From John Burton's Workers' Compensation Resources

Workers' Compensation Policy Review

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Featured Topics

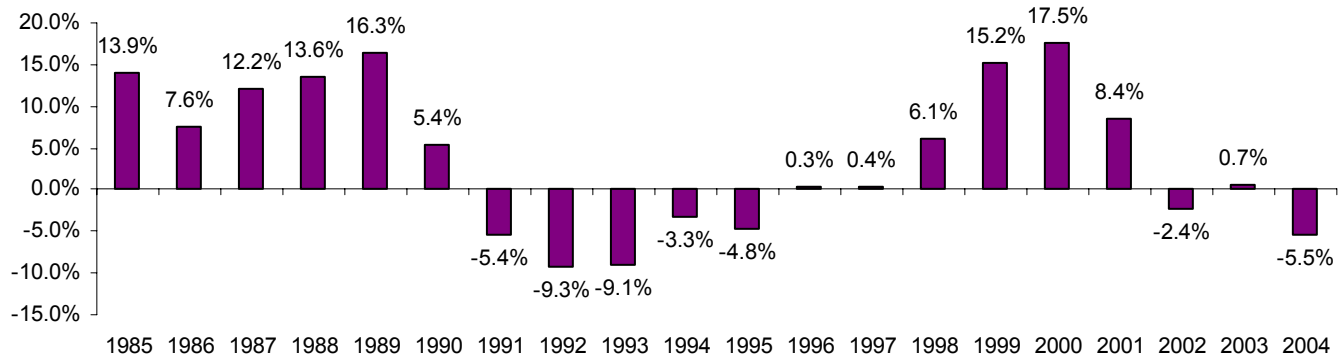
Summary of the Contents

Workers' compensation incurred benefits per 100,000 workers vary significantly among jurisdictions in a particular year as well as nationally over time. The lead article by John Burton and Florence Blum provides information on cash benefits, medical benefits, and total (cash plus medical) benefits for up to 48 jurisdictions for each of the years between 1985 and 2004.

Figure A provides an historical record of changes in the national averages of total benefits per 100,000 workers for the same 42 jurisdictions between 1985 and 2004. There were substantial fluctuations over time. Benefits increased by at least five percent a year in the six years from 1985 to 1990, and then declined in every year in the five years between 1991 and 1995. Benefits were relatively tranquil in 1996 and 1997, and then increased substantially in the four years from 1998 to 2001. Finally, in the most recent three years, benefits generally declined, with the 5.5 percent decline in total benefits in 2004 representing the sharpest decline in over a decade.

The second article by John Burton provides information on the underwriting results for the workers' compensation insurance industry. The overall operating ratio, which is the most comprehensive measure of underwriting results because it considers investment income, increased from 86.3 in 2006 to 88.6 in 2007. An operating ratio of less than 100 indicates that the industry is profitable, and the results show that 2006 and 2007 were the two most profitable years for the workers' compensation insurance industry since 1997.

Figure A
Changes in Total (Cash plus Medical) Benefits per 100,000 Workers
(Percentage Increase from Preceding Year)



Source: Table 2, Panel B.

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Workers' Compensation Incurred Benefits: 1985-2004

by John F. Burton Jr. and Florence Blum

Workers' compensation incurred benefits decreased nationally by 5.5 percent in 2004, the sharpest decline in over a decade. The data in Figure A show the annual changes for 20 years in total benefits (cash plus medical benefits) per 100,000 workers. The results are based on information from 42 states.

The results in Figure A document the substantial fluctuations over time in benefits provided by the workers' compensation program. In the six years from 1985 until 1990, benefits increased by over five percent in every year and were up by at least twelve percent a year in 1985 and between 1987 and 1989. Then benefits declined in every year in the five years between 1991 and 1995, with the sharpest drops in 1992 and 1993 exceeding nine percent. Benefits were relatively tranquil in 1996 and 1997, increasing by less than one percent a year. Total incurred benefits then increased substantially each year in the four years from 1998 to 2001, ranging from by 6.1 percent in 1998 to 17.5 percent in 2000. Finally, in the most recent three years, benefits generally declined: a drop of 2.4 percent in 2002 was followed by an increase of 0.7 percent in 2000 and a decline of 5.5 percent in 2004.

