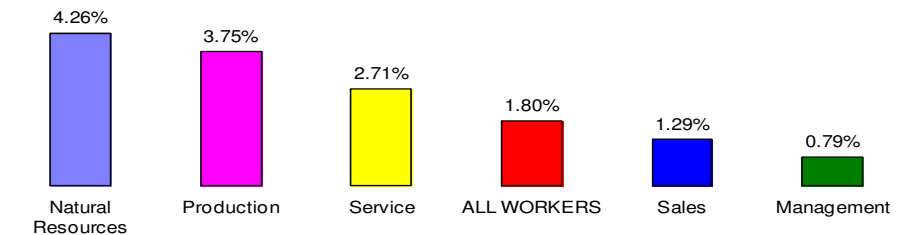
The BLS data on the employers' costs of workers' compensation allow comparisons among establishments of various sizes (as measured by number of employees). As shown in Figure O and in Table 9, there is a general tendency for workers' compensation costs to decline with increasing establishment size. The national average for employers' workers' compensation costs across all establishments was 1.80 percent of payroll. Those establishments with fewer than 50 employees had workers' compensation costs that, on average, were 2.13 percent of gross earnings in 2012; workers' compensation costs in establishments with 50 to 99 employees were 2.08 percent of payroll; and workers' compensation costs in establishments with 100 to 499 workers were 1.81 percent of payroll -- all above

the national (all-establishments) average. In contrast, establishments with 500 or more workers had costs that averaged 1.24 percent of payroll -- well below the national (all-establishments) average.

Cost Differences by Bargaining Status

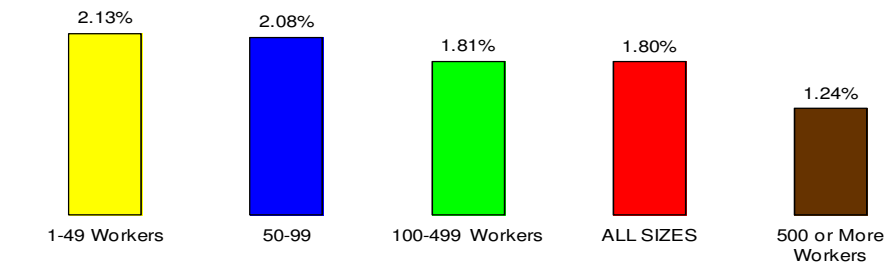
The employers' costs of workers' compensation as a percentage of gross earnings also vary between unionized and nonunionized workers, as shown in Figure P and in Table 11. The employers' costs of workers'

Figure N - Workers' Compensation Costs as a Percentage of Gross Earnings by Major Occupational Group - 2012



Source: Table 8, Row 12.

Figure O - Workers' Compensation Costs as a Percentage of Gross Earnings by Establishment Employment Size - 2012



Source: Table 9, Row 12.

Table 9
Workers' Compensation Costs by Establishment Employment Size in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

	All Workers	1-49 Workers	50-99 Workers	100-499 Workers	500 or More Workers
(1) Total Remuneration	28.86	22.94	26.66	29.25	42.58
(2) Gross Earnings	23.10	19.10	21.47	23.13	33.36
(3) Wages and Salaries	20.30	17.14	19.06	20.34	27.93
(4) Paid Leave	1.98	1.50	1.74	2.04	3.63
(5) Supplemental Pay	0.82	0.47	0.67	0.75	1.80
(6) Benefits Other Than Pay	5.75	4.09	5.19	6.12	9.21
(7) Insurance	2.35	1.48	2.04	2.65	4.04
(8) Retirement Benefits	1.03	0.53	0.86	1.10	2.13
(9) Legally Required Benefits	2.37	2.09	2.29	2.37	3.04
(9A) Workers' Compensation	(0.42)	(0.41)	(0.45)	(0.42)	(0.42)
(10) Other Benefits					
(11) Workers' Compensation As Percentage of Remuneration	1.44%	1.78%	1.68%	1.43%	0.97%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	2.13%	2.08%	1.81%	1.24%

Notes: See Notes for Tables 1-3 and 5-10.

Source: 2013b, Table 14

compensation for unionized workers in 2012 was 3.23 percent of payroll and the comparable figure for nonunionized workers was 1.64 percent. The national average (unionized and nonunionized workers) was 1.80 percent. (See Table 10, row 12.)

One possible explanation for these cost differences between nonunionized and unionized workers is that unions have been more successful in organizing workers in relatively hazardous industries, such as mining, construction, and manufacturing, than they have been in organizing other industries that have relatively fewer workplace injuries and diseases. Thus, the higher costs are not due to unions, but are instead a reflection of the elevated risks of workplace injuries and diseases found in the industries that unions have organized. Another possible explanation is that unions provide information and assistance to members who are injured on the job, thus increasing the likelihood that unionized members will receive workers' compensation benefits, which in turn increases the employers' costs of workers' compensation for those workers.

