From John Burton's Workers' Compensation Resources

Workers' Compensation Policy Review

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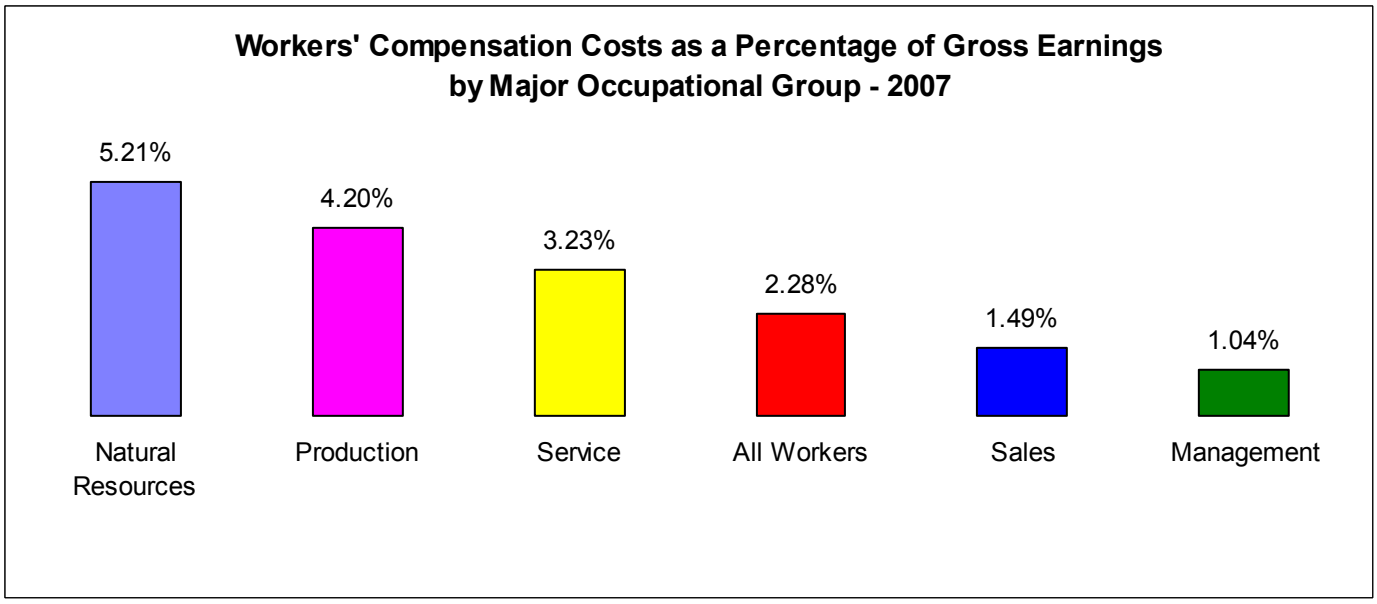
Featured Topics

Summary of the Contents

Workers' compensation costs vary among employers due to factors such as geographical location, industry, union status, and occupations of the firms' workers. In the lead article, Florence Blum and John Burton analyze the Bureau of Labor Statistics data on employers' costs in 2007. As shown below, the workers' compensation costs for all workers in the private sector averaged 2.28 percent of payroll. The range among occupations was substantial, ranging from 5.21 percent of payroll for workers in natural resources occupations to 1.04 percent of payroll for managers. Of particular interest is that workers in service occupations had workers' compensation costs of 3.23 percent of payroll, higher than the average for all workers.

The building blocks for workers' compensation cash benefits are examined in an article by John Burton. Burton examines four types of cash benefits: those for temporary total disability, temporary partial disability, permanent partial disability, and permanent total disability. For each type, Burton tries to distinguish between the *operational approach* used to determine the amount of benefits and the *purpose* of the benefits. His most controversial assertion is that, with very limited exceptions, the purpose of permanent partial disability benefits is to compensate for the actual wage loss that is presumed to result from the permanent impairment caused by the injury.



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Workers' Compensation Costs in 2007: Regional, Industrial, and Other Variations

by Florence Blum and John F. Burton, Jr.

The employers' costs of workers' compensation vary among industries and occupations, according to 2007 data published by the Bureau of Labor Statistics (BLS), which is part of the U.S. Department of Labor.[1] 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.

The BLS data used in this article provide information on the employers' costs per hour worked for wages and salaries and for benefits (including workers' compensation and other legally required benefits). The BLS data are published every quarter, and we calculated the 2007 annual average by averaging the BLS results for March, June, September, and December of 2007.[2]

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 A and Table 1. (The states that comprise the four census regions are shown in the Notes to Table 1.) The Employers' workers' compensation costs are above the national average in one region, and below the national average in three regions.[3] What is perhaps surprising is the ranking of the regions, and in particular the finding that the Northeast is the region with the lowest workers' compensation costs (as a percentage of gross earnings).

The derivation of the national and regional figures shown in Figure A helps explain these findings. The BLS data used to construct Figure A are shown in Table 1. *Total remuneration* per hour worked averaged $26.09 for employers in private industry throughout the United States in 2007 (row 1).[4] The $26.09 of total remuneration includes *gross earnings* that averaged $20.99 per hour (row 2) and *benefits other than pay* that averaged $5.10 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.

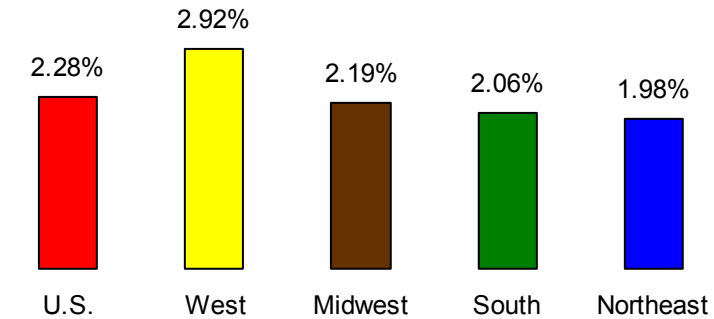
Benefits other than pay include employer contributions for insurance, retirement and savings, legally required benefits, and other benefits.[5] *Workers' compensation*, which averaged $0.48 per hour worked (row 9A), is one of the *legally required benefits* that are included in the BLS's total figure of $2.21 per hour for that category (row 9).

We used the BLS data in rows (1), (2), and (9A) of Table 1 to compute the figures listed in rows (11) and (12) of that table. For the private sector in the United States in 2007, workers' compensation expenditures ($0.48) were 1.83 percent of total remuneration ($26.09) and 2.28 percent of gross earnings (or payroll) ($20.99).

The same procedure used to calculate workers' compensation as a percentage of gross earnings (row 12 of Table 1) 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 A and in row (12) of Table 1. Thus, for the Northeast, workers' compensation expenditures of $0.48 per hour were divided by gross earnings of $24.08 per hour to produce the figure of 1.98 percent -- which is workers' compensation costs as a percentage of gross earnings in the Northeast in 2007.

An alternative way to measure regional differences in workers' compensation costs is shown in Figure B.

Figure A - Workers' Compensation Costs as a Percentage of Gross Earnings by Region - 2007



Source: Table 1, Row 12.

Table 1
Workers' Compensation Costs by Census Region in 2007
for Employers in Private Industry
(In Dollars Per Hours Worked)

		U.S.	Northeast	South	Midwest	West
(1)	Total Remuneration	26.09	29.88	23.30	25.30	27.93
(2)	Gross Earnings	20.99	24.08	18.86	20.13	22.51
(3)	Wages and Salaries	18.44	20.81	16.75	17.68	19.81
(4)	Paid Leave	1.78	2.26	1.48	1.70	1.89
(5)	Supplemental Pay	0.78	1.02	0.63	0.76	0.82
(6)	Benefits Other Than Pay	5.10	5.80	4.44	5.17	5.42
(7)	Insurance	1.99	2.22	1.73	2.13	2.01
(8)	Retirement Benefits	0.91	1.10	0.80	0.91	0.88
(9)	Legally Required Benefits	2.21	2.48	1.91	2.14	2.53
(9A)	Workers' Compensation	(0.48)	(0.48)	(0.39)	(0.44)	(0.66)
(10)	Other Benefits	0.00	0.00	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	1.60%	1.66%	1.74%	2.35%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	1.98%	2.06%	2.19%	2.92%

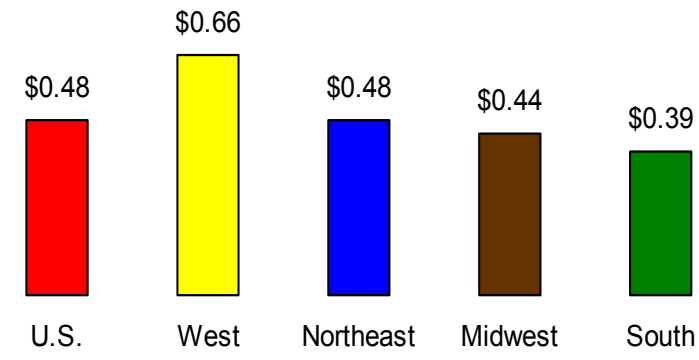
Notes: See Notes for Tables 1 - 6.
In addition, for Table 1:
The **Northeast** Census Region is comprised of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
The **South** Census Region is comprised of Alabama, Arkansas, Delaware, District 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: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Tables 9 and 12.

Workers' compensation is measured as costs per hour worked, as shown in row (9A) of Table 1. In contrast to the results presented in Figure A -- which indicated that the Northeast had the lowest workers' compensation costs (as a percentage of gross earnings) -- the results presented in row (9A) of Table 1 and in Figure B indicate that the Northeast's workers' compensation costs ($0.48 per hour) were greater than the Midwest's ($0.44 per hour) and the South's ($0.39 per hour) workers' compensation costs per hour worked.

Appendix A 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 interregional differences in workers' compensation can vary depending on which measure of workers' compensation costs is used leads to

Figure B - Workers' Compensation Costs Measured as Employer Expenditures per Hour Worked by Region - 2007



Source: Table 1, Row 9A.

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 A) or workers' compensation costs per hour worked (as shown in Figure B)?

In our view, no measure of workers' compensation costs is invariably preferable for all comparisons. 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.[6]

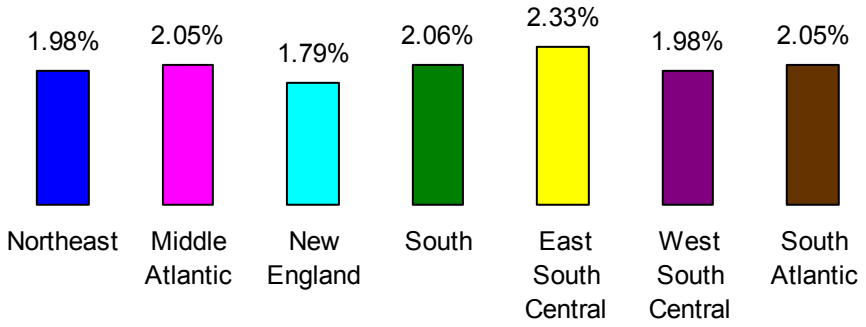
In the remainder of this article, we confine our discussion to workers' compensation costs as a percentage of gross earnings (or payroll). This format reflects the most common approach in workers' compensation studies. The reader who wishes to make comparisons in terms of workers' compensation costs 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 2 and in Figures C and D. 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 regions are shown in the Notes to Table 2.)