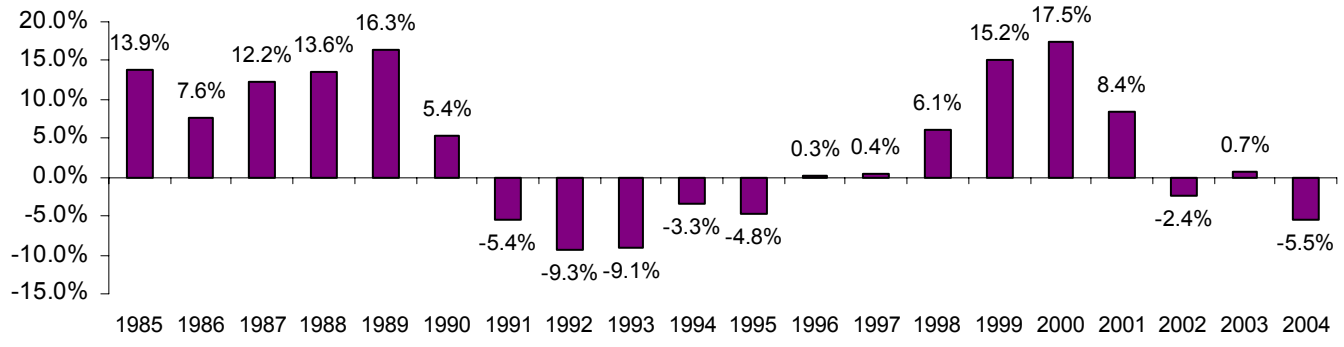
The recent experience in national workers' compensation benefit payments is also interesting when the data are separated into cash benefits and medical benefits. As shown in Figure B, cash benefits increased by more than 13 percent a year between 1999 and 2000, and so the modest increase of 3.0 percent in 2001 and the declines of 3.1 percent in 2002, 3.3 percent in 2003, and 11.2 percent in 2004 are striking. The recent pattern for medical benefits is also striking. Medical benefits increased on average more than 17 percent a year between 1999 and 2001. Then moderation in medical benefits began, with a 1.9 percent decline in 2002, an increase of 4.1 percent in 2003, and a slight decline of 0.9 percent in 2004.

Plan for Article

A previous article (Burton and Blum 2007) presented tables and figures containing information on cash benefits, medical benefits, and total (cash and medical benefits) per 100,000 workers for 1985 to 2003. The present article updates these traditional tables and figures through 2004, the latest year for which data are currently available. This article also contains Appendix A, which provide extended discussions of our methodology and sources of data for these articles.

Another previous article (Blum and Burton 2008) provided three additional types of data on incurred benefits in 2004. First, we included state data on frequency of claims per 100,000 workers for four types of cash benefits, for all cash benefits, and for medical benefits. Second, we provided state data on average benefits per claim for the four types of cash benefits, for all cash benefits, and for medical benefits. Third, we provided state data on benefits per 100,000 workers for four types of cash benefits, for all cash benefits, and for medical benefits.

Figure A
Changes in Total (Cash plus Medical) Benefits per 100,000 Workers
(Percentage Increase from Preceding Year)



Source: Table 2, Panel B.

National Data

The incurred benefits per 100,000 workers for 2004 in the 47 jurisdictions for which we have data for that year are provided in Table 1.2004. Similar data for 2003 are included in Table 1.2003.

Panel A of Table 1.2004 presents information on cash benefits, Panel B provides the data for medical benefits, and Panel C presents data for total (cash plus medical) benefits. As explained in Appendix A, we primarily rely on information published by the National Council on Compensation Insurance (NCCI) to develop our data. The NCCI publishes information on the frequency per 100,000 workers and the average cost per claim for four types of cash benefits: temporary total, permanent partial disability, permanent total, and fatal. We multiply the NCCI frequency and average cost per claim to obtain the cash benefits per 100,000 workers for each of the four types of cash benefits. The sum of these four types of cash benefits is $14,665,913 per 100,000 Alabama workers in 2004, as shown in column (1) of Table 1.2004.

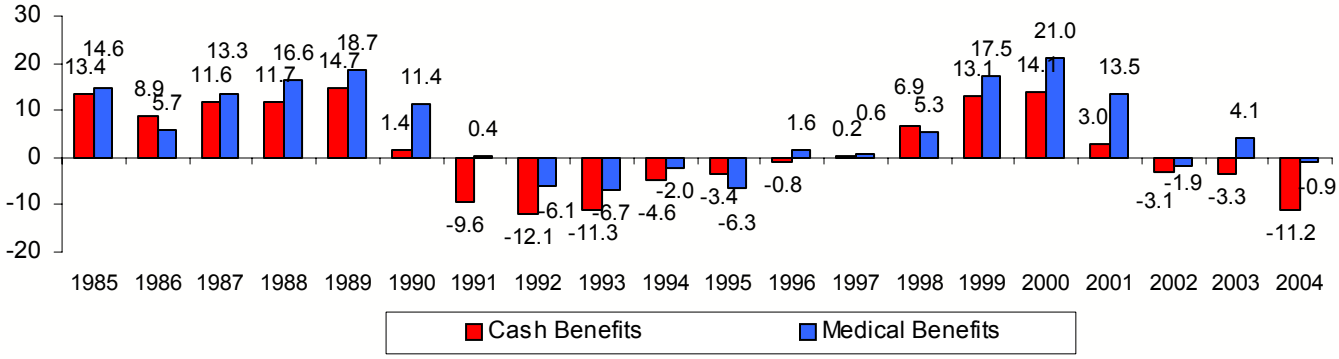
The derivation of the medical benefits per 100,000 workers in Panel B of Table 1.2004 is straightforward. The NCCI publishes the frequency of medical claims per 100,000 workers and the average medical benefits per claim. The data are for all claims, including the medical benefits in claims with cash benefits and the medical benefits in claims without cash benefits (the "medical only" category). We multiply the NCCI frequency and average cost per claim to obtain the medical benefits per 100,000 workers. The result of this multiplication for Alabama for 2004 is the medical benefits of $44,832,658 per 100,000 workers in column (4) of Table 1.2004.