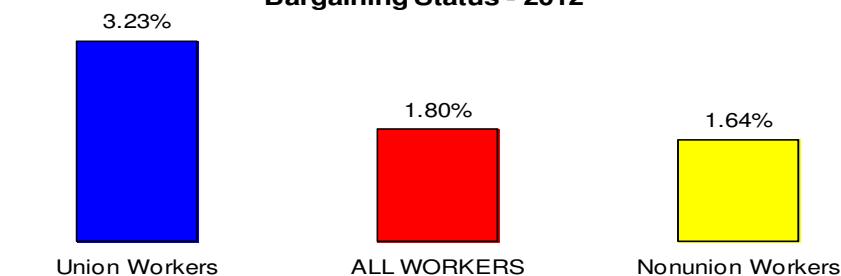
Table 10
Workers' Compensation Costs by Bargaining Status in 2012
for Employers in Private Industry
(In Dollars Per Hours Worked)

	All Workers	Union	Nonunion
(1) Total Remuneration	28.86	39.07	27.82
(2) Gross Earnings	23.10	27.50	22.66
(3) Wages and Salaries	20.30	23.47	19.98
(4) Paid Leave	1.98	2.77	1.90
(5) Supplemental Pay	0.82	1.26	0.78
(6) Benefits Other Than Pay	5.75	11.57	5.16
(7) Insurance	2.35	5.36	2.05
(8) Retirement Benefits	1.03	2.93	0.84
(9) Legally Required Benefits	2.37	3.28	2.28
(9A) Workers' Compensation	(0.42)	(0.89)	(0.37)
(10) Other Benefits		0.00	0.00
(11) Workers' Compensation As Percentage of Remuneration	1.44%	2.27%	1.34%
(12) Workers' Compensation As Percentage of Gross Earnings	1.80%	3.23%	1.64%

Notes: See Notes for Tables 1-3 and 5-10.

Source: 2013b, Table 10

Figure P - Workers' Compensation Costs
as a Percentage of Gross Earnings by
Bargaining Status - 2012



Source: Table 10, Row 12.

PART III: State Data on the Employers' Costs of Workers' Compensation

The previous version of the analysis that provided data on the employers' costs of workers' compensation (Burton 2012) relied on the BLS data used in the previous two sections of this article, which includes national data as well as data disaggregated by census regions and divisions. The BLS data on employer costs are not available for individual states. This version of the analysis add state-level data on the employers' costs of workers' compensation based on a new data series published by the National Academy of Social Insurance (Sengupta et al. 2012) and on a data series that been published since 1986 by the Oregon Department of Consumer and Business Services (Dotter and Manley 2010).

The National Academy of Social Insurance (NASI Employer Costs)

The National Academy of Social Insurance (NASI) has published an annual compilation of workers' compensation benefits, coverage, and costs since 1997. The first 14 NASI reports contained national and state data on benefits and coverage, but the only employers' costs data were at the national level. Starting with the latest edition (Sengupta et al. 2012), the NASI report also includes a table with five years of state-level data on workers' compensation employer costs per \$100 of covered payroll. The NASI data for 2010 (the latest year with data) are included in column (1) of Table 11. The national average (mean) for employers' costs for 51 jurisdictions (the 50 states plus the District of Columbia) was \$1.19 per \$100 of payroll. The median of the em-