Panel A of Table 2 and Figure C provide data on the employers' costs of workers' compensation in the Northeast 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).

Figure C - Workers' Compensation Costs as a Percentage of Gross Earnings by the Northeast and South Census Regions and by Divisions in those Regions - 2007

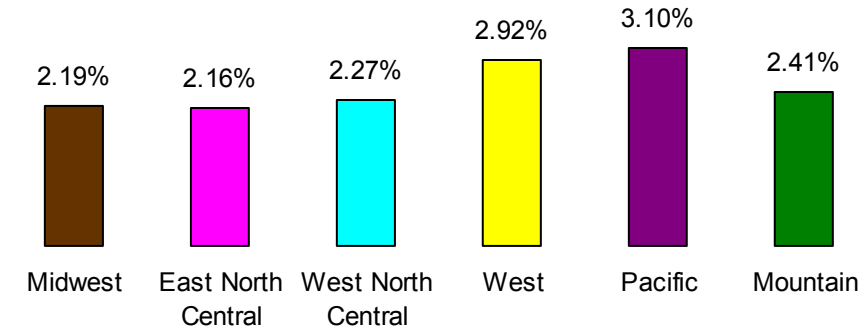


Source: Table 2, Panel A, Row 12.

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 (New England) is part of the Northeast region.

Panel B of Table 2 and Figure D 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 interesting result shown in Figure D is that workers' compensation costs as a percent of payroll are higher in both of the census divisions that are part of the West region than in either of the census divisions that are part of the Midwest region.

Figure D - Workers' Compensation Costs as a Percentage of Gross Earnings by the Midwest and West Census Regions and by the Divisions in those Regions - 2007



Source: Table 2, Panel B, Row 12.

Table 2
Workers' Compensation Costs by Census Region and Division in 2007
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	East South Central	West South Central
(1)	Total Remuneration	26.09	29.88	30.01	29.82	23.30	24.74	19.89	22.81
(2)	Gross Earnings	20.99	24.08	24.43	23.94	18.86	20.02	15.90	18.59
(3)	Wages and Salaries	18.44	20.81	21.31	20.59	16.75	17.80	14.14	16.48
(4)	Paid Leave	1.78	2.26	2.22	2.27	1.48	1.60	1.19	1.45
(5)	Supplemental Pay	0.78	1.02	0.90	1.07	0.63	0.62	0.57	0.67
(6)	Benefits Other Than Pay	5.10	5.80	5.59	5.89	4.44	4.73	3.98	4.21
(7)	Insurance	1.99	2.22	2.07	2.28	1.73	1.78	1.72	1.63
(8)	Retirement Benefits	0.91	1.10	1.03	1.13	0.80	0.94	0.56	0.72
(9)	Legally Required Benefits	2.21	2.48	2.49	2.48	1.91	2.01	1.71	1.86
(9A)	Workers' Compensation	(0.48)	(0.48)	(0.44)	(0.49)	(0.39)	(0.41)	(0.37)	(0.37)
(10)	Other Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	1.60%	1.46%	1.64%	1.66%	1.66%	1.86%	1.61%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	1.98%	1.79%	2.05%	2.06%	2.05%	2.33%	1.98%

Panel B: Midwest and West Regions

		U.S.	Midwest	East North Central	West North Central	West	Mountain	Pacific
(1)	Total Remuneration	26.09	25.30	26.41	22.86	27.93	23.86	29.66
(2)	Gross Earnings	20.99	20.13	20.96	18.29	22.51	19.37	23.85
(3)	Wages and Salaries	18.44	17.68	18.37	16.16	19.81	17.18	20.93
(4)	Paid Leave	1.78	1.70	1.79	1.50	1.89	1.45	2.07
(5)	Supplemental Pay	0.78	0.76	0.81	0.63	0.82	0.74	0.85
(6)	Benefits Other Than Pay	5.10	5.17	5.45	4.57	5.42	4.49	5.81
(7)	Insurance	1.99	2.13	2.26	1.84	2.01	1.74	2.13
(8)	Retirement Benefits	0.91	0.91	0.97	0.77	0.88	0.69	0.96
(9)	Legally Required Benefits	2.21	2.14	2.22	1.96	2.53	2.06	2.72
(9A)	Workers' Compensation	(0.48)	(0.44)	(0.45)	(0.42)	(0.66)	(0.47)	(0.74)
(10)	Other Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	1.74%	1.71%	1.82%	2.35%	1.96%	2.50%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	2.19%	2.16%	2.27%	2.92%	2.41%	3.10%

Notes: See Notes for Tables 1 - 6.
In addition, for Table 2:
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: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Tables 9 and 12.

Table 3A
Workers' Compensation Costs by Major Goods-Producing Industry Groups in 2007
for Employers in Private Industry
(In Dollars Per Hours Worked)

		All Goods-Producing	Construction	Manufacturing
(1)	Total Remuneration	30.54	29.22	30.69
(2)	Gross Earnings	23.56	22.33	23.83
(3)	Wages and Salaries	20.37	20.27	20.18
(4)	Paid Leave	1.96	1.03	2.38
(5)	Supplemental Pay	1.23	1.04	1.27
(6)	Benefits Other Than Pay	6.99	6.89	6.87
(7)	Insurance	2.78	2.15	3.02
(8)	Retirement Benefits	1.39	1.43	1.28
(9)	Legally Required Benefits	2.82	3.32	2.57
(9A)	Workers' Compensation	(0.85)	(1.36)	(0.59)
(10)	Other Benefits	0.00	*	0.00
(11)	Workers' Compensation As Percentage of Remuneration	2.78%	4.66%	1.93%
(12)	Workers' Compensation As Percentage of Gross Earnings	3.60%	6.10%	2.49%

Notes: See Notes for Tables 1 - 6.
In addition, for Table 3A: **Goods-Producing** includes mining, construction, and manufacturing. The agriculture, forestry, farming, and hunting sector is excluded.

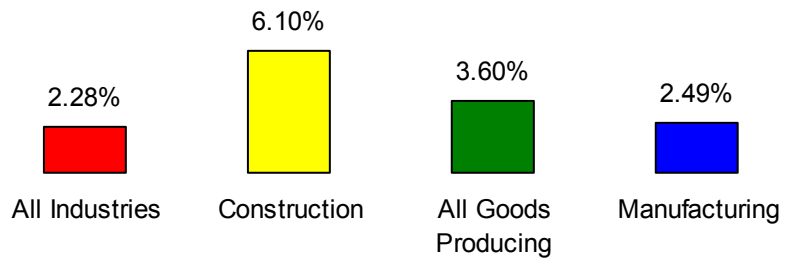
Source: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008), Tables 9 and 11.*

Among the nine census divisions included in Figures C and D, a striking and somewhat surprising result is that the two census divisions with the highest workers' compensation costs as a percent of payroll (namely the Pacific and Mountain divisions) are both in the West census region, while the census division with the lowest workers' compensation costs as a percent of payroll (namely the New England division) is in the Northeast census region. The Pacific census division is distinguished by having both the highest workers' compensation costs measured as dollars per hour worked ($0.74) and the highest workers' compensation costs as a percent of payroll (3.10 percent) among the nine census divisions (Table 2, Panels A and B, lines (9A) and (12)). A snap quiz: does the presence of California in the Pacific census division have anything to do with these results?

Cost Differences by Industry

The BLS data for 2007 also reveal that employers' costs of workers' compensation as a percentage of gross earnings vary among industries in the private sector (Figures E and F and row 12 of Tables 3A and 3B).

Figure E - Workers' Compensation Costs as a Percentage of Gross Earnings by Industry for Goods Producing Industries - 2007



Source: Table 3A, Row 12.

Table 3B
Workers' Compensation Costs by Major Service-Providing Industry Groups in 2007
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	24.96	22.27	39.08	34.81	30.55	27.91	11.51	21.70
(2)	Gross Earnings	20.33	17.74	31.42	28.28	25.40	22.81	9.54	17.89
(3)	Wages and Salaries	17.94	15.81	26.72	23.66	22.40	20.13	9.02	16.12
(4)	Paid Leave	1.73	1.37	3.62	2.82	2.17	2.13	0.40	1.36
(5)	Supplemental Pay	0.66	0.55	1.07	1.81	0.84	0.55	0.13	0.41
(6)	Benefits Other Than Pay	4.63	4.53	7.66	6.53	5.16	5.10	1.96	3.82
(7)	Insurance	1.79	1.77	3.16	2.74	1.84	2.09	0.61	1.38
(8)	Retirement Benefits	0.78	0.77	1.73	1.48	0.90	0.80	0.11	0.47
(9)	Legally Required Benefits	2.06	2.00	2.77	2.32	2.42	2.21	1.24	1.98
(9A)	Workers' Compensation	(0.38)	(0.50)	(0.29)	(0.21)	(0.39)	(0.37)	(0.27)	(0.46)
(10)	Other Benefits	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.52%	2.26%	0.74%	0.60%	1.26%	1.32%	2.35%	2.10%
(12)	Workers' Compensation As Percentage of Gross Earnings	1.87%	2.83%	0.92%	0.73%	1.52%	1.61%	2.83%	2.55%

Notes: See Notes for Tables 1 - 6.
In addition, for Table 3B: **Service-Providing** includes utilities; wholesale trade; transportation and warehousing; 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.

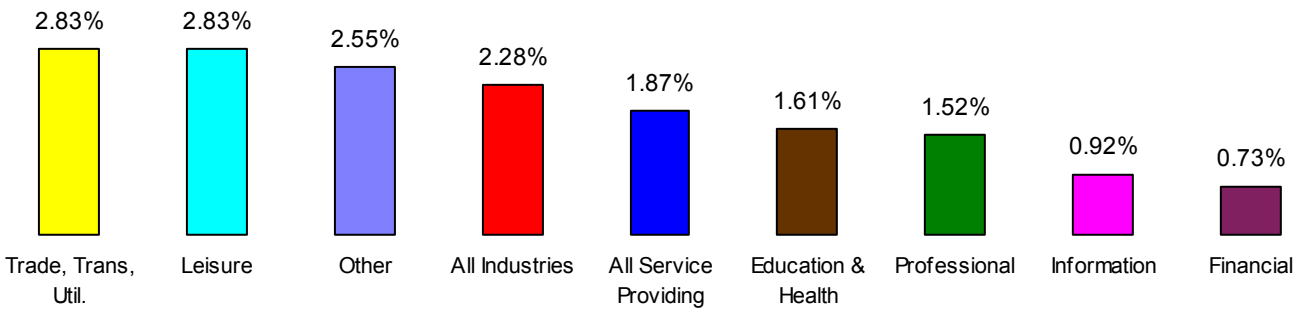
Source: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Tables 9 and 11.

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 3A and 3B). In 2007, national workers' compensation costs were, on average, 3.60 percent of gross earnings (payroll) for all goods-producing industries and 1.87 percent of gross earnings (payroll) for all service-providing industries (*see* row 12 of Tables 3A and 3B and Figures E and F).

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 E and Table 3A, the employers' costs of workers' compensation for all goods-producing industries was 3.60 percent of payroll, and for specific goods-producing industries ranged from 6.10 percent of payroll for the construction industry to 2.49 percent of payroll for the manufacturing industry.

In a similar manner, as shown in Figure F and Table 3B, the employers' costs of workers' compensation for all service-providing industries was 1.87 percent of payroll, and for specific service-providing industries

Figure F - Workers' Compensation Costs as a Percentage of Gross Earnings by Industry for Service-Providing Industries - 2007



Source: Table 3A and 3B, Row 12.