The derivation of the total (cash plus medical) benefits per 100,000 workers in Panel C of Table 1.2004 is also straightforward. For example, the 2004 Alabama total benefits of $59,498,571 per 100,000 workers in column (7) are the sum of the cash benefits of $14,665,913 in column (1) and the medical benefits of $44,832,658 in column (4) of Table 1.2004.

The data from Table 1.2003 through Table 1.2004, plus comparable tables for earlier years previously published in the *Workers' Compensation Policy Review*, were used to produce the national data in Table 2. Panel A of the table shows the national averages for cash benefits, medical benefits, and total (cash plus medical) per 100,000 workers for all of the states available in each year between 1975 and 2004.[1] Comparisons among years of the data in Panel A are inappropriate, however, because the number of states used to calculate the national average varies from year to year, depending on the available data. Nevada data, for example, only became available in 1996 after private carriers were permitted to provide workers' compensation insurance in the state. Since Nevada has paid above average benefits in 1996 to 1999, the national averages for 1996 to 1999 shown in Panel A of Table 2 are not comparable to the national average for earlier years.[2] There are also some years when data from other states are unavailable, which again limits the comparability of the data from different years in Panel A of Table 2.[3]

Panel B of Table 2 presents national averages for cash, medical, and total benefits per 100,000 workers for the same 42 states for 1984 to 2004. The data in Panel B of Table 2 are more comparable among years than the Panel A data, and were therefore used to produce Figures A and B.

Figure B
Changes in Benefits per 100,000 Workers
(Percentage Increases from Preceding Year)



Source: Tables 2, Panel B.

Table 1.2003 - Benefits Per 100,000 Workers For Employers Who Purchase Workers' Compensation Insurance for 2003

	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
State	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 47 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 47 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 47 Jurisdictions (9)
Alabama	15,928,586	62.1	40	41,947,103	128.5	9	57,875,689	99.3	19
Alaska	40,250,819	156.9	3	88,479,217	271.1	1	128,730,036	220.9	2
Arizona	10,141,591	39.5	44	25,799,663	79.0	33	35,941,254	61.7	44
Arkansas	9,993,655	39.0	45	27,836,725	85.3	26	37,830,380	64.9	41
California	44,617,707	174.0	2	56,944,516	174.5	6	101,562,223	174.2	4
Colorado	20,234,149	78.9	32	24,438,367	74.9	38	44,672,516	76.6	34
Connecticut	28,621,443	111.6	13	23,654,431	72.5	41	52,275,874	89.7	27
Delaware	30,556,249	119.1	12	67,911,430	208.1	3	98,467,679	168.9	5
Dis. Of Columbia	18,369,270	71.6	37	11,256,455	34.5	47	29,625,725	50.8	46
Florida	20,308,897	79.2	30	42,995,464	131.7	8	63,304,361	108.6	10
Georgia	22,292,704	86.9	26	25,289,660	77.5	36	47,582,364	81.6	33
Hawaii	28,573,409	111.4	14	24,493,943	75.0	37	53,067,352	91.0	24
Idaho	17,875,755	69.7	38	25,436,700	77.9	34	43,312,455	74.3	36
Illinois	28,247,642	110.1	15	26,254,325	80.4	30	54,501,967	93.5	22
Indiana	9,155,375	35.7	47	20,168,108	61.8	42	29,323,483	50.3	47
Iowa	23,515,332	91.7	23	28,561,548	87.5	25	52,076,880	89.3	28
Kansas	16,292,922	63.5	39	26,091,655	79.9	31	42,384,577	72.7	37
Kentucky	22,583,891	88.1	25	60,133,298	184.2	5	82,717,189	141.9	6
Louisiana	24,277,572	94.7	20	31,766,085	97.3	18	56,043,657	96.2	21
Maine	31,812,718	124.0	9	37,481,059	114.8	12	69,293,777	118.9	9
Maryland	22,838,306	89.1	24	27,355,892	83.8	28	50,194,198	86.1	30
Massachusetts	24,464,880	95.4	18	14,675,764	45.0	45	39,140,644	67.2	39
Michigan	19,187,006	74.8	34	18,529,642	56.8	44	37,716,648	64.7	42
Minnesota	21,771,597	84.9	27	36,196,902	110.9	13	57,968,499	99.5	17
Mississippi	20,967,012	81.8	29	31,549,654	96.7	19	52,516,666	90.1	26
Missouri	26,381,435	102.9	17	27,695,556	84.9	27	54,076,991	92.8	23
Montana	33,121,709	129.1	6	71,295,601	218.4	2	104,417,310	179.1	3
Nebraska	20,244,942	78.9	31	31,024,095	95.1	20	51,269,037	88.0	29
Nevada	31,845,185	124.2	8	30,833,750	94.5	21	62,678,935	107.5	11
New Hampshire	20,064,904	78.2	33	49,613,170	152.0	7	69,678,074	119.5	8
New Jersey	23,746,786	92.6	22	24,140,116	74.0	39	47,886,902	82.2	32
New Mexico	18,456,175	72.0	36	25,956,976	79.5	32	44,413,151	76.2	35
New York	37,448,513	146.0	4	19,838,220	60.8	43	57,286,733	98.3	20
North Carolina	33,025,229	128.8	7	26,593,608	81.5	29	59,618,837	102.3	16
Oklahoma	36,352,541	141.7	5	38,372,331	117.6	10	74,724,872	128.2	7
Oregon	21,654,291	84.4	28	38,065,560	116.6	11	59,719,851	102.5	15
Pennsylvania	30,848,642	120.3	10	30,099,870	92.2	23	60,948,512	104.6	13
Rhode Island	23,798,920	92.8	21	13,340,544	40.9	46	37,139,464	63.7	43
South Carolina	30,659,839	119.5	11	30,437,279	93.3	22	61,097,118	104.8	12
South Dakota	13,080,964	51.0	42	34,905,420	106.9	14	47,986,384	82.3	31
Tennessee	24,320,520	94.8	19	33,582,328	102.9	16	57,902,848	99.3	18
Texas	11,925,695	46.5	43	29,743,560	91.1	24	41,669,255	71.5	38
USL&HW	98,561,264	384.3	1	64,006,010	196.1	4	162,567,274	278.9	1
Utah	9,883,961	38.5	46	24,125,447	73.9	40	34,009,408	58.3	45
Vermont	28,042,822	109.3	16	32,359,863	99.1	17	60,402,685	103.6	14
Virginia	13,538,320	52.8	41	25,384,145	77.8	35	38,922,465	66.8	40
Wisconsin	18,638,829	72.7	35	33,931,440	104.0	15	52,570,269	90.2	25
National Average*	25,646,442			32,639,059			58,285,501		