Table 11
Two Measures of the Employers' Costs of Workers' Compensation in 2010

State	Employer Costs in 2010 (NASI)		Premium Rates in 2010 (Oregon)		Difference in Median
	Costs Per \$100 of Payroll (1)	Percent of Median (2)	Premium per \$100 of Payroll (3)	Percent of Median (4)	
Alabama	\$1.21	100%	\$2.45	120%	20%
Alaska	\$2.37	196%	\$3.10	152%	-44%
Arizona	\$0.82	68%	\$1.71	84%	16%
Arkansas	\$0.82	68%	\$1.18	58%	-10%
California	\$1.58	131%	\$2.68	131%	0%
Colorado	\$0.95	79%	\$1.39	68%	-11%
Connecticut	\$0.98	81%	\$2.55	125%	44%
Delaware	\$1.16	96%	\$1.85	91%	-5%
District of Columbia	\$0.50	41%	\$1.32	65%	24%
Florida	\$1.08	89%	\$1.70	83%	-6%
Georgia	\$1.06	88%	\$2.08	102%	14%
Hawaii	\$1.41	117%	\$1.70	83%	-34%
Idaho	\$1.52	126%	\$1.98	97%	-29%
Illinois	\$1.32	109%	\$3.05	149%	40%
Indiana	\$0.77	64%	\$1.16	57%	-7%
Iowa	\$1.42	117%	\$1.82	89%	-28%
Kansas	\$1.22	101%	\$1.55	76%	-25%
Kentucky	\$1.21	100%	\$2.29	112%	12%
Louisiana	\$1.54	127%	\$2.06	101%	-26%
Maine	\$1.49	123%	\$2.52	123%	0%
Maryland	\$1.04	86%	\$1.63	80%	-6%
Massachusetts	\$0.73	60%	\$1.54	75%	15%
Michigan	\$0.97	80%	\$2.12	104%	24%
Minnesota	\$1.00	83%	\$2.27	111%	28%
Mississippi	\$1.31	108%	\$1.96	96%	-12%
Missouri	\$1.08	89%	\$1.90	93%	4%
Montana	\$2.73	226%	\$3.33	163%	-63%
Nebraska	\$1.31	108%	\$1.97	97%	-11%
Nevada	\$1.07	88%	\$2.13	104%	16%
New Hampshire	\$1.16	96%	\$2.45	120%	24%
New Jersey	\$1.20	99%	\$2.53	124%	25%
New Mexico	\$1.35	112%	\$1.91	94%	-18%
New York	\$1.17	97%	\$2.34	115%	18%
North Carolina	\$1.11	92%	\$2.12	104%	12%
North Dakota	\$1.55	128%	\$1.02	50%	-78%
Ohio	\$1.33	110%	\$2.24	110%	0%
Oklahoma	\$2.09	173%	\$2.87	141%	-32%
Oregon	\$1.11	92%	\$1.69	83%	-9%
Pennsylvania	\$1.47	121%	\$2.32	114%	-7%
Rhode Island	\$1.01	83%	\$2.02	99%	16%
South Carolina	\$1.77	146%	\$2.38	117%	-29%
South Dakota	\$1.28	106%	\$2.02	99%	-7%
Tennessee	\$1.06	88%	\$2.19	108%	20%
Texas	\$0.66	55%	\$2.38	117%	62%
Utah	\$0.82	68%	\$1.46	71%	3%
Vermont	\$1.65	136%	\$2.22	109%	-27%
Virginia	\$0.72	60%	\$1.39	68%	8%
Washington	\$1.51	125%	\$2.04	100%	-25%
West Virginia	\$1.83	151%	\$1.84	90%	-61%
Wisconsin	\$1.63	135%	\$2.21	108%	-27%
Wyoming	\$1.61	133%	\$1.79	88%	-45%
Average (median)	\$1.21		\$2.04		
Average (mean)	\$1.19		\$2.05		

Sources: Column (1): Sengupta et al. 2012: Table 12.
Column (2) and (5): calculated by Author.
Column (3) and (4): Dotter and Manly 2010: Table 2.

employers' costs for the 51 jurisdictions was \$1.21 per \$100 of payroll. The employers' costs in each state as a percentage of the national median are shown in column (2) of Table 11.

The 2010 costs for employers who purchased insurance from private insurance carriers or state insurance funds include the premiums written in that year plus any benefits paid that year by employers under deductible provisions in the insurance policies. The costs for self-insured employers include the benefits paid by these employers plus estimates of the administrative costs for their workers' compensation programs (Sengupta et al. 2012: 32). These employers' costs thus include a mixture of benefits paid to workers who were injured in previous years but who are still disabled (including the benefits paid under policies with deductibles and benefits paid by self-insuring employers) and insurance premiums that include reserves for future benefit payments for workers injured in 2010.

Oregon Department of Consumer and Business Services (Oregon Premium Rates)

The Oregon Department of Consumer and Business Services has published data on workers' compensation insurance premium rates on a biennial basis since 1986. The latest compilation (Dotter and Manley 2010; Manley and Dotter 2011) provide premium rates for 51 jurisdictions (states plus the District of Columbia) as of January 1, 2010. The premium per \$100 of payroll in each of the jurisdictions and each state's premium rate as a percent of the national average (median) are shown in columns (3) and (4) of Table 11.