Table 4
Workers' Compensation Costs by Major Occupational Groups in 2007
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	26.09	46.87	20.75	12.98	29.42	22.53
(2)	Gross Earnings	20.99	38.31	16.79	10.54	22.50	17.21
(3)	Wages and Salaries	18.44	32.88	14.96	9.74	20.08	15.02
(4)	Paid Leave	1.78	3.92	1.33	0.58	1.45	1.38
(5)	Supplemental Pay	0.78	1.51	0.51	0.23	0.97	0.81
(6)	Benefits Other Than Pay	5.10	8.02	3.95	2.44	6.92	5.33
(7)	Insurance	1.99	2.94	1.70	0.89	2.41	2.27
(8)	Retirement Benefits	0.91	1.80	0.58	0.19	1.41	0.85
(9)	Legally Required Benefits	2.21	3.28	1.68	1.36	3.11	2.21
(9A)	Workers' Compensation	(0.48)	(0.39)	(0.25)	(0.34)	(1.17)	(0.72)
(10)	Other Benefits	0.00	0.00	0.00	*	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	0.83%	1.21%	2.62%	3.99%	3.21%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	1.01%	1.49%	3.23%	5.21%	4.20%

Notes: See Notes for Tables 1 - 6.

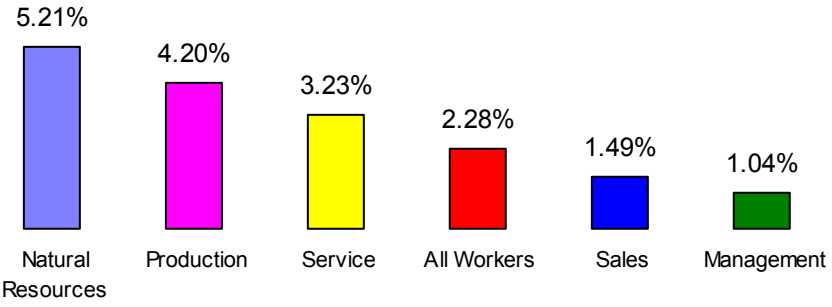
Source: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Table 9.

ranged from 2.83 percent of payroll for trade, transportation, and utility industries and 2.83 percent of payroll for leisure and hospitality to 0.73 percent of payroll for financial industries. There is a wide disparity of workers' compensations costs for employers within the service sector. Of particular interest, three specific service-producing industries (trade, transportation, and utilities, with workers' compensation costs at 2.83 percent of payroll; leisure, with costs at 2.83 percent of payroll; and other services, with costs at 2.55 percent of payroll) have higher workers' compensation than the average for all employers (namely 2.28 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 G and in Table 4. The national average cost of employers' workers' compensation was 2.28 percent of payroll in 2007. (*See* Table 4, 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' compensation costs averaged 5.21 percent of payroll; production, transportation, and material moving workers, for whom workers' compensation costs averaged 4.20 percent of payroll; and service workers, for whom employers' workers' compensation costs averaged 3.23 percent of payroll. In sharp contrast, employers' workers' compensation costs for sales and office workers were, on average, only 1.49 percent of payroll, and workers in management positions had workers' compensation costs that were only 1.04 percent of payroll in 2007. (*See* Table 4, row 12 and Figure G). These substantial cost differences presumably reflect the differences in the number

Figure G - Workers' Compensation Costs as a Percentage of Gross Earnings by Major Occupational Group - 2007



Source: Table 4, Row 12.

Table 5
Workers' Compensation Costs by Establishment Employment Size in 2007
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	26.09	21.14	22.70	26.35	36.65
(2)	Gross Earnings	20.99	17.43	18.27	21.01	28.99
(3)	Wages and Salaries	18.44	15.73	16.38	18.42	24.54
(4)	Paid Leave	1.78	1.12	1.31	1.80	3.20
(5)	Supplemental Pay	0.78	0.57	0.59	0.78	1.25
(6)	Benefits Other Than Pay	5.10	3.72	4.43	5.35	7.67
(7)	Insurance	1.99	1.29	1.68	2.18	3.16
(8)	Retirement Benefits	0.91	0.47	0.65	0.93	1.81
(9)	Legally Required Benefits	2.21	1.96	2.10	2.24	2.70
(9A)	Workers' Compensation	(0.48)	(0.47)	(0.53)	(0.50)	(0.43)
(10)	Other Benefits	0.00	0.00	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	2.20%	2.35%	1.90%	1.17%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	2.67%	2.91%	2.38%	1.47%

Notes: See Notes for Tables 1 - 6.

Source: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Tables 9 and 14.

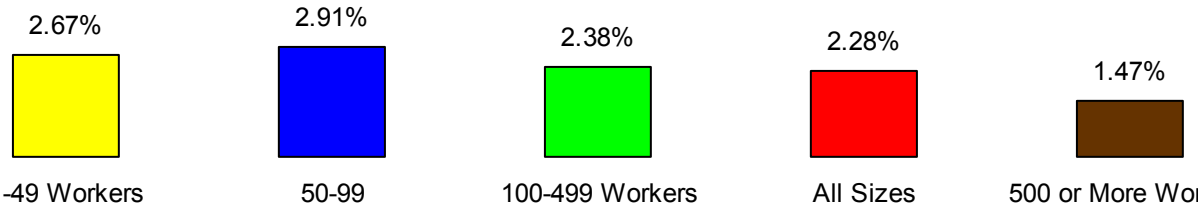
and severity of workplace injuries and diseases experienced by workers in these occupations.

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.[7] 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 H and in Table 5, 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 2.28 percent of payroll. Those establishments with fewer than 50 employees had workers' compensation costs that, on average, were 2.67 percent of gross earnings in 2007; workers' compensation costs in establishments with 50 to 99 employees were 2.91 percent of payroll; and workers' compensation costs in establishments with 100 to 499 workers were 2.38 percent of payroll -- all

Figure H - Workers' Compensation Costs as a Percentage of Gross Earnings by Establishment Employment Size - 2007



Source: Table 5, Row 12.

Table 6
Workers' Compensation Costs by Bargaining Status in 2007
for Employers in Private Industry
(In Dollars Per Hours Worked)

		All Workers	Union	Nonunion
(1)	Total Remuneration	26.09	35.74	24.96
(2)	Gross Earnings	20.99	26.11	20.39
(3)	Wages and Salaries	18.44	22.17	18.00
(4)	Paid Leave	1.78	2.79	1.66
(5)	Supplemental Pay	0.78	1.16	0.73
(6)	Benefits Other Than Pay	5.10	9.64	4.58
(7)	Insurance	1.99	4.13	1.74
(8)	Retirement Benefits	0.91	2.38	0.74
(9)	Legally Required Benefits	2.21	3.13	2.11
(9A)	Workers' Compensation	(0.48)	(0.92)	(0.43)
(10)	Other Benefits	0.00	0.00	0.00
(11)	Workers' Compensation As Percentage of Remuneration	1.83%	2.57%	1.70%
(12)	Workers' Compensation As Percentage of Gross Earnings	2.28%	3.52%	2.08%

Notes: See Notes for Tables 1 - 6.

Source: *Employer Costs for Employee Compensation Historical Listing (Quarterly), 2004-2007 (March 12, 2008),* Tables 9 and 10.

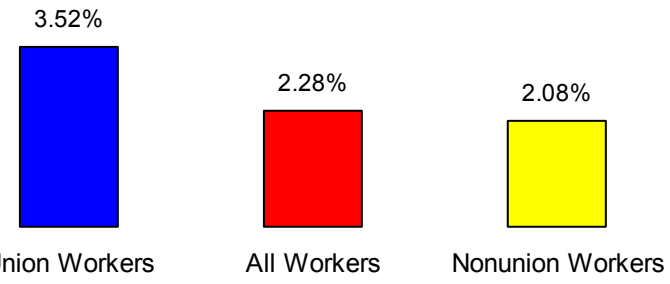
above the national (all-establishments) average. In contrast, establishments with 500 or more workers had costs that averaged 1.47 percent of payroll -- well below the national (all-establishments) average.

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 I and in Table 6. The employers' costs of workers' compensation for unionized workers in 2007 was 3.52 percent of payroll and the comparable figure for nonunionized workers was 2.08 percent. The national average (unionized and nonunionized workers) was 2.28 percent. (*See* Table 6, 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.

Figure I - Workers' Compensation Costs as a Percentage of Gross Earnings by Bargaining Status - 2007



Source: Table 6, Row 12.

Conclusions

The employers' costs of workers' compensation measured as a percentage of payroll (or measured as costs per hour) vary systematically by region and census division, by industry group, by occupational, by establishment size, and by bargaining status. The information derived from the BLS data should be useful to firms trying to place their own workers' compensation costs in perspective and to policymakers attempting to assess the costs of the workers' compensation programs in a particular jurisdiction relative to costs elsewhere. Ideally, the BLS data will be expanded in future years to present even greater detail by industry, occupation, and (in particular) by individual states.

ENDNOTES

1. The BLS data used in this article were published in U.S. Department of Labor 2008. The national 2007 data for private industry employees, state and local employees, and all non-federal employees were analyzed in Burton 2008. The previous article analyzing regional, industrial, and other variations is Blum and Burton 2007.

2. The number of private sector establishments in the quarterly samples in 2007 were approximately 12,200. The number of establishments in the state and local sector was approximately 800 for the first three quarterly samples in 2007 and about 2,000 for the fourth quarter sample.

3. Often, two regions will be above the national average and the remaining two regions will be below the national average. However, in 2007 workers' compensation costs in one region (the West) were very high compared to the national average, while the costs in the other three regions were only moderately lower than the national average. As a result, three regions had costs below the national average and only one region had costs above the national average in 2007.

4. The BLS uses the term "total compensation" for wages and salaries plus total benefits. We have instead used the term "total remuneration," lest the references to "total compensation" and to "workers' compensation" (one of the BLS's subcategories under "total benefits") become too confusing.

5. Specifically, 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). 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).

6. 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 1, the total payroll in the South for 1,000 hours worked is $18,860 ($18.86 X 1,000 hours); the total amount of workers' compensation benefits is $628.67 ($18.86 X 50 hours X 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 ($628.67 divided by $18,860).

Using the data on hourly gross earnings shown in Table 1, the total wage bill in the Northeast for 1,000 hours worked is $24,080 ($24.08 X 1,000 hours); the total amount of workers' compensation benefits is $802.67 ($24.08 X 50 hours X 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 ($802.67 divided by $24,080).

7. U.S. Department of Labor, 2004, “Notes on Current Labor Statistics,” 111.

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Burton, John F., Jr. 2008. “Workers’ Compensation Costs for Employers 1986 to 2007.” Workers’ Compensation Policy Review 8, No. 1 (January/February): 19-39.

U.S. Department of Labor, Bureau of Labor Statistics. 2004. *Monthly Labor Review* 125, no. 7 (February).