* Weighted averaged based on 46 jurisdictions (including the District of Columbia), using 2003 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, Annual Statistical Bulletin, 1986-2008 editions.

Table 1.2004 - Benefits Per 100,000 Workers For Employers Who Purchase Workers' Compensation Insurance for 2004

	Panel A: Cash Benefits			Panel B: Medical Benefits			Panel C: Total (Cash plus Medical) Benefits		
State	Dollar Amount (1)	State's Benefit as a Percentage of US Average (2)	Rank Among 47 Jurisdictions (3)	Dollar Amount (4)	State's Benefit as a Percentage of US Average (5)	Rank Among 47 Jurisdictions (6)	Dollar Amount (7)	State's Benefit as a Percentage of US Average (8)	Rank Among 47 Jurisdictions (9)
Alabama	14,665,913	63.7	40	44,832,658	139.4	8	59,498,571	107.8	17
Alaska	32,940,891	143.1	5	67,626,848	210.2	4	100,567,739	182.2	4
Arizona	10,899,037	47.3	44	28,553,956	88.8	29	39,452,993	71.5	41
Arkansas	9,776,063	42.5	45	21,564,705	67.0	40	31,340,768	56.8	45
California	28,338,915	123.1	14	50,509,625	157.0	7	78,848,540	142.9	7
Colorado	21,259,474	92.3	27	24,270,747	75.5	38	45,530,221	82.5	36
Connecticut	28,977,467	125.9	13	25,697,142	79.9	37	54,674,609	99.1	21
Delaware	29,744,329	129.2	10	80,087,574	249.0	3	109,831,903	199.0	3
Dis. Of Columbia	11,982,575	52.1	42	6,509,703	20.2	47	18,492,278	33.5	47
Florida	17,816,215	77.4	36	38,786,562	120.6	12	56,602,777	102.6	20
Georgia	22,078,117	95.9	24	27,357,784	85.1	31	49,435,901	89.6	27
Hawaii	24,492,725	106.4	18	22,603,122	70.3	39	47,095,847	85.3	34
Idaho	18,978,912	82.4	33	28,626,180	89.0	28	47,605,092	86.3	33
Illinois	29,302,791	127.3	11	28,454,384	88.5	30	57,757,175	104.7	18
Indiana	8,970,165	39.0	47	20,157,048	62.7	43	29,127,213	52.8	46
Iowa	23,674,521	102.8	20	29,907,515	93.0	24	53,582,036	97.1	23
Kansas	17,185,913	74.7	37	26,091,929	81.1	34	43,277,842	78.4	38
Kentucky	20,498,785	89.0	29	58,391,379	181.5	5	78,890,164	143.0	6
Louisiana	26,001,716	112.9	17	31,350,324	97.5	20	57,352,040	103.9	19
Maine	27,613,808	120.0	16	35,560,249	110.6	14	63,174,057	114.5	11
Maryland	21,443,564	93.1	26	29,655,078	92.2	26	51,098,642	92.6	26
Massachusetts	28,105,657	122.1	15	18,344,333	57.0	45	46,449,990	84.2	35
Michigan	20,149,383	87.5	31	20,344,931	63.2	42	40,494,314	73.4	40
Minnesota	23,186,463	100.7	21	38,054,790	118.3	13	61,241,253	111.0	14
Mississippi	20,177,933	87.7	30	32,506,987	101.1	17	52,684,920	95.5	25
Missouri	22,360,350	97.1	23	26,550,096	82.5	33	48,910,446	88.6	29
Montana	35,388,691	153.7	3	90,253,221	280.6	2	125,641,912	227.7	2
Nebraska	18,021,342	78.3	35	30,704,929	95.5	23	48,726,271	88.3	30
Nevada	32,811,008	142.5	6	31,724,975	98.6	18	64,535,983	116.9	10
New Hampshire	18,310,161	79.5	34	54,435,227	169.2	6	72,745,388	131.8	8
New Jersey	22,464,285	97.6	22	21,217,608	66.0	41	43,681,893	79.2	37
New Mexico	19,549,675	84.9	32	29,666,772	92.2	25	49,216,447	89.2	28
New York	34,529,512	150.0	4	19,462,905	60.5	44	53,992,417	97.8	22
North Carolina	31,795,944	138.1	7	28,679,376	89.2	27	60,475,320	109.6	16
Oklahoma	38,145,727	165.7	2	43,974,859	136.7	9	82,120,586	148.8	5
Oregon	21,614,036	93.9	25	41,354,589	128.6	10	62,968,625	114.1	12
Pennsylvania	30,410,475	132.1	9	30,765,987	95.6	22	61,176,462	110.9	15
Rhode Island	23,804,358	103.4	19	14,097,055	43.8	46	37,901,413	68.7	42
South Carolina	30,815,671	133.9	8	30,915,775	96.1	21	61,731,446	111.9	13
South Dakota	14,984,151	65.1	39	33,033,489	102.7	15	48,017,640	87.0	31
Tennessee	20,971,692	91.1	28	32,534,093	101.1	16	53,505,785	97.0	24
Texas	11,282,165	49.0	43	25,778,112	80.1	36	37,060,277	67.2	43
USL&HW	89,494,439	388.8	1	104,715,504	325.5	1	194,209,943	351.9	1
Utah	9,746,010	42.3	46	25,858,449	80.4	35	35,604,459	64.5	44
Vermont	29,125,507	126.5	12	38,810,727	120.7	11	67,936,234	123.1	9
Virginia	13,902,075	60.4	41	26,950,963	83.8	32	40,853,038	74.0	39
Wisconsin	16,094,985	69.9	38	31,520,706	98.0	19	47,615,691	86.3	32
National Average*	23,020,797			32,166,405			55,187,201		