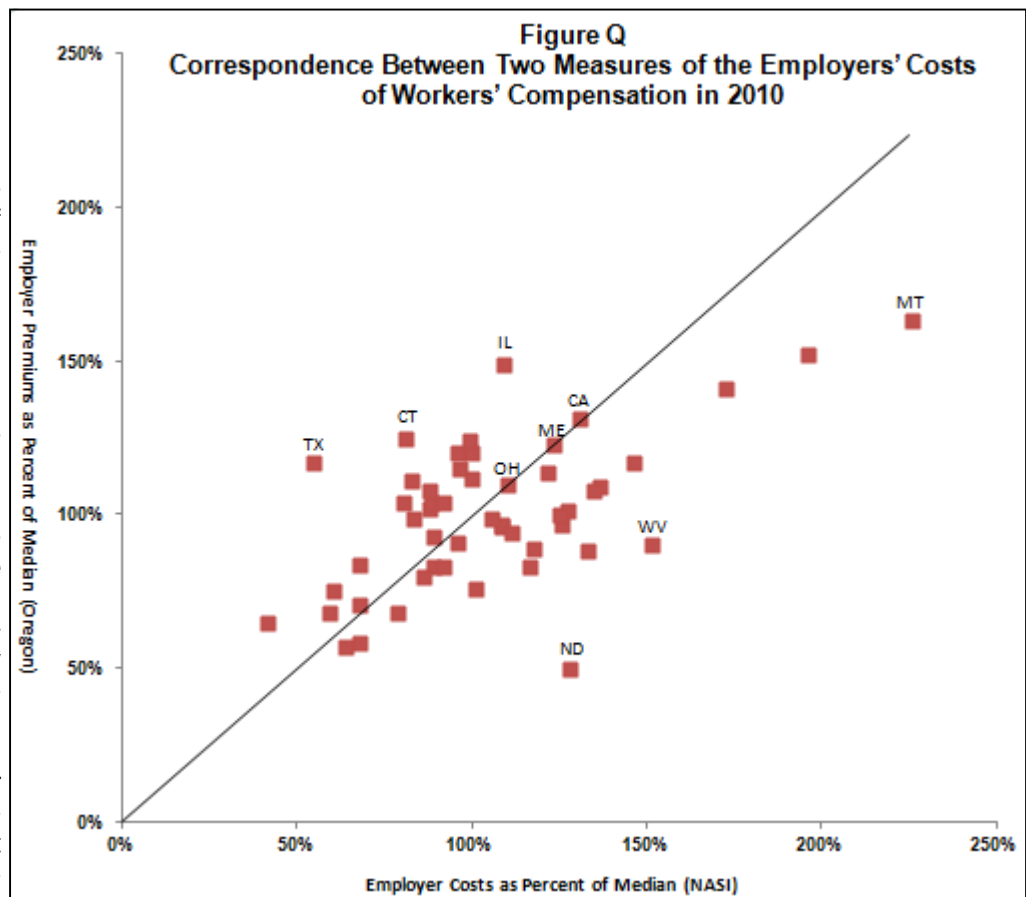
Each state's average premium rate is based on the premiums for 50 insurance classifications that are used nationally. The rates in effect in each state on January 1, 2010 were combined using the 2004-06 Oregon payroll for the 50 classes. Each state's rates are adjusted for factors such as the importance of the residual market and the use of premium ad-

justment programs for contracting classes. States that use pure premiums had their loading factors added in order to make the rates comparable to rates in states that use manual rates, which include the loading for expenses. The premiums are not adjusted to account for experience rating, premium discounts, deviations, schedule rating, and other modification plans, which can significantly affect the actual costs of workers' compensation insurance. The Oregon data do not include the experience of self-insuring employers.

Comparisons of NASI Employer Costs and Oregon Premium Rates

What is the correspondence between the two measures of employers' costs of workers' compensation in 2010: the NASI employer costs per \$100 of payroll and the Oregon premium rates per \$100 of payroll? In order to facilitate the comparison, the NASI employer costs in each state relative to the median cost for 51 states has been calculated and are shown in column (2) of Table 11, while the Oregon premium rates in each state relative to the median premium in the 51 states (as calculated by Oregon) are shown in column (4) of Table 11.

The difference between each state's costs relative to costs using the NASI and Oregon measures of costs is



shown in column (5) of Table 11. For Alabama, the NASI measure of employer costs was 100 percent of the median cost for all states, while the Oregon measure of premium rates was 120 percent of the median for all states: the Oregon median of 120 percent minus the NASI median of 100 percent results in the plus 20 figure for Alabama shown in column (5) of Table 11. In other words, workers' compensation costs for employers in Alabama were 20 percent higher using the Oregon premium rates than using the NASI employer costs.

While Alabama has higher employer workers' compensation costs compared to the national average (median) using the Oregon premium rates rather than using the NASI employer costs, the results in column (5) of Table 11 indicate that many states have higher employer costs using the NASI data than by using the Oregon data. Would a graph help explain the difference between the results using the NASI data and the results using the Oregon data? Let us so hope.

Figure Q shows the correspondence between the two measures of the employers' costs of workers' compensation in 2010. Each state's employer's costs per \$100 of payroll relative to the median state's costs using the NASI data are measured along the horizontal axis. Each state's premium rates per \$100 of payroll relative to the median state's premium rate using the Oregon data is measured along the vertical axis.

If a state's costs of workers' compensation relative to the national average (median) were identical using the NASI data and the Oregon data, the state's observation will be on the 45 degree line that originates at the lower left corner of Figure Q. Eureka, there are such states (which are identified on Figure Q). California costs per \$100 of payroll as measured by NASI are 131 percent of the median state, and California premiums per \$100 of payroll as measured by Oregon are 131 percent of the median state. Likewise, both measures of the employers' costs of workers' compensation are identical for Maine (123 percent of the median state) and for Ohio (110 percent of the median state). But there are 48 jurisdictions where the two measures of the employers' costs diverge. Indeed, as shown in column (5) of Table 11, there are 25 states where the two measures of employers' costs of workers' compensation differ by 20 percent or more.