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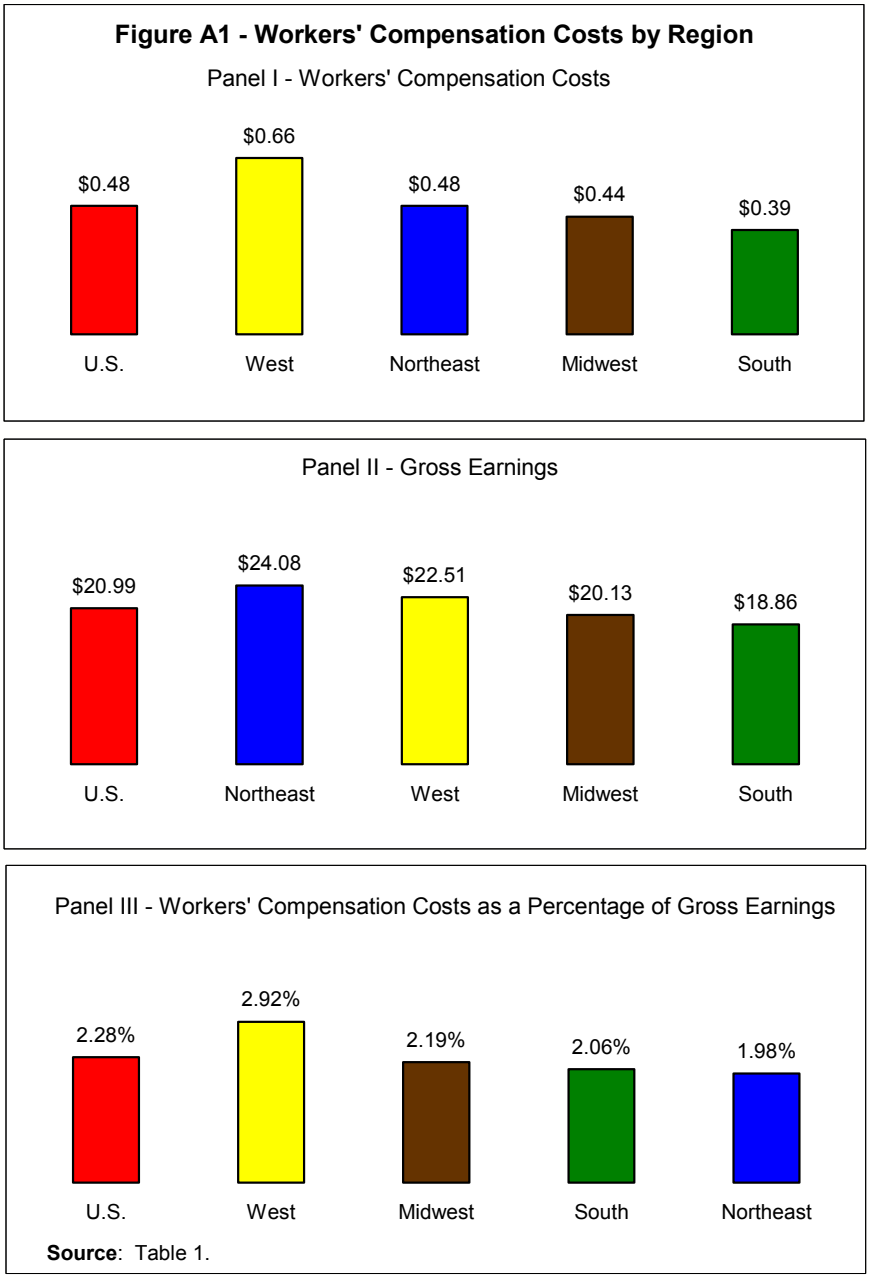
APPENDIX A

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 1 and Appendix Figure A1: Panel I, which is the same as Figure B in the article) have to be divided by gross earnings per hour (row 2 of Table 1 and Appendix Figure A1: Panel II) in order to produce the figures on workers' compensation costs as a percentage of wages and salaries (row 12 of Table 1 and Appendix Figure A1: Panel III, which is the same as Figure A 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.

Figure A1 - Workers' Compensation Costs by Region



Source: Table 1.

Consider the Northeast. Workers' compensation costs per hour in the Northeast ($0.48 per hour) are equal to the national average for workers' compensation costs ($0.48 per hour). Nonetheless, 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 ($24.08 per hour -- row 2 of Table 1) are 15 percent more than the national average for gross earnings ($20.99 -- row 2 of Table 1). As a result of these high wages, the Northeast's workers' compensation costs as a percentage of gross earnings (1.98 percent – which is $0.48 divided by $24.08) is 0.30 percentage points less than the national average of workers' compensation costs as a percentage of gross earnings (2.28 percent -- or $0.48 divided by $20.99). The Northeast's combination of workers' compensation equal to the national average and wages that were well above the national average means that workers' compensation costs as a percent of payroll are lower in the Northeast than in the other three census regions.

Notes for Tables 1 - 6.

1. The text and all tables in this article use the term "remuneration" in place of the term "compensation" which is used by the BLS.

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 and John F. Burton, Jr.

9. Individual items may not sum to total remuneration because of rounding in BLS data.

10. * means cost per hour worked is $0.01 or less

11. The data in Tables 1-6 are annual averages of the quarterly data presented in the quarterly surveys conducted by the Bureau of Labor Statistics. We calculated the annual averages, which are not weighted to reflect changes in employment among quarters.

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- An extensive list of international, national, and state or provincial conferences and meetings pertaining to workers' compensation and other programs in the workers' disability system.
- Posting of Job Opportunities and Resumes for those seeking candidates or employment in workers' compensation or related fields.
- The full text of the *Report of the National Commission on State Workmen's Compensation Laws.* The report was submitted to the President and the Congress in 1972 and has long been out of print.

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Workers' Compensation Cash Benefits: Part One: The Building Blocks

by John F. Burton, Jr.

This article (Burton 2008a) identifies the building blocks or concepts that are implicitly or explicitly used to design the cash benefits paid by workers' compensation programs. Each workers' compensation program pays more than one type of cash benefits and thus each has a system of cash benefits. A subsequent article (Burton 2008b) will provide a taxonomy of the systems of permanent partial disability (PPD) benefits used in U.S. jurisdictions. That article will also provide a set of criteria that can be used to evaluate a state's system of cash benefits. The pair of articles reflects my continuing quest to both describe and assess the various approaches to providing workers' compensation cash benefits.[1] A third article by Ed Welch (2008) will provide a comprehensive catalogue of the variety of approaches used by the states to provide PPD benefits. I invite comments on these articles in order to provide the basis for further refinements.[2]

Three Time Periods

As shown in Figure 1, three time periods are pertinent in designing a system of cash benefits. The *preinjury period* is relevant because *inter alia* the employee's average weekly wage is used in calculating the cash benefits after the worker is injured. The *temporary disability period* refers to the time from the onset of the injury or disease until the date of maximum medical improvement (date of MMI) has been reached.[3] Many workers have completely recovered from their injury by the date of MMI. However, some workers never fully recover, and for these workers, the *permanent disability period* refers to the period following MMI. The distinction between the temporary and the permanent disability periods is important because most workers' compensation programs provide different types of cash benefits in the two periods.

The Permanent Consequences of an Injury or Disease

The concepts in Figure 2 represent the permanent consequences of an injury or disease. The figure represents an adaptation of the traditional model of disability that was developed by Nagi (1975) and that has been utilized in previous analyses of workers' compensation and in the first five editions of the *AMA Guides to the Evaluation of Permanent Impairment*. The World Health Organization (WHO) has developed an alternative model of disability, known as the International Classification of Functioning, Disability, and Health (ICF), which has been used to some extent in the *American Medical Association's Guides to the Evaluation of Permanent Impairment, Sixth Edition* (Rondinelli 2008, hereafter referred to as the *AMA Guides*) However, I find the model in Figure 2 particularly useful in explaining the differences among states in their systems of

Figure 1
Three Time Periods in a Workers' Compensation Case Where the Injury Has Permanent Consequences

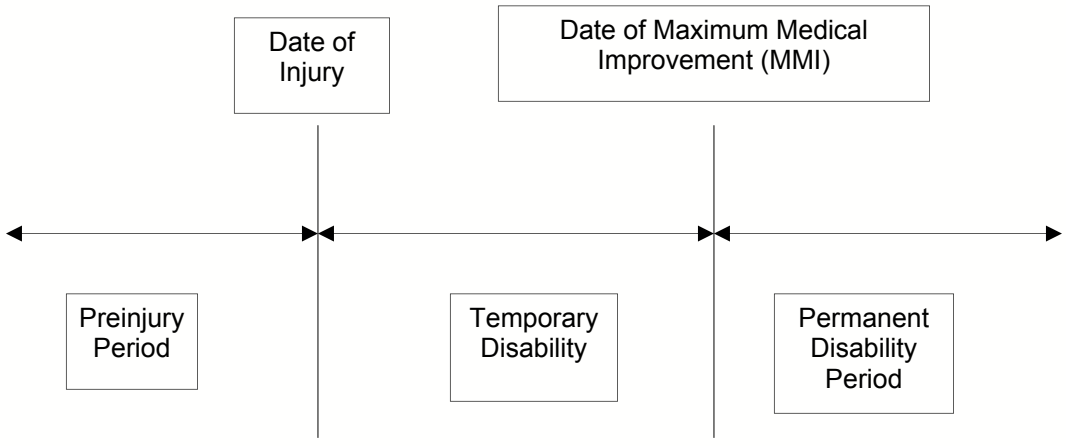
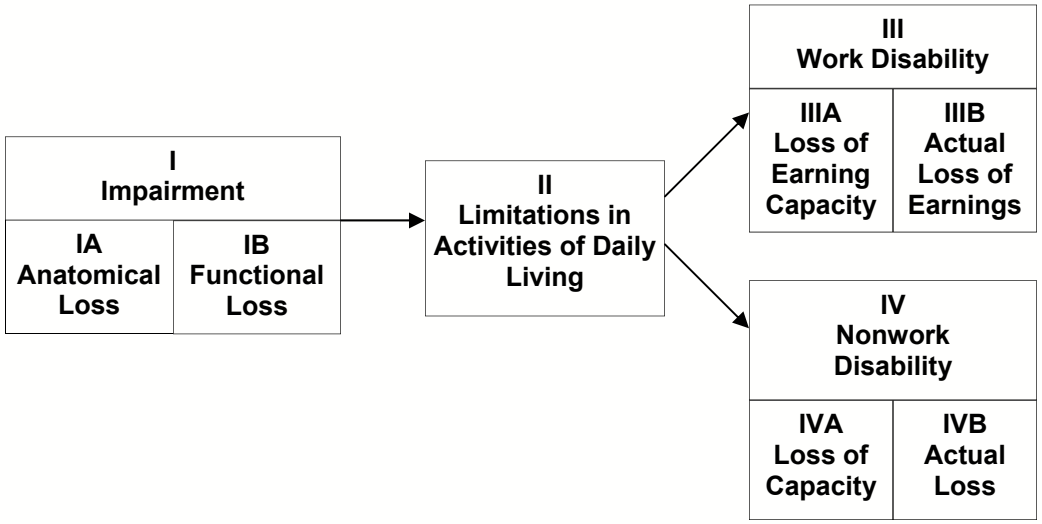


Figure 2
The Permanent Consequences of an Injury or Disease Resulting in Work Disability



workers' compensation and so will ignore the ICF for this article.

Figure 2 divides impairment, work disability, and nonwork disability into subcomponents in order to facilitate the analysis in this article.

IA. Medical Impairment: Anatomical Loss – The *AMA Guides* provide impairment ratings for certain medical conditions based on the anatomical loss. For example, Table 16-16 at page 542 of the *AMA Guides* indicates that amputation of the leg above the knee at the mid-thigh is rated at 90 percent of the loss of the leg unless there are proximal problems that increase the rating. The proximal problems can be reflected by functional history, physical examination, and clinical studies. The impairment rating of the leg can be converted to a whole person impairment rating by use of a conversion factor, which equates total loss of a leg to 40 percent of the whole person. Table 16-1 at page 495 of the *AMA Guides* indicates that a 90 percent impairment rating of the lower extremity is equivalent to a 36 percent impairment rating for the whole person.