* Weighted averaged based on 46 jurisdictions (including the District of Columbia), using 2004 state employment as weights. Data from USL&HW were not used to calculate national averages.

Sources: NCCI, Annual Statistical Bulletin, 1986-2008 editions.

Table 2: National Averages of Benefits Per 100,000 Workers By Policy Year

Panel A: All States with Data for the Particular Policy Year

		Cash Benefits		Medical Benefits		Total Benefits	
Policy Year	No. of States Used To Construct Avg.*	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year
1975	42 (DE, NV, NY, TX, WV)	7,874,517	--	3,552,450	--	11,426,967	--
1976	43 (MN, NV, NY, WV)	8,515,593	8.1%	3,995,476	12.5%	12,511,069	9.5%
1977	44 (MN, NV, WV)	9,227,895	8.4%	4,408,187	10.3%	13,636,083	9.0%
1978	45 (NV, WV)	10,369,063	12.4%	4,731,028	7.3%	15,100,091	10.7%
1979	42 (CA, MO, MT, NV, WV)	11,162,703	7.7%	4,664,034	-1.4%	15,826,737	4.8%
1980	43 (MN, NV, NY, WV)	11,884,171	6.5%	6,310,590	35.3%	18,194,761	15.0%
1981	44 (NV, VT, WV)	13,711,216	15.4%	7,469,288	18.4%	21,180,504	16.4%
1982	45 (NV, WV)	18,663,261	36.1%	9,087,027	21.7%	27,750,288	31.0%
1983	44 (NM, NV, WV)	16,750,940	-10.2%	10,269,408	13.0%	27,020,349	-2.6%
1984	44 (NV, TX, WV)	17,300,197	3.3%	10,204,892	-0.6%	27,505,090	1.8%
1985	44 (DE, NV, PA)	20,225,223	16.9%	12,834,744	25.8%	33,059,967	20.2%
1986	45 (DE, NV)	22,303,418	10.3%	13,791,840	7.5%	36,095,257	9.2%
1987	44 (NV, PA, TX)	24,060,662	7.9%	14,932,437	8.3%	38,993,098	8.0%
1988	45 (NV, PA)	27,336,755	13.6%	18,052,779	20.9%	45,389,534	16.4%
1989	45 (NV, TX)	31,425,071	15.0%	21,316,011	18.1%	52,741,082	16.2%
1990	46 (NV)	31,506,766	0.3%	23,794,856	11.6%	55,301,622	4.9%
1991	46 (NV)	28,344,969	-10.0%	24,522,926	3.1%	52,867,895	-4.4%
1992	46 (NV)	25,108,442	-11.4%	22,543,962	-8.1%	47,652,404	-9.9%
1993	46 (NV)	22,165,182	-11.7%	20,756,541	-7.9%	42,921,723	-9.9%
1994	46 (NV)	21,154,903	-4.6%	20,523,482	-1.1%	41,678,385	-2.9%
1995	46 (NV)	20,290,105	-4.1%	19,394,209	-5.5%	39,684,315	-4.8%
1996	47	20,068,618	-1.1%	19,429,245	0.2%	39,497,863	-0.5%
1997	47	20,170,219	0.5%	19,720,439	1.5%	39,890,658	1.0%
1998	47	21,311,948	5.7%	20,631,176	4.6%	41,943,124	5.1%
1999	46 (WV)	23,636,036	10.9%	24,049,366	16.6%	47,685,403	13.7%
2000	46 (WV)	26,589,326	12.5%	28,821,232	19.8%	55,410,558	16.2%
2001	46 (WV)	27,197,152	2.3%	32,605,979	13.1%	59,803,130	7.9%
2002	46 (WV)	26,438,377	-2.8%	32,010,903	-1.8%	58,449,281	-2.3%
2003	46 (WV)	25,646,442	-3.0%	32,639,059	2.0%	58,285,501	-0.3%
2004	46 (WV)	23,020,797	-10.2%	32,166,405	-1.4%	55,187,201	-5.3%