If a state's costs of workers' compensation relative to the national average (median) are higher when using the NASI data than when using the Oregon data, the state's observation will be below the 45 degree line in Figure Q. Here are three examples (which are identified on Figure Q). In Montana, the employer's costs of workers' compensation are 226 percent of the national average (median) using the NASI data but are 163 percent of the national average using the Oregon data. In West Virginia, the employer's costs or workers' com-

pensation are 151 percent of the national average using the NASI but are only 90 percent of the national average using the Oregon data. In North Dakota, the employers' costs of workers' compensation are 128 percent of the national average using the NASI data but are only 50 percent of the national average using the Oregon data.

If a state's costs of workers' compensation relative to the national average (median) are lower when using the NASI data than when using the Oregon data, the state's observation will be above the 45 degree line in Figure Q. Here are three examples (which are identified on Figure Q). In Illinois, the employer's costs of workers' compensation are 109 percent of the national average (median) using the NASI data but are 149 percent of the national average using the Oregon data. In Connecticut, the employer's costs or workers' compensation are 81 percent of the national average using the NASI data but are 125 percent of the national average using the Oregon data. In Texas, the employers' costs of workers' compensation are 55 percent of the national average using the NASI data but are 117 percent of the national average using the Oregon data.

Caveats on Comparing Employer Costs Across States

The National Academy of Social Insurance publishes state data on average employer costs per \$100 of payroll and average benefits per \$100 of payroll but emphasizes that the data "are not informative for making plant-location decisions, for determining adequacy of benefits, or for formulating legislative reforms" (Sengupta et al. 2012: 35). The NASI concerns about the use of data on employers' costs per \$100 of payroll are largely applicable to the Oregon data on workers' compensation premium per \$100 of payroll.

The first concern expressed by NASI is that "the data on average employers' costs of workers' compensation by state do not mean that state with states with lower costs offer a more competitive environment for employers, because states differ in their mix of industries" (Sengupta et al 2012: 35). The NASI analysis provides an example involving two states and two industries: logging, for which insurance rates are \$40 per \$100 of payroll in both states, and banking for which insurance rates are \$1 per \$100 of payroll in both states. In the NASI example, State A, which has a high proportion of its employees in logging, will have a higher average employer costs than State B, which has a high proportion of its employees in banking. However, a logging firm that moved from State A to State B because of the lower average costs in State B will be disappointed because the logging firm's rates are the same in both states. The NASI analysis concludes: "a meaningful comparison of

employer costs among states requires that insurance rates be compared for employers with the same insurance classification (Sengupta et al. 2012: 35).

One advantage of the Oregon premium rate is that the comparisons involve the same set of insurance classifications in all states. Controlling for industry mix may explain part of the differences for Montana between the NASI employer costs (226 percent of the median state) and the Oregon premiums (163 percent of the median state).

There are other factors that complicate interstate comparisons even when the mix of insurance classifications is the same for both states. Suppose that the bakeries in State C on average have 25 workers and the bakeries in State D on average have 750 workers. The BLS data in Table 9 indicate that larger firms have considerably lower workers' compensation costs than small firms. Assuming that relationship is found in the bakery industry, then the workers' compensation insurance rate for bakeries in State D will be roughly half the insurance rate for bakeries in State C. But if a moderate size firm (big enough to be experience rated) moves from State C to take advantage of the lower average workers' compensation insurance rate for bakeries in State D, the firm is likely to be disappointed because its premiums are going to be largely based on its own record of benefit payments and not on the more favorable experience of the larger bakeries in State D.

A second reason offered by NASI about why data on employers' costs per \$100 of payroll may provide misleading information about the current reality of workers' compensation in the state is that a state which has recently changed its workers' compensation law to increase (or decrease) benefits for injuries that occur after the effective date of the new law will have a substantial portion of the costs based on benefits paid under the previous legislative regime. This may explain the disparity in West Virginia between the NASI measure of employers' costs (151 percent of the median state), which reflect previous statutory provisions, and the Oregon measure of premium rates (90 percent of the median state), which reflect recent reductions in benefits in West Virginia.

A third reason discussed by NASI why comparisons of employers' costs of workers' compensation in different states must be used with caution is that "states with higher workers' compensation costs are, in general, providing more generous benefits to injured workers" (Sengupta et al. 2012: 35). While there are other factors that contribute to interstate differences in employers' costs, such as differences in injury rates and the deregulation of private carriers, several studies (e.g. Krueger and Burton 1990; Thomason, Schmidle, and Burton 2001) demonstrate that the level of statutory benefits is a major determinant of the costs of workers' compensation insurance in a state. In other words, ef-

forts to reduce costs for employers usually require the reductions in benefits for workers.⁶