1B. Medical Impairment: Functional Loss – The *AMA Guides* provides impairment ratings for certain medical conditions based on the extent of the functional loss. Example 15-25 at pages 477-48 explains how to determine the rating for a person who sustained significant shoulder motion deficits related to her constant overhead work. The impairment rating of the shoulder can be converted to a whole person impairment rating by use of a conversion factor, which equates total loss of the upper extremity to 60 percent of the whole person. Her condition warranted an 18 percent impairment rating for the upper extremity and an 11 percent impairment rating for the whole person.[4]

II. Limitations in Activities of Daily Living – These are the limitations in the activities of daily living resulting from the impairment. Table 1-1 of the *AMA Guides* includes Activities of Daily Living (ADLs), which are basic self-care activities, such as feeding, bathing, dressing, and sleep, and Instrumental Activities of Daily Living (IADLs), which are more complex self-care activities, such as financial management, home maintenance, and meal preparation. The *AMA Guides* provides functional history adjustments to impairment ratings for certain medical conditions based on the pain/symptoms associated with normal activity and the ability to perform self-care activities. In Example 15-25, the woman with significant shoulder motion deficits, the functional history adjustments from Table 15-7 did not warrant any adjustment in the 11 percent impairment rating for the whole person. However, the discussion at page 478 indicates that if her functional history had been more severe, as defined in Table 15-7, her ratings would have been increased by 0.9 percent, which would have resulted in a 19 percent impairment rating for the upper extremity and an 11 percent rating for the whole person.

IIIA. Work Disability: Loss of Earning Capacity – This is the presumed loss of earning capacity resulting from the functional limitations, based on factors such as the nature and severity of the injury, and the worker's age, education, and work experience. The loss of earning capacity in workers' compensation often is determined by a workers' compensation judge based on the assessment of the facts in an individual case.[5] The SF-36 is a health survey with 36 questions that yields functional health and well-being scores as well as physical and mental health summary measures and a preference-based health utility index (Ware 2008). A question from the SF-36 that measures loss of earning capacity is "During the past 4 weeks, how much of the time were you limited in the kind of work or other activities you do as a result of your physical health?"[6]

IIIB. Work Disability: Actual Loss of Earnings – This is the actual loss of earnings resulting from the injury or disease and its consequences (e.g., impairment). The actual loss of earnings is measured by the difference between the worker's actual earnings and the earnings the individual could have been expected to earn if he or she had not been injured (potential earnings) as shown in Figure 3. In this example, prior to the date of injury, wages increased through time from A to B, reflecting the worker's increased productivity and other factors that cause wages to increase over time, such as inflation. At point B, the worker experiences a work-related injury that permanently reduces his or her earnings. Had the worker not been injured, his or her earnings would have continued to grow along the line BC. However, the worker's actual earnings in this example dropped from B to D and continued at this zero earnings level until point E, when the worker returned to work at wage level F. Thereafter, the worker's actual earnings grew along line F to G. In this example, it is assumed the worker's actual earnings never returned to the potential earnings (line BC) that he or she would have earned if the injury had never occurred. The worker's "true wage loss" due to the injury is equal to his or her potential earnings after the date of injury (BC) minus the actual earnings after the date of injury (BDEFG).

Although "true wage loss" is the appropriate measure for many purposes, including the assessment of the consequences of work-related injuries, it is not the measure typically used in a workers' compensation statute. Rather, the statute will measure what is termed "restricted wage loss" – that is, the worker's earnings as of the date of injury, which were at level B, are projected into the future at that level, namely along the line BH. Then the wage loss that serves as a basis for workers' compensation benefits is measured as the difference between the line BH and the worker's actual earnings after the date of injury (BDEFG). As is obvious, the restricted wage loss is smaller than the true wage loss.

Figure 3
Actual Losses of Earnings for a Worker with a Permanent Disability

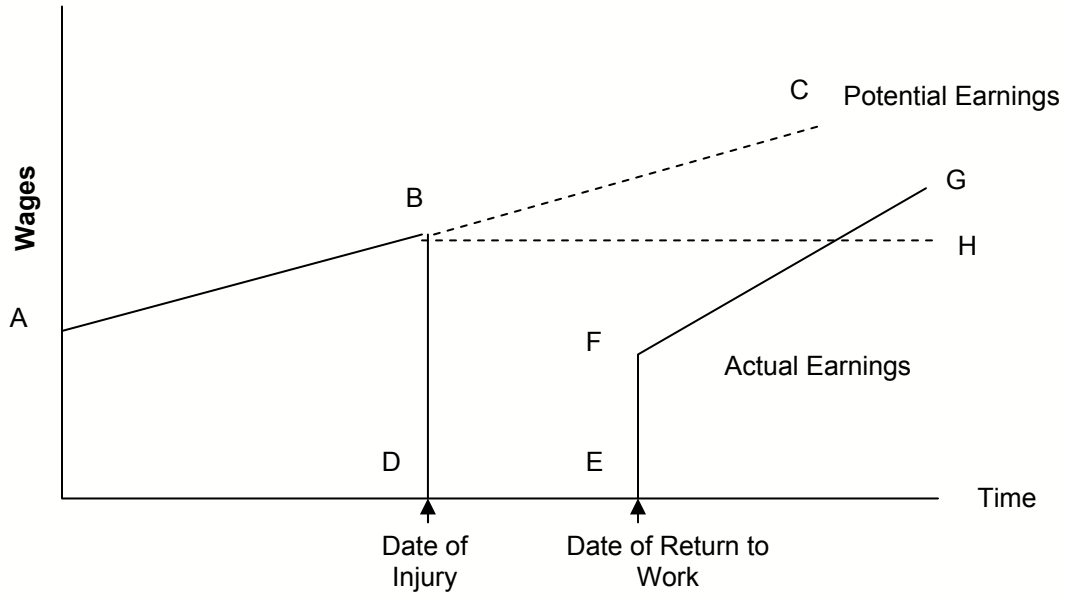
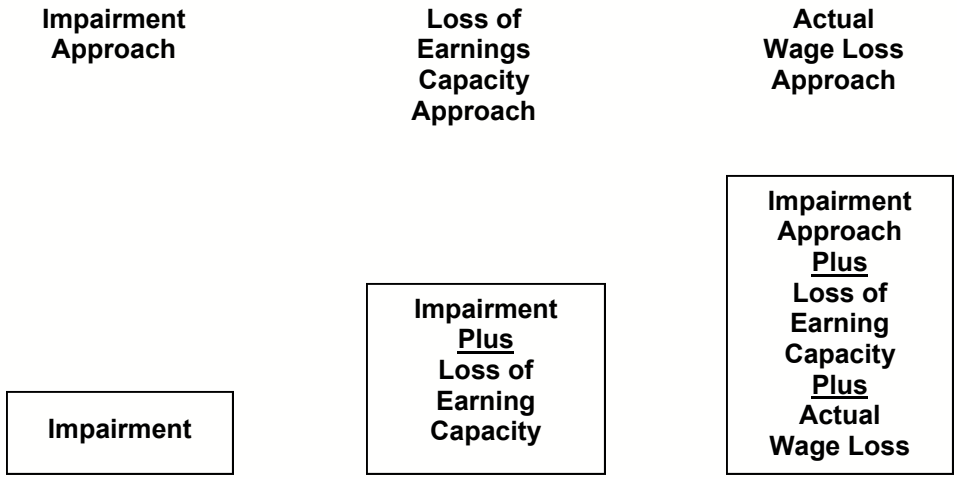


Figure 4
Three Basic Operational Approaches to Cash Benefits in Workers' Compensation



IVA. Nonwork Disability: Loss of Capacity – This is the presumed loss of the quality of life resulting from the functional limitations, based on factors such as the nature and severity of the injury, and the worker's age, education, and work experience. The loss of quality of life is defined by McGeary et al. (2006: 72) as "the consequences of an injury or disease other than work disability." A question from the SF-36 that measures loss of capacity for the quality of life is "During the past 4 weeks, how much of your time has your physical health or emotional problems interfered with your social activities like visiting with friends, relatives, and so forth?"

IVB. Nonwork Disability: Actual Loss of Quality of Life – This is the actual loss of quality of life resulting from the injury or disease and its consequences (e.g., impairment). This is obviously a difficult concept to measure since there is no objective measure of the loss of quality of life comparable to the loss of actual earnings for work disability. One example of a subjective measure of the quality of life is the "opinion meter" scale used in the research conducted by Sinclair and Burton (1995), where respondents rated the loss of enjoyment of life associated with various medical conditions using a scale where 0 represented normal health and 100 represented death.

Three Operational Approaches for Cash Benefits: An Introduction

There are three operational approaches for workers' compensation cash benefits used in the United States, as shown in Figure 4. These three approaches are introduced in this section and then are examined in more detail in subsequent sections.

The *impairment approach* rates the degree of impairment resulting from the injury or disease and bases the amount of cash benefits on the impairment rating. The impairment approach also includes ratings that consider the impact of the injury or disease on the activities of daily living, such as the *AMA Guides*.

The *loss of earnings capacity approach* requires the worker to have an impairment and then rates the loss of earning capacity resulting from the injury or disease. The rating is based on the extent of the worker's impairment as well as other factors, such as the worker's age, education, and previous work experience. The amount of the cash benefits is based on the rating of the loss of earning capacity.

The *actual wage loss approach* requires the worker to have an impairment and a loss of earning capacity as well as actual loss of earnings due to the injury or disease. The amount of cash benefits is based on the actual loss of wages or the loss of earning capacity, whichever is less.

Temporary Total Disability Benefits: One Operational Approach and One Purpose

Temporary total disability (TTD) benefits are provided to workers who are unable to work during the temporary disability period. TTD benefits are part of

the system of cash benefits in all states, although there are differences in the statutory provisions. Most states provide weekly benefits that are 66 2/3 percent of the worker's preinjury gross wages. All states have minimum and maximum weekly benefits, and all states have a waiting period before TTD benefits begin.

The only operational approach used for TTD benefits is the actual wage loss approach. If a worker who is earning $500 a week has a workplace injury and returns to the job the next day and continues to earn $500 a week, he will not qualify for workers' compensation cash benefits even if he has a temporary impairment or temporary loss of earning capacity. Even if the worker does not return to work after the waiting period for temporary disability benefits, he will not qualify for cash benefits if he cannot demonstrate that he has an impairment. Thus a worker who falls and is dizzy for a day but who has fully recovered four days later (in a state with a three-day waiting period) is not going to qualify for cash benefits even if he does not return to work. Moreover, even if the worker does not return to work after the waiting period for temporary disability and still has an impairment, she is not going to qualify for cash benefits if she cannot establish that she has a loss of earning capacity. Thus, if she breaks a toe, which is in a cast after a week and which limits her mobility, she is not going to qualify for cash benefits if her job consisted of handling phone calls, the employer demonstrates she is fully able to perform her normal job tasks, and the employer is willing to continue to employ the employee at her old wage.

Figure 2 is primarily concerned with the permanent consequences of an injury or diseases, but can also be used to identify the purpose of TTD benefits. The sole purpose of TTD benefits is "obvious," namely to compensate for actual loss of earnings. In this instance, the *operational approach* – the actual wage loss approach – and the *purpose* of the benefits – actual loss of earnings – coincide.