Panel B: Forty-two States with Data for Policy Years 1985 - 2004

		Cash Benefits		Medical Benefits		Total Benefits	
Policy Year	No. of States Used To Construct Avg.**	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year	Dollar Amounts	Increase from Previous Year
1984	42	17,201,752	--	10,846,656	--	28,048,408	--
1985	42	19,509,134	13.4%	12,434,554	14.6%	31,943,688	13.9%
1986	42	21,235,986	8.9%	13,145,594	5.7%	34,381,580	7.6%
1987	42	23,694,755	11.6%	14,894,040	13.3%	38,588,795	12.2%
1988	42	26,464,578	11.7%	17,370,930	16.6%	43,835,508	13.6%
1989	42	30,352,318	14.7%	20,627,490	18.7%	50,979,808	16.3%
1990	42	30,769,794	1.4%	22,980,033	11.4%	53,749,827	5.4%
1991	42	27,809,731	-9.6%	23,064,202	0.4%	50,873,933	-5.4%
1992	42	24,455,599	-12.1%	21,661,965	-6.1%	46,117,564	-9.3%
1993	42	21,686,480	-11.3%	20,218,576	-6.7%	41,905,056	-9.1%
1994	42	20,695,300	-4.6%	19,812,086	-2.0%	40,507,386	-3.3%
1995	42	19,995,816	-3.4%	18,562,269	-6.3%	38,558,084	-4.8%
1996	42	19,832,910	-0.8%	18,854,715	1.6%	38,687,625	0.3%
1997	42	19,871,430	0.2%	18,960,692	0.6%	38,832,122	0.4%
1998	42	21,240,948	6.9%	19,956,537	5.3%	41,197,485	6.1%
1999	42	24,027,792	13.1%	23,444,836	17.5%	47,472,629	15.2%
2000	42	27,418,872	14.1%	28,368,961	21.0%	55,787,834	17.5%
2001	42	28,246,834	3.0%	32,203,928	13.5%	60,450,762	8.4%
2002	42	27,375,617	-3.1%	31,604,006	-1.9%	58,979,623	-2.4%
2003	42	26,483,423	-3.3%	32,913,024	4.1%	59,396,448	0.7%
2004	42	23,522,430	-11.2%	32,627,110	-0.9%	56,149,540	-5.5%

* Maximum number of states is 47, including the District of Columbia. States missing from all years are four states with exclusive state funds, namely, North Dakota, Ohio, Washington, and Wyoming. States missing for a particular year in Panel A are shown in parentheses. In addition, the USL&HW is excluded from all calculations of National Averages.

**The states excluded from Panel B are the same states missing in Panel A plus Delaware, Nevada, Pennsylvania, Texas and West Virginia.

Table 3 - National Averages of Benefits Per 100,000 Workers By Year in Current and Constant Dollars