A final caution offered by the National Academy of Social Insurance (Sengupta et al. 2012: 35) is that states that reduce workers' compensation costs by reducing benefits may find that over time wages increase to compensate workers for the reduced workplace protection. Chelius and Burton (1992) provide the theory explaining why the costs of the workers' compensation program are largely paid for by workers in the form of lower wages, even if the program is financed by employer premiums. In short, the nominal incidence of benefits increases that lead to higher costs may be on the employers, but much of the real incidence is borne by workers in the form of lower wages. Chelius and Burton (1994:26) examined the empirical evidence on the incidence of workers' compensation costs and concluded: "a substantial portion of workers' compensation costs (and ever, according to some estimates, all of the costs) are shifted onto workers." Thus, in the short run, lower benefits and costs can result in higher profits for employers. But over time, there is a trade-off between benefits and wages (Leigh et al. 2000: 178), which means that lower workers' compensation benefits may result in higher wages.

Conclusions

In recent years, the costs of workers' compensation as measured as a percentage of payroll has declined significantly for private sector employers and for all non-federal employers according to BLS data and has significantly declined for all employers according to data published by the National Academy of Social Insurance. However, the employers' costs of workers' compensation measured by the BLS vary substantially by region and census division, by industry group, by occupational, by establishment size, and by bargaining status. Moreover, there are major differences among states in the costs of workers' compensation for employers, as shown in the NASI data and the Oregon data. Extreme caution must be used in examining the costs in workers' compensation in a particular jurisdiction relative to costs elsewhere. And all analyses of employers' costs must consider the economist's mantra: the nominal incidence of the costs of workers' compensation is borne by employers, but a substantial portion of the real incidence of the program is paid for by workers in the form of lower wages.

APPENDIX A

Source of the Information and Methodology

Tables 1 to 10 and Figures A through P are based on data published by the Bureau of Labor Statistics (BLS), which is a part of the U.S. Department of Labor. The most recent BLS data for December 2012 (U.S. Department of Labor 2013a) are based on a national survey of about 46,300 occupations in approximately 9,300 establishments in the private sector and about 9,200 occupations in approximately 1,400 establishments in state and local government. (Sample sizes were different for earlier surveys.) The BLS published annual data based on the survey conducted each March from 1986 to 2001. Beginning with March 2002, the BLS has conducted the survey every quarter, and this article includes the data on workers' compensation costs through December 2012. This appendix discusses the data that averages the four quarters of 2012 shown in Table 3, which are included in U.S. Department of Labor (2013b).

The BLS data on Employer Costs for Employee Compensation (ECEC) measure the average cost per employee hour worked that employers pay for wages and salaries and various benefits, including benefits voluntarily paid as well as legally required benefits, such as workers' compensation.⁷ I calculated workers' compensation as a percent of gross earnings (payroll) for this report, as explained below.

Data are available since 1986 for private sector employers' expenditures per hour on employees' total remuneration, and (as shown in Panel A of Tables 1 to 3) on a number of components of remuneration, including wages and salaries, paid leave, insurance, and legally required benefits (including separate information on workers' compensation).⁸ Comparable data pertaining to state and local government employees (Panel B of Tables 1 to 3) and to all non-federal employees (Panel C of Tables 1 to 3) are available for the period 1991 to 2012.

The only employees not included in this BLS data series are federal government, agriculture, and household workers, who in aggregate account for only about 4 percent of all employees. Of the 96 percent of all employees who are included in the BLS data, private industry employees clearly predominate (83 percent of all employees), whereas state and local government employees account for the remaining 13 percent of all employees.⁹

Private Industry Employees

The 2012 data for private industry employees presented in Panel A of Table 3 further explain the BLS data series. In 2012, private sector employers spent, on average, \$28.86 per hour worked on *total remuneration* (row 1). The \$28.86 of total remuneration included *gross earnings*

of \$23.10 per hour (row 2) and *benefits other than pay* of \$5.75 per hour (row 6).¹⁰ *Gross earnings*, or *payroll*, included wages and salaries (\$20.30 per hour; row 3), paid leave (\$1.98 per hour; row 4), and supplemental pay (\$0.82 per hour; row 5).¹¹ *Benefits other than pay* included insurance (\$2.35 per hour; row 7), retirement benefits (\$1.03 per hour; row 8), and legally required benefits (\$2.37 per hour; row 9).¹² Publication of other benefits (row 10) was discontinued beginning in March 2006, but is shown in Tables 1 to 3 to provide a complete historical record. *Workers' compensation*, which averaged \$0.42 per hour worked in 2012 (row 9A), is one of the legally required benefits (row 9).¹³

The BLS data in Panel A of Table 3 indicate that private sector employers' workers' compensation expenditures (\$0.42 per hour) were 1.44 percent of total remuneration (row 11) and 1.80 percent of gross earnings (payroll) (row 12) in 2012.¹⁴

State and Local Government Employees

The BLS data with respect to state and local government employees' remuneration are only available since 1991. There are several interesting differences between the employer expenditure patterns in the state and local government sector (Panel B of Tables 1 to 3) and in the private sector (Panel A). In 2012, for example, the state and local sector had higher figures than the private sector for gross earnings per hour (\$30.32 vs. \$23.10, row 2); benefits other than pay (\$11.12 vs. \$5.75, row 6); and, therefore, total remuneration (\$41.44 vs. \$28.86, row 1). Workers' compensation costs per hour worked were higher in the state and local sector (\$0.51) than in the private sector (\$0.42) (row 9A). However, because of the higher wages in the government sector, workers' compensation costs as a percentage of gross wages and salaries (payroll) in 2012 were lower in the state and local government sector than in the private sector (1.69 percent vs. 1.80 percent, row 12), as they have been each year from 1991 to 2012.