Temporary Partial Disability Benefits: One Operational Approach and One Purpose

Most but not all state workers' compensation programs provide temporary partial disability (TPD) benefits to workers who have not reached the date of maximum medical improvement and who have returned to work at wages below their preinjury wages. The weekly TPD benefit is a percentage (usually 66 2/3 percent) of the difference between the worker's preinjury wages and the worker's current earnings. The weekly TPD benefits in most jurisdictions are subject to the same maximum benefit as TTD benefits. Some but not all states have minimum weekly benefits for TPD benefits.

The only operational approach for TPD benefits is the actual wage loss approach. Thus, a worker who previously earned $500 a week and who returns to work at $200 a week has earnings losses of $300 a week and would qualify for $200 a week of TPD benefits in most states ($300 X 66 2/3 percent) if he can demonstrate that he has an impairment and a loss of earning capacity. If however, he cannot demonstrate both an impairment and a loss of earning capacity (for example, if the employer has offered to return him to work full time and he is capable of that level of work), then he will not qualify for TPD benefits.

The sole purpose of TPD benefits is to compensate for actual loss of earnings. In this instance, the operational approach – the actual wage loss approach – and the purpose of the benefits – actual loss of earnings – coincide.

The Three Operational Approaches Used for PPD Benefits

Permanent partial disability (PPD) benefits are paid to workers who have consequences of their injury that persist after the date of MMI that are not totally disabling. These are the most expensive, complex, and controversial type of cash benefits, and so will receive an extended examination. Burton (2005: 81-87) identified three basic operational approaches for PPD benefits used in U.S. workers' compensation programs.

Operation Approach I: The Permanent Impairment Approach. The first basic operational approach evaluates the seriousness of the worker's anatomical loss and/or functional loss resulting from the work-related injury. (The evaluation may also include an assessment of the effect of the injury on the worker's activities of daily living.[7]) A permanent impairment rating is made, which is used to determine the amount (weekly benefit and/or duration) of the PPD benefits.

In Wisconsin, for example, the statute provides that a worker who has the total physical loss or total loss of the use of a leg is entitled to 500 weeks of permanent partial disability benefits. A worker who has permanent damage to his or her leg that is rated at 20 percent will receive 100 weeks of PPD benefits. The worker receives the 100 weeks of PPD benefits regardless of his or her actual labor market experience. The weekly benefit is 66 2/3 percent of the worker's preinjury wages, subject to the Wisconsin maximum weekly benefit for PPD benefits.

Operational Approach II: The Loss of Earning Capacity Approach. The second basic operational approach considers the seriousness of the worker's permanent impairment as well as other factors that may

affect the worker's loss of the earning capacity (LEC) resulting from the injury.[8] These factors may include the worker's age, prior education, prior work experience, and job opportunities. A LEC rating is made, which is used to determine the amount (weekly benefit and/or duration) of the PPD benefits. A few states reduce the LEC rating if the worker has returned to work, but lack of actual earnings losses does not preclude PPD benefits under this approach.

In Iowa, for example, the workers' compensation statute provides that a worker with an injury that is unscheduled[9] will have the consequences of his or her injury rated as an "industrial disability." This rating takes into account the seriousness of the worker's impairment, plus the worker's age, education, intellectual ability, work skills, and employability. The disability rating (or LEC rating) is multiplied by 500 weeks to determine the duration of the PPD benefits. Thus, a worker who has permanent damage to her back that is rated at 25 percent will receive 125 weeks of PPD benefits. The worker receives the 125 weeks of PPD benefits regardless of her actual labor market experience. The weekly benefit is 80 percent of the worker's preinjury spendable earnings, subject to the Iowa maximum for PPD benefits.

Operational Approach III: The Actual Wage Loss Approach. The third basic operational approach determines the actual wage loss due to the work-related injury by comparing the worker's actual earnings in the period after the date of maximum medical improvement (date of MMI) with the worker's earnings before the date of injury.[10] The duration and amount of PPD benefits are then related to the duration and amount of actual wage loss.

In New York, for example, a worker with an unscheduled injury with permanent consequences must establish that he is experiencing an actual loss of wages in order to receive any PPD benefits. If the worker returns to work at a wage equal or higher than the preinjury wage, the worker receives no PPD benefits even though the worker has a permanent impairment and/or a loss of earning capacity. If the worker returns to work at a wage less than the preinjury wage, and thus experiences wage loss after the date of MMI, then the PPD benefits are 66 2/3 percent of the difference between the preinjury wages and the actual earnings in the permanent disability period, subject to the state's maximum weekly benefit for PPD benefits. The duration of these PPD benefits for nonscheduled injuries was for the duration of the disability (including, in some cases, for lifetime) until 2007, when maximum durations for the nonscheduled benefits were established that vary by the seriousness of the injury.

If the worker has no earnings after the date of MMI, then the PPD benefits are 66 2/3 percent of the difference between the worker's preinjury earnings and the worker's earning capacity as determined by the workers' compensation program, subject to the New York's maximum weekly benefit for PPD benefits. The duration of these PPD benefits for nonscheduled injuries was for the duration of the disability (including, in some cases, for lifetime) until 2007, when maximum durations for the nonscheduled benefits were established that vary by the seriousness of the injury.[11]

The Essential Differences among the Three Operational Approaches. There are three crucial differences between the first two operational approaches – the permanent impairment approach and the loss of earning capacity approach – and the actual wage loss approach. The first difference is that those states relying on the actual wage loss approach require the worker to demonstrate that a work-related injury has (1) produced a permanent impairment *and* (2) a loss of earning capacity *and* (3) to demonstrate that he or she has experienced an actual loss of earnings because of the work-related injury or disease. In contrast, the impairment and loss of earning capacity approaches will pay PPD benefits even if there is no actual loss of earnings so long as the worker can demonstrate that the work injury or disease caused a diminution in one of these proxies for actual wage loss.

The second difference between the first two operational approaches and the actual wage loss approach pertains to the time when the decisions about the amount of PPD benefits are determined. In the permanent impairment approach and the loss of earning capacity approach, the worker is evaluated as soon as possible after the date of MMI, when the extent of the permanent impairment resulting from the workplace injury can first be assessed. The result is a permanent impairment rating or a loss of earning capacity rating that determines the weekly amount and the duration of PPD benefits the worker will receive. In essence, the PPD benefits are determined near the beginning of permanent disability period even though the purpose of the benefits is to compensate the workers for lost wages during the entire period of permanent disability. Berkowitz and Burton (1987) termed this the *ex ante* approach, since the PPD benefits are designed to compensate for losses that are expected to occur after the benefits are awarded. In contrast, under the wage loss approach, the determination of the amount and duration of the PPD benefits is made on a continuing basis until the end of the permanent disability period (or the maximum duration for the benefits) is reached. Berkowitz and Burton termed this the *ex post* approach, since the PPD benefits are designed to compensate for losses

that have already occurred before the benefits are awarded.

There is a third difference between the first two operational approaches and the actual wage loss approach (which is related to the second difference). Once the decision is made about the PPD benefits in the impairment approach or the loss of earning capacity approach, the award is rarely revisited regardless of what subsequently happens to the worker in the labor market. In contrast, in the actual wage loss approach, the amount and duration of the PPD benefits are not determined until the worker's actual experience in the labor market is known.

The Elusive Nature of the Actual Wage Loss Approach. The actual wage loss approach can be converted into the loss of earning capacity approach by the use of compromise and release agreements, in which workers release their claim to future benefits in exchange for a lump-sum settlement.[12] Compromise and release agreements have different names and somewhat different legal requirements in different states, but are basically what are called redemptions in Michigan and lump-sum settlements in New York. Regardless of the term used in the state that nominally rely on the actual wage loss approach for at least some type of PPD benefits, the compromise and release agreement transforms a case from one relying on the actual wage loss approach (where the amount of PPD benefits is unknown until the end of the period of permanent disability or the worker reaches the statutory maximum duration for such benefits) into the loss of earning capacity approach (where the amount of PPD benefits is determined near the beginning of the period of permanent disability based on an assessment of the extent of loss of earning capacity).

The "Simple" Test for Use of the Actual Wage Loss Approach. The previous discussion of the difference between the actual wage loss approach and the other two operational approaches for cash benefits may be so confusing that it is hard to identify the use of the actual wage loss approach in a state's system of cash benefits for permanent disability benefits. So here is a "simple" test that represents a field-guide to this elusive species.

Assume that a worker has a work-related injury that results in a permanent impairment and a permanent loss of earning capacity. Assume the worker receives temporary total disability benefits during the healing period. Assume that the worker has now reached the date of maximum medical improvement (after which no further improvements in the worker's medical condition are expected.) Assume that the worker does not receive permanent disability benefits as a result of a compromise and release agreement. Assume that the worker returns to her old job at wages that are at least as high as her wages prior to the injury. Can this worker receive cash benefits for the permanent disability period from the state's worker's compensation program for her type of injury? If the answer is yes, this is **not** the actual wage loss approach. If the answer is no, this **is** the actual wage loss approach.

I suspect there are some misclassifications of states as to whether they use the actual wage loss approach when this field test is used. Table 1 provides the list of states using the wage-loss approach included in two surveys of permanent partial disability benefits. Barth and Niss (1999: Table 3:12) list 10 states that rely on the wage-loss approach for permanent partial disability benefits. In a more recent survey, the National Council on Compensation Insurance (2004) include 11 states as basing non-scheduled benefits on actual wage loss. However only five states are common to the two compilations (they are underlined in Table 1), which means that 16 states are listed as relying on the wage loss approach in at least one of these surveys. It is possible that a number of states changed their operational approaches to PPD benefits between 1999 and 2004. However, I suspect that some of the survey respondents in the 16 states included in Table 1 confused the loss of earning capacity operational approach with the actual wage loss operational approach. I would welcome comments from readers familiar with any of these 16 states about whether the "simple test" for the actual wage loss approach is currently met.

I

Table 1
Wage-Loss Jurisdictions

Barth and Niss	NCCI
Arizona	Alabama
Louisiana	Arizona
Maine	D.C.
Massachusetts	Florida
Michigan	Kansas
New Hampshire	Louisiana
North Dakota	Maine
Ohio	Maryland
Pennsylvania	Michigan
Rhode Island	Montana
	Rhode Island

Barth and Niss (1999), Table 3.12

NCCI (2004), Question 7

also solicit examples of states that meet the "simple test" for the actual wage loss approach but that are not included in Table 1. I find it interesting that New York is not identified as relying on the actual wage-loss approach in either of the surveys.[13] However, as previously discussed, a New York worker who has a back injury with permanent consequences, who returns to his or her old job at a wage paying at least as much as the preinjury wage, and who does not settle the case will receive no permanent partial disability benefits. The nonscheduled PPD benefits in New York appear to meet the "simple" test for the actual wage loss approach.

Further Complications in Classifying States in the Use of PPD Benefits

There are three operational approaches used by various states to provide PPD benefits, and different authors have disagreed on which approach is used for a particular type of PPD benefit. A further obstacle to classifying states is that most, if not all, states use systems of PPD benefits in which different types of PPD benefits are used for different workers or even for the same worker.

Different Benefits for Workers with Different Injuries. Burton (2005: 88-89) identified common distinctions that occur within states in the design of their systems of PPD benefits: (1) distinctions between diseases and injuries; (2) distinctions between different types of injuries, such as the difference in most states between scheduled injuries (those specifically enumerated in the workers' compensation statute) and nonscheduled injuries (those not listed in the statute); and (3) distinctions between injuries with different degrees of severity. These distinctions will be explored in more detail in the subsequent articles by Burton (2008b) and Welch (2008).