Panel A: Forty-two States with Data for Policy Years 1985 - 2004

		Cash Benefits				Medical Benefits				Total Benefits		
Policy Year	No. of States Used To Construct Avg.*	Benefits in Current $ (1)	CPI (2)	Benefits in 82-84 $ (3)	Increase from Previous Year (4)	Benefits in Current $ (5)	CPI (6)	Benefits in 82-84 $ (7)	Increase from Previous Year (8)	Benefits in Current $ (9)	Benefits in 82-84 $ (10)	Increase from Previous Year (11)
1984	42	17,201,752	103.7	16,587,996	--	10,846,656	106.8	10,156,045	--	28,048,408	26,744,041	--
1985	42	19,509,134	107.2	18,198,819	9.7%	12,434,554	113.5	10,955,554	7.9%	31,943,688	29,154,373	9.0%
1986	42	21,235,986	108.8	19,518,369	7.3%	13,145,594	122.0	10,775,077	-1.6%	34,381,580	30,293,447	3.9%
1987	42	23,694,755	112.6	21,043,299	7.8%	14,894,040	130.1	11,448,148	6.2%	38,588,795	32,491,447	7.3%
1988	42	26,464,578	117.0	22,619,297	7.5%	17,370,930	138.6	12,533,139	9.5%	43,835,508	35,152,436	8.2%
1989	42	30,352,318	122.4	24,797,645	9.6%	20,627,490	149.3	13,816,135	10.2%	50,979,808	38,613,781	9.8%
1990	42	30,769,794	128.8	23,889,592	-3.7%	22,980,033	162.8	14,115,499	2.2%	53,749,827	38,005,091	-1.6%
1991	42	27,809,731	133.8	20,784,552	-13.0%	23,064,202	177.0	13,030,623	-7.7%	50,873,933	33,815,175	-11.0%
1992	42	24,455,599	137.5	17,785,890	-14.4%	21,661,965	190.1	11,395,037	-12.6%	46,117,564	29,180,927	-13.7%
1993	42	21,686,480	141.2	15,358,697	-13.6%	20,218,576	201.4	10,039,015	-11.9%	41,905,056	25,397,712	-13.0%
1994	42	20,695,300	144.7	14,302,211	-6.9%	19,812,086	211.0	9,389,614	-6.5%	40,507,386	23,691,826	-6.7%
1995	42	19,995,816	148.6	13,456,135	-5.9%	18,562,269	220.5	8,418,263	-10.3%	38,558,084	21,874,397	-7.7%
1996	42	19,832,910	152.8	12,979,653	-3.5%	18,854,715	228.2	8,262,364	-1.9%	38,687,625	21,242,017	-2.9%
1997	42	19,871,430	156.3	12,713,647	-2.0%	18,960,692	234.6	8,082,136	-2.2%	38,832,122	20,795,783	-2.1%
1998	42	21,240,948	158.6	13,392,779	5.3%	19,956,537	242.1	8,243,097	2.0%	41,197,485	21,635,876	4.0%
1999	42	24,027,792	162.0	14,831,970	10.7%	23,444,836	250.6	9,355,481	13.5%	47,472,629	24,187,452	11.8%
2000	42	27,418,872	167.3	16,389,045	10.5%	28,368,961	260.8	10,877,669	16.3%	55,787,834	27,266,714	12.7%
2001	42	28,246,834	171.9	16,432,131	0.3%	32,203,928	272.8	11,804,959	8.5%	60,450,762	28,237,090	3.6%
2002	42	27,375,617	174.3	15,706,034	-4.4%	31,604,006	285.6	11,065,828	-6.3%	58,979,623	26,771,862	-5.2%
2003	42	26,483,423	178.1	14,869,974	-5.3%	32,913,024	297.1	11,078,096	0.1%	59,396,448	25,948,070	-3.1%
2004	42	23,522,430	182.7	12,874,893	-13.4%	32,627,110	310.1	10,521,480	-5.0%	56,149,540	23,396,373	-9.8%

Notes: CPI in column (2) is the Consumer Price Index for all items less medical care with 1982-84 = 100 from Table B-62 of Council of Economic Advisers (2008:298).
CPI in column (6) is the Consumer Price Index for medical care with 1982-84 = 100 from Table B-60 of Council of Economic Advisers (2008: 295).

The data in Panel B of Table 2, and the results in Figures A and B, document the dramatic fluctuations in incurred workers' compensation benefits in recent decades. For the five years from 1985 through 1989, total benefits per 100,000 workers increased at least 7 percent a year. The fastest growth year was 1989, when total benefits were up 16.3 percent from the previous year. Then a sudden deceleration occurred, with total benefits per 100,000 workers up only 5.4 percent in 1990 from the previous year. Deceleration was followed by decline: total benefits were down 5.4 percent in 1991 from the previous year, and 1991 was followed by another four years of decline. Total benefits were relatively stable in 1996 and 1997 and then increased by at least 6 percent from 1998 through 2001. In 2002 total benefits declined by 2.4 percent, increased slightly in 2003, and declined again to 5.5 percent in 2004.

The data on total benefits per 100,000 workers are the combined total of cash benefits per 100,000 workers and medical benefits per 100,000 workers. Panel B of Table 2 and Figure B provide information on the development of cash and medical benefits since 1984. The movements of cash and medical benefits through time have been similar to the movements for total benefits: initially several years when benefits were generally accelerating, followed by decelerating benefits in 1990, followed (with a minor exception) by a period of decline in benefits until 1995, then relative stability in 1996 and 1997, followed by an increase in both types of benefits from 1998 through 2001 before another decline in 2002. However, in 2003 the movement of cash and medical behaved differently. Cash benefits decreased by 3.3 percent while medical benefits increased by 4.1 percent. In 2004, the latest year we have data, cash benefits declined by 11.2 percent while medical benefits declined by 0.9 percent.