All Non-Federal Employees

The most comprehensive variant of the BLS data, the data for all non-federal employees, is shown in Panel C of Tables 1 to 3. Available since 1991, this grouping, which is the total of private sector employees and state and local government employees, covers about 95 percent of all U.S. employees.

In 2012, total remuneration per hour worked for all non-federal employees averaged \$30.74 per hour (row 1) and gross earnings (payroll) averaged \$24.18 per hour (row 2). Workers' compensation expenditures were \$0.43 per hour in 2012 (row 9A), which represented 1.79 percent of payroll (row 12).

APPENDIX B

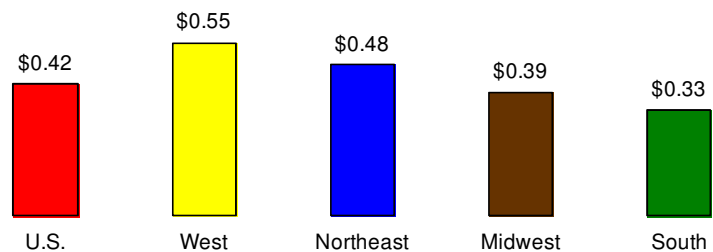
Alternative Ways to Measure Regional Differences in Workers' Compensation Costs

This appendix examines how regions can switch their relative costs compared to the United States depending on which measure of workers' compensation costs is used. The explanation is provided by a closer examination of the arithmetic procedure used in computing workers' compensation costs as a percentage of gross earnings. The workers' compensation costs per hour (row 9A of Table 5 and Appendix Figure B1: Panel I, which is the same as Figure I in the article) have to be divided by gross earnings per hour (row 2 of Table 5 and Appendix Figure B1: Panel II) in order to produce the figures on workers' compensation costs as a percentage of wages and salaries (row 12 of Table 5 and Appendix Figure B1: Panel III, which is the same as Figure H in the article). The relationships between these numerators and denominators for the four regions account for the fluctuations in rankings between Figure A and Figure B in the article.

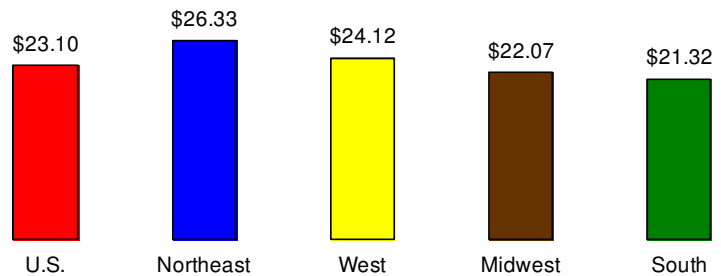
Consider the Northeast. Workers' compensation costs per hour in the Northeast (\$0.48 per hour) are somewhat higher than the national average for workers' compensation costs (\$0.42 per hour). In terms of workers' compensation costs per hour worked, the Northeast was second among the four census regions. Of importance is that the hourly gross earnings in the Northeast (\$26.33 per hour -- row 2 of Table 5) are 14 percent more than the national average for gross earnings (\$23.10 -- row 2 of Table 5). As a result of these high wages, the Northeast's workers' compensation costs as a percentage of gross earnings (1.80 percent -- which is \$0.48 divided by \$26.33) is equal to the national average of workers' compensation costs as a percentage of gross earnings (1.80 percent -- or \$0.42 divided by \$23.10). The Northeast's combination of (1) workers' compensation per hour worked that were slightly above the national average and (2) wages that were well above the national average means that workers' compensation costs as a percent of payroll in the Northeast are equal to the national average.

Figure B1 - Workers' Compensation Costs by Region in 2011

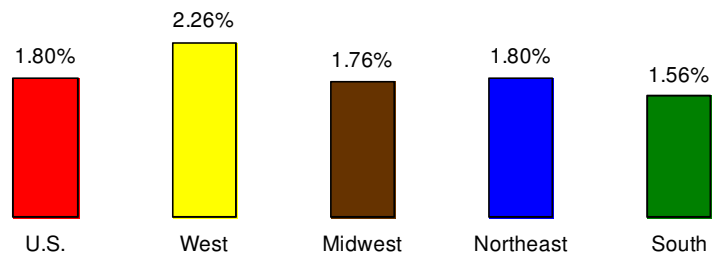
Panel I - Workers' Compensation Costs



Panel II - Gross Earnings



Panel III - Workers' Compensation Costs as a Percentage of Gross Earnings



Source: Table 5.