Multiple Benefits for the Same Injury to a Worker. In some states, a worker may qualify for more than one variant of PPD benefits for the same injury, such as the loss of an arm. There are three variants of multiple PPD benefits for the same injury involving different operational approaches to benefits: (1) *Alternative PPD benefits*. For example, in North Carolina, a worker with a scheduled injury (such as an injury to the arm) can choose between two operational approaches used to determine benefits: *either* the impairment approach *or* the loss of earning capacity approach.[14] (2) S*equential PPD benefits.* For example, in Texas, the initial phase of PPD benefits (termed "impairment-income benefits") is based on the impairment operational approach. After the impairment-income benefits expire, a worker may also qualify for a "supplementary-income benefit," which is based on the actual wage loss operational approach.[15] (3) *Concurrent PPD benefits.* For example, in Massachusetts, a worker may simultaneously qualify for both PPD benefits, which are based on the actual wage-loss operational approach, *and* for benefits for "specific injuries," which are based on the impairment operational approach.[16]

The Purpose of PPD Benefits Relying on the Actual Wage Loss Approach

The previous discussion examined PPD benefits based on three distinct operational approaches: the permanent impairment approach, the loss of earning capacity approach, and the actual wage loss approach. In essence, I have described the rules that determine *how* an injured worker qualifies for PDD benefits paid on the basis of each of these approaches.

I now want to examine another issue, namely *why* are workers paid PPD benefits under the three operational approaches? Alternatively stated, which of various consequences of workplace injuries and diseases shown in Figure 2 provide the *purpose or purposes* for PPD benefits under the three operational approaches?

The *purpose* of PPD benefits that are operationally based on the actual loss approach is "obvious:" namely, to compensate for actual loss of wages.[17] However, the congruence of operational approach and purpose arguably only exists for PPD benefits that rely on the actual wage loss operational approach.

The Purpose of PPD Benefits Relying on the Loss of Earning Capacity Approach

The permanent consequences of injuries and diseases shown in Figure 2 include two aspects of work disability, namely IIIA Loss of Earning Capacity and IIIB Actual Loss of Earnings. My view is that the *purpose* of PPD benefits that are operationally based on the loss of earning capacity is to compensate for actual loss of wages. The essential assumption underlying this view is that the loss of earning capacity is serving as a proxy or predictor of the actual loss of earnings that will result from the workplace injury. Alternatively stated, the extent of loss of earning capacity (for example, 25 percent) is conclusively presumed to result in an actual loss of wages to the same degree (namely, 25 percent). This assumption is based in part on the analysis in the next section.

The Purpose or Purposes of PPD Benefits Relying on the Permanent Impairment Approach

What about the purpose or purposes of PPD benefits relying on the permanent impairment approach? I will present an argument that relies to a great extent on the analyses by the late Arthur Larson, the foremost legal scholar in the history of the U.S. workers' compensation program.

Larson examined the history of workers' compensation programs (Larson and Larson 2007: §80.05[3]).[18] Workers' compensation originated in Prussia in the 1880s and workers' compensation statutes were enacted in 20 additional countries or provinces before the first U.S. statute was enacted. All of these statutes were of the "pure wage-loss type." Larson indicated that "'Schedules' for permanent partial disability, independent of actual wage loss, did not exist." The British acts of 1897 and 1906, which Larson indicates were the model for most American acts, paid 50 percent of the actual loss of wages during the period of incapacity, with no distinction between temporary and permanent periods of disability.[19]

Larson also examined origins of workers' compensation in the U.S. and found that "almost all of the earliest acts were wage-loss acts with no schedules." He indicates that the first important act passed in the U.S. was the 1910 New York statute, which was a wage loss act modeled on the 1897 British Act. Although that act was declared unconstitutional, Larson indicates it influenced other state legislatures. In 1911, ten states enacted workers' compensation statutes: eight were of the wage-loss type and the Washington statute is difficult to classify. The tenth state was New Jersey, which "appears to have been the first example of a state statute that contained a schedule from the beginning."

Larson examined at length the meaning and origin of the schedule principle (Larson and Larson 2007: § 80.05[4]). He argued that the concept ["the schedule principle"] ordinarily contains two components: the first had to do with the way the amount of compensation is determined. "In a typical American schedule, this takes the form of a list describing various members of the body, and prescribing a fixed number of weeks of compensation for their loss or loss of use." (In the terminology of the present article, this can be considered the permanent impairment operational approach to PPD benefits.) Larson indicated that history prior to the emergence of workers' compensation programs provides an explanation of the use of a schedule to provide a tabulation of fixed amounts of compensation for particular physical losses. "Indeed, the first schedules were probably those in individual insurance policies . . ."

The second component of the schedule principle is what Larson termed "the fundamental rule of liability." (In the terminology of the present article this can be considered the purpose of the PPD benefits based on a schedule.) Larson observed that:

> Normally, the fixed amount of compensation for a schedule loss is paid regardless of actual wage loss. This can cut both ways. A worker who has lost an eye, but has returned to work at his or her regular wages, is nevertheless entitled to the scheduled amount. Conversely, if the worker's fixed benefits expire, and he or she remains unemployed because of disability, the benefits stop.

Larson concluded that while history from other forms of insurance was helpful in understanding where the first component came from, history prior to the emergence of workers' compensation was of no use in explaining the origin of the second component: "the complete independence from actual wage loss, within an over-all wage loss system, of one particular group of injuries." Here Larson relied on the history of the original workers' compensation programs, which almost universally relied on the actual wage loss approach to benefits until the adoption of the scheduled approach in New Jersey.

> The historical evidence is quite clear that the schedule was never intended to be a departure from or an exception to the wage-loss principle. The typical schedule, limited to obvious and easily-provable losses of members, was justified on two grounds: the gravity of the impairment supported a conclusive presumption that actual wage loss would sooner or later result; and the conspicuousness of the loss guaranteed that awards could be made with no controversy whatever.

And so the reasons why New Jersey and subsequently most other states adopt scheduled benefits, even though the purpose was to compensate for actual loss of earnings, were (1) the presumption that the impairment would result in actual loss of wages and (2) the assumption that the extent of the impairment could be readily determined, thus eliminating controversy. Larson (2007: § 80.05[4]) quotes Professor Francis H. Bohlen in a 1912 address who provided a dual justification of a schedule: by specifying the number of weeks associated with the loss of a hand, arm, and other body parts, there would be no question about the "*extent of disability* of the sufferer or the amount payable to him"

and as a result "*litigation would be prevented*." In addition, I would add as an assumed advantage of the permanent impairment operational approach that cases can be resolved quickly, thereby reducing the administrative expenses of carriers, employers, and state workers' compensation agencies. In short, New Jersey adopted scheduled benefits not because the state had decided the purpose of PPD benefits was compensation for nonwork disability instead of work disability, but because the use of the permanent impairment operational approach was assumed to provide a more efficient method to serve the purpose of compensating work disability.

It would be misleading to argue that the "purist view" that compensation for actual loss of wages is the sole *purpose* of PPD benefits relying on the permanent impairment operational approach (such as scheduled benefits) is universally endorsed and adopted. Indeed, the Larson treatise (Larson and Larson 2007: §80.05[5-7]) provides an extended discussion of the gradual erosion of the wage-loss principle and the express adoption of the "physical-impairment theory" by a minority of states. Larson's viewpoint on the underlying purpose of scheduled benefits (which are leading examples of benefits based on the permanent impairment operational approach) and the challenge to that viewpoint was presented in Larson (1973: 33-34).

> The basic principle here is that, as the name "income insurance" implies, the thing insured against is loss of earnings, actual or presumed, and not physical loss of a member or a bodily function. . . . In recent years, this classical principle of workmen's compensation has been subjected to some challenge and it is important to inquire how this has come about.
>
> The sequence leading to the present controversy on this point begins with the near-universal provision for schedule benefits. Schedule benefits are typically a fixed number of weeks of benefits for the loss, or loss of use, of a specified member, without regard to actual wage loss. . . .
>
> The schedule principle, however, is not a departure from the wage-loss principle. There are dozens of statements to this effect in reported cases, and only a handful of statements taking the opposite view. The only difference is that the wage loss in the schedule case is conclusively presumed. This is justifiable because the full extent of the wage loss from a permanent partial disability will typically never be known at the time of the hearing. It stretches out over a lifetime, but the award must be paid now.
>
> The illusion that this is a payment for a lost member is heightened by the practice of lump summing, which is all too prevalent in some jurisdictions. When a man receives a schedule award commuted to a lump sum and goes away with several hundred dollars for loss of a portion of a finger, it begins to look on the surface very much like the man has simply been paid a fixed sum of money for the loss of a fixed portion of the body. But the added practice of lump summing does not itself change the underlying principle of liability; it is just a different way of paying for it.
>
> However, when this sort of thing has gone on long enough, it is not surprising if a great many people get the idea that what is really going on is cash compensation for physical losses. When this point has been reached, it is also perhaps not surprising if some respected authorities in the field invent a theory or "school of thought" to dignify what has come about as a result of a combination of mistaken notions about the nature of schedule benefits. Thus one can find debates on the subject of the "whole man theory," and other names given to the idea that a workman is entitled to be compensated for any physical loss to the extent that it impairs the physical effectiveness of the whole man. The writer has, in this instance also, devoted a long section of the treatise to an examination of the cases advanced to support this theory, and they prove on examination to be far too insignificant to be dignified with the title "school of thought." South Carolina, which has been cited as supporting the unorthodox view, has come out with a resounding reaffirmation of the wage-loss principle. In New Jersey, it is true that there can be found dicta questioning the pure wage-loss theory, but there can also be found an equal number of statements firmly supporting it. The vast majority of American jurisdictions still adhere to the wage-loss principle and account for schedule and disfigurement awards on the basis of conclusively presumed impairment of earning capacity.

The preceding passage by Larson (1973) was from a study he prepared as an input to the deliberations of the National Commission on State Workmen's Compensation Laws. His purpose was to reduce the confusion surrounding the purpose of workers' compensation cash benefits, and in particular PPD benefits paid on the basis of a schedule. Alas, *The Report of the National Commission of State Workmen's Compensation Laws* (National Commission 1972: 68-69) may have added to the confusion about the purpose or purposes of workers' compensation benefits:

> [W]e believe that the primary basis for workmen's compensation benefits should be the worker's loss of wages. We also believe that limited payments for permanent impairments are appropriate.

The National Commission thus broke with the historical view that the sole purpose of cash benefits in workers' compensation was to compensate for work disability by endorsing both loss of wages and payments for permanent impairment (or nonwork disability) as appropriate purposes of PPD benefits. The National Commission also suggested a system of PPD benefits that would clearly serve the two purposes (National Commission 1972: 69)

> A major difficulty with present permanent partial benefits provisions is that most seem to use one formula which bases benefits on both the impairment and disability bases. Combining both bases into one formula appears unworkable.
>
> Consideration should be given to the use of two types of benefits:
>
> *permanent partial impairment benefits*, paid to a worker solely because of a work-related impairment
>
> *permanent partial disability benefits*, paid to a worker because he has both a work-related impairment and a resultant disability.
>
> A worker might be eligible for both types of benefits. . . .
>
> Impairment benefits are justified because of losses an impaired worker experiences that are unrelated to lost remuneration. The impairment may, for example, have lifetime effects on the personality and normal activities of the worker. . .
>
> In contrast, the disability benefits could be based on actual wage loss or loss in wage earning capacity.

A Recapitulation of the Purpose or Purposes of PPD Benefits

The previous sections have made these arguments: (1) the *purpose* of PPD benefits that rely on the actual wage loss operational approach is to compensate for actual loss of wages; (2) the *purpose* of PPD benefits that rely on the loss of earning capacity operational approach is to compensate for actual loss of wages; (3) the *sole, or at least the dominant, purpose* of PPD benefits that rely on the permanent impairment operational approach is to compensate for actual loss of wages. This operational approach includes the scheduled PPD benefits found in most workers' compensation statutes.

What about the states providing multiple PPD benefits for the same injury to a worker? It is important to distinguish the three variants of multiple PPD benefits for the same injury involving different operational approaches to benefits: (1) *Alternative PPD benefits*. In North Carolina, a worker with a scheduled injury (such as an injury to the arm) can choose between two operational approaches used to determine benefits: *either* the impairment approach *or* the loss of earning capacity approach. But while the operational approach may vary, the *purpose* of both types of benefits is the same: to compensate for actual loss of wages. (2) S*equential PPD benefits*. In Texas, the initial phase of PPD benefits (termed "impairment-income benefits") is based on the impairment operational approach. After the impairment-income benefits expire, a worker may also qualify for a "supplementary-income benefit," which is based on the actual wage loss operational approach. Again, while the operational approach may vary, the purpose of both of the PPD benefits is to compensate for actual loss of wages. (3) *Concurrent PPD benefits.* In Massachusetts, a worker may simultaneously qualify for both PPD benefits based on the actual wage-loss operational approach *and* for benefits for "specific injuries," which are based on the impairment operational approach. It is only in this system of benefits that the two operational approaches have different purposes: the purpose of the PPD benefits is to compensate for actual loss of wages and the purpose of the benefits for "specific injuries" is to compensate for nonwork disability. The concurrent PPD benefits are examined in more detail in the next section.

The One Operational Approach for PPD Benefits for Nonwork Disability.

Florida Impairment Benefits. Florida paid two types of PPD benefits from 1979 to 1990.[20] One track of benefits, termed "wage-loss benefits," was work disability benefits that operationally relied on the actual wage loss approach. The other track of benefits, termed "impairment benefits," was nonwork disability benefits that operationally relied on the impairment approach. A distinctive feature of the Florida approach is that a given worker could qualify for both types of benefits concurrently, or either alone, or neither.

The impairment approach was the operational basis for the Florida impairment benefits. The 1979 law provided that for amputations, loss of 80 percent or

more of vision, or serious head or facial disfigurement, (1) the extent of the permanent impairment (PI) was rated using the AMA *Guides to the Evaluation of Permanent Impairment*, and (2) then $50 was paid in benefits for each percent of the PI rating up to 50 percent and $100 was paid for each percent of the PI rating in excess of 50 percent.

Massachusetts Specific Injuries. Massachusetts is the only jurisdiction I am aware of that currently provides two tracks of benefits that are paid concurrently, one of which is designed to compensate for work disability and one of which is designed to compensate for nonwork disability. The law provides that "In addition to all other compensation … the employee shall be paid the sums hereafter designated for the following specific injuries . . ." The statute then provides a list of injuries with the corresponding amounts of payments, such as a worker with the amputation or permanent and total loss of use of the major arm is paid a sum equal to the state's average weekly wage (SAWW) multiplied by 43, while a worker with the amputation or permanent and total loss of use of either leg is paid a sum equal to the SAWW multiplied by 39.

The "Simple" Test for PPD Benefits for Which the Purpose is Compensation for Nonwork Disability. Based on the characteristics of the Florida and Massachusetts PPD benefits, here is a "simple" three-step test that represents a field-guide to benefits for which the unambiguous purpose is compensation for nonwork disability. First, there must be two types of PPD benefits that can be paid concurrently (not alternatively or sequentially) to the same worker for the same injury. Second, the permanent impairment operational approach is used for the track of benefits for which the purpose is compensation for nonwork disability. Third, the benefit amount for the nonwork disability benefits is not based on the worker's preinjury wages, but is determined by a formula that provides the same amount of dollars for all workers with identical impairments.

Are these three steps in the test too restrictive? Are there, for example, states with benefits that could satisfy the first two steps of the test but not the third? I would appreciate comments from readers on this matter, including those providing examples of states other than Massachusetts that are currently providing benefits for which the purpose is nonwork disability.

The Two Operational Approaches and the One Purpose for PTD Benefits for Work Disability

Permanent total disability (PTD) benefits are paid to the relatively small number of workers who have consequences of their injury that persist after the date of MMI that are totally disabling. The purpose of the PTD benefits is to compensate for work disability,[21] and there are two operational approaches used to determine the amount of the PTD benefits.

Most if not all states provide that the loss of both legs, both arms, both hands, both feet, both eyes, or any combination of two of these body parts creates a presumption that the worker is permanently and totally disabled. This is an example of the permanent impairment operational approach because the physical loss is assumed to result in actual loss of wages.

Most states also provide that a worker who has no earnings and who has no earning capacity given the worker's impairment, age, education, work experience, or other relevant facts can qualify for PTD benefits, even if the worker's impairment by itself is not serious enough to qualify the worker for the benefits.[22] This is an example of the actual wage loss approach, since the worker must demonstrate three factors: an impairment, a loss of earning capacity, and actual wage loss.

Conclusions

This article provides the building blocks for the cash benefits provided by a workers' compensation program. The building blocks have been used by the states to construct a variety of state systems of cash benefits. Burton (2005: 89-95) provided a taxonomy of state systems of PPD benefits that included six systems, ranging from System I, in which states distinguish between scheduled and nonscheduled injuries and use the impairment approach for both types of injuries, to System VI, in which states (such as Massachusetts) use a concurrent dual benefits approach, with one track of benefits compensating for work disability and the other track compensating for nonwork disability. These Systems will be discussed in Burton (2008b).

The three operational approaches and the various systems of cash benefits can be evaluated using several criteria. (Burton 2005: 95-106) identified five criteria for evaluating a system of cash benefits: (1) the benefits must be adequate (replacing an appropriate proportion of lost wages), (2) the benefits must be equitable (providing benefits to workers in proportion to their lost earnings), (3) the delivery system for the benefits must be efficient, (4) the benefits system must be designed to promote prevention, compensation, and rehabilitation efficiency, and (5) the benefits must be affordable in order to avoid serious adverse effects for employers, workers, and the public. The forthcoming article (Burton 2008b) will explain these criteria and illustrate their use in evaluating state systems of cash benefits.

ENDNOTES

1. Earlier efforts to understand workers' compensation cash benefits include Berkowitz and Burton (1987) and Burton (2005).

2. An earlier draft of this article was substantially revised based on comments from Peter S. Barth and Edward M. Welch, both of whom are probably still skeptical of my analysis.

3. The term "date of maximum medical improvement" is not used in all workers' compensation programs. Indeed, some states do not explicitly distinguish between the temporary disability period and the permanent disability period. For purposes of this article, the permanent disability period can be considered the first date when the worker's medical condition is stable enough to be rated for benefits that rely on the impairment approach or the loss of earning capacity approach. Those approaches are explained in this article.

4. The current symptoms for Example 15-25 (*AMA Guides*: 478) are "Complaints of motion defects that result in significant interference with activities of daily living, particularly involving work activities above shoulder level." This listing of symptoms appears inconsistent with the definition in the Glossary of whole person impairment (*AMA Guides*: 615): "Percentages that estimate the impact of the impairment on the individual's overall ability to perform Activities of Daily Living, excluding work."

5. The loss of earning capacity can also be determined by use of a formula (Burton 2005: 82-83), as in California where in most cases the standard rating is based solely on the severity of the impairment and the final rating incorporates adjustments for age and occupation. This approach will be discussed in more detail in the forthcoming companion article on cash benefits.

6. This question from the SF-36 appears to ask about work disability as well as nonwork disability and activities of daily living.

7. As previously discussed, the Sixth Edition of the *AMA Guides* considers to a limited degree the effect of the injury on the activities of daily living (ADLS) in determining the permanent impairment rating.

8. Peter Barth, in comments on an earlier draft of this article, observed that the impairment rating effectively provides a minimum loss of earning capacity rating, which is typically increased on the basis of limiting factors such as the worker's age, education, and language skills.

9. Scheduled injuries are those specifically enumerated in the workers' compensation statute and unscheduled or nonscheduled injuries are those not listed in the statute.

10. In most states, the actual wage loss is calculated as the difference between the worker's earnings prior to the date of injury and the worker's actual earnings after the injury. The preinjury earnings are not escalated over time as shown by line BC in Figure 3. This means the compensable wage loss is less than the actual wage loss.

11. The nonscheduled PPD benefits in New York are more complicated than the example conveys. Berkowitz and Burton (1987: 244-49) provide some of the details.

12. Torrey (2007) provides an introduction to the use of compromise and release agreements (or compromise settlements).

13. In their discussion of New York, Barth and Niss (1999: note 8) indicate for scheduled losses that "Actually, the benefit is more a wage-loss benefit. *Capacity* is the state's term." The note refers to the benefits provided under § 15(3)(v) for a worker who has a scheduled injury rated at least 50 percent and who has continuing earnings losses when the scheduled benefits expire, and who thereafter qualifies for additional benefits based on the actual wage loss operational approach. However, New York also relies on the actual wage loss operational approach for nonscheduled injuries.

14. Barth and Niss (1999: 96) refer to this feature of the North Carolina law as the "bifurcated approach."

15. Berkowitz and Burton (1987: 407) and Burton (2005: 92-93) refer to this as the hybrid approach.

16. Burton (2005: 93-94) refers to this as the dual benefits approach.

17. I realize that describing something as "obvious" is akin to waving a red flag to attract attention in a bull ring. I trust readers will show compassion when they frame their comments on this assertion. But wait until you finish the entire discussion of purposes before pulling out your pen (I mean stylus).

18. Arthur Larson began his treatise in the 1970s. Since his death in 1993, the treatise has been continued by his son, Lex K. Larson. I am relying on Larson and Larson (2007), which is the three volume abridgment of the twelve-volume treatise.

19. The 1906 English Act is quoted in Larson and Larson (2008: § 80.05[3], note 14): "In the case of partial incapacity the weekly payment shall in no case exceed the difference between the amount of the average weekly earnings of the workman before the accident and the average weekly amount which he is earning or is able to earn in some suitable employment or business after the accident . . ."

20. The origins of the impairment benefits in Florida are discussed by Berkowitz and Burton (1987: Chapter 9).

21. There are some limited exceptions to the conclusion that the sole purpose of benefits for a worker who is permanently and totally disabled is to compensate for actual loss of wages. An example cited by Larson and Larson (2007: § 80.05[7]) is North Dakota, where the court decided in *Buechler v. North Dakota Workmen's Comp. Bureau*, 222 N.W.2d 858 (N.D. 1974) that a worker could receive both permanent total and permanent partial disability benefits. The purpose of the PTD benefits presumably was for work disability and the purpose of the PPD benefit presumably was for nonwork disability.

22. The "odd-lot" doctrine, which allows a worker who is only partially impaired to be found totally disabled because of factors such as the worker's age, education, and job experience is discussed in Willborn et al. (2007: 971-74).

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