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ENDNOTES

¹ The 2012 BLS data on employers' costs disaggregated by industry, occupation, census region and division, establishment size, and bargaining status are analyzed in Part II of this report.

² The differences between the NASI data and the BLS data used in this article in the employers' costs of workers' compensation as a percentage of payroll are greater than is immediately obvious. The NASI data relate the employers' costs for workers' compensation only to the payroll of employers who are covered by state or federal workers' compensation programs. The costs would be a lower percentage if the base were payroll for all employers (whether covered or not), which is the base used for the BLS data.

³ Often, two regions will be above the national average and the remaining two regions will be below the national average. However, in 2012 workers' compensation costs in one region (the Midwest) were equal to the national average. As a result, two regions had costs below the national average and one region had costs above the national average in 2012.

⁴ The latter decision reflects a judgment that, since workers' compensation benefits are generally tied to workers' preinjury wages, and thus benefits and costs ought to increase proportionately with wages, costs as a percentage of wages and salaries should be the same across states and regions.

For example, suppose that in all regions, for every 1,000 hours worked, there are work injuries that result in the loss of 50 hours of work. Also suppose that two-thirds of lost wages are replaced by workers' compensation benefits in all regions. (A two-thirds replacement rate is a commonly used measure of adequacy.)

Using the data on hourly gross earnings shown in Table 5, the total payroll in the South for 1,000 hours worked is \$21,320 ($\$21.32 \times 1,000$ hours); the total amount of workers' compensation benefits is \$710.00 ($\21.32×50 hours $\times 2/3$ replacement rate); benefits (assumed to be the same as costs for this example) as a percentage of gross earnings in the South are 3.33 percent ($\$710.00$ divided by $\$21,320$).

Using the data on hourly gross earnings shown in Table 5, the total wage bill in the Northeast for 1,000 hours worked is \$26,330 ($\$26.33 \times 1,000$ hours); the total amount of workers' compensation benefits is \$877.67 ($\26.33×50 hours $\times 2/3$ replacement rate); benefits (assumed to be the same as costs for this example) as a percentage of wages and salaries in the Northeast are 3.33 percent ($\$877.67$ divided by $\$26,330$).

⁵ U.S. Department of Labor, 2006, "Notes on Current Labor Statistics," 55.

⁶ As economists at the University of Chicago are wont to say, "There is no such thing as a free lunch."

⁷ The BLS uses the current-cost approach. That is, the costs do not pertain to the costs for the previous year. Rather, annual costs are based on the current price of the benefits and current plan provisions as of the date of the quarterly survey, such as December 2012. The annualized cost of these December 2012 benefits are then divided by the annual hours worked to yield the cost per hour worked for each benefit, including workers' compensation benefits. Thus, if the annual workers' compensation premium per worker is \$800 and the employee works 2,000 hours per year, the workers' compensation cost is \$0.40 per hour worked. For further explanation of the BLS data, see Appendix A of U.S. Department of Labor 2000a.

⁸ This report uses the term "remuneration" in place of the term "compensation" that is used in the BLS publications in order to more clearly distinguish between workers' compensation and remuneration.

⁹ Private household, federal employment, and agriculture (wage/salary) workers accounted for 3.9 percent of all wage and salary workers in 2010. The data were provided in an e-mail to me on May 3, 2011 by Natalie Kramer, Economist, Office of Compensation and Working Conditions, Bureau of Labor Statistics, U.S. Department of Labor. I appreciate her assistance.

¹⁰ The terms "gross earnings" and "benefits other than pay" are not used in the BLS publications.

¹¹ The gross earnings figure includes wages and salaries; paid leave (vacations, holidays, sick leave, and other leave); and supplemental pay (premium pay, shift pay, and nonproduction bonuses).

¹² The benefits other than pay figure includes insurance (life insurance, health insurance, sickness and accident insurance); retirement and savings (pensions, savings and thrift); legally required benefits (Social Security, federal unemployment, state unemployment, and workers' compensation); and other benefits (includes severance pay and supplemental unemployment benefits).

¹³ The parentheses around the workers' compensation figures in row 9A of each panel in Tables 1-3, and 5-10 are to show that these figures are included in the legally required benefits figures in row 9 of each panel.

¹⁴ Relating workers' compensation costs to "gross wages" (which is straight-time hourly wages plus paid leave and supplemental pay) is based on advice in an April 7, 1995 letter to me from Mr. Albert Schwenk, Supervisory Economist, Division of Employment Cost Trends, Bureau of Labor Statistics, U.S. Department of Labor. I appreciate this suggestion from Mr. Schwenk.

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