The data in Table 2 are for benefits in current dollars unadjusted for inflation. The benefits adjusted for changes in the CPI are shown in Table 3. The decline in benefits during the 1990s is even more dramatic when measured in constant (1982-84) dollars. Measured in current dollars, total benefits per 100,000 workers declined by 27.8 percent in the 43 jurisdictions between 1990 and 1997 (Table 3, Column (9)). Measured in constant dollars, total benefits per 100,000 workers declined by 45.3 percent from 1990 to 1997 (Table 3, Column (10)). Moreover, in constant dollars, the decline in total benefits began in 1990 and continued through 1997; this eight-year stretch of declining total benefits in constant dollars is three years longer than the decline in total benefits measured in current dollars between 1991 and 1995. In the most recent three years with data (2002-2004), the use of constant dollars in place of current dollars has only a modest effect on the results. Cash benefits were down in all three years in constant and current dollars and medical benefits were down in two of the three years in both versions of the results. However, while total (cash plus medical benefits) were down in two of the three most recent years in current dollars, the switch to constant dollars is associated with a drop of total benefits in all three years.

Explanations of the National Developments

The 1990s. The national data on incurred benefits per 100,000 workers indicate that total benefits declined during the 1990s. Between 1990 and 1999, the cumulative decline in total benefits per 100,000 workers in current dollars was 11.7 percent in the 42 jurisdictions with data available for all years. However, the components of total benefits behaved differently over this period, with cash benefits down 21.9 percent and medical benefits up 2.0 percent measured in current dollars.

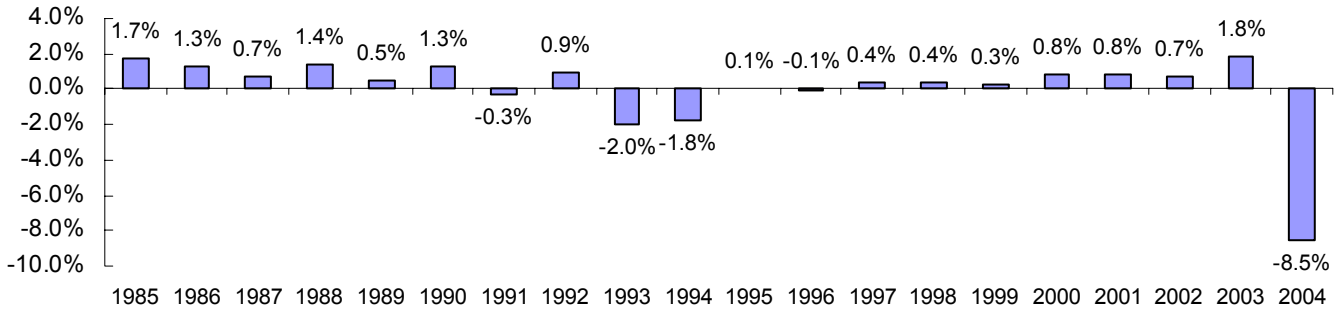
Why did incurred cash benefits decline so rapidly during these years? One partial explanation is that the workplace appears to have become safer during the 1990s. Bureau of Labor Statistics (BLS) data indicate that the annual number of lost workday cases per 100 full-time workers in the private sector dropped from 4.1 in 1990, to 3.8 in 1994, to 3.0 in 1999.[4] These declines in the occupational injury and illness rate translated into lower cash benefits per 100,000 workers.

Another factor that explains at least a part of the decline in cash benefits paid to workers during most of the 1990s is that the statutory level of cash benefits provided by workers' compensation statutes were scaled back during several years in the period, as shown in Figure C. Benefits were scaled back in four of the ten years between 1991 and 1999, and the net effect of the statutory changes during the ten years was to reduce benefits, which is a record that probably cannot be matched since at least the 1930s

Another explanation for the decline in cash and benefits per 100,000 workers between 1990 and 1999 of major significance was the tightening of the eligibility standards for workers' compensation benefits that occurred in a number of jurisdictions during the 1990s. The trend to limit compensability by statute and administrative practices of workers' compensation claims nationally was documented by Spieler and Burton (1998).

A recent study by Guo and Burton (2009) examined the determinants of incurred cash benefits per 100,000 workers in 42 to 46 jurisdictions (depending on the year) from 1975 to 1999. (The states are a subset of the jurisdictions included in Panel A of Table 2.) During the 1990s, the national average of incurred cash bene-

Figure C
Countrywide Changes in Statutory Benefits, 1990-2002



Source: 1990-1993: NCCI, *Annual Statistical Bulletin*, 2003 Edition, Exhibit I, p.6.
1994-2004: NCCI, *Annual Statistical Bulletin*, 2008 Edition, Exhibit I, p.10.

fits per 100,000 in constant dollars declined by 41.6 percent. During this period, the benefits prescribed by workers' compensation statutes increased in constant dollars by 4.8 percent, which, without changes in other factors, would have increased incurred benefits by that percentage. There were, however, other factors that caused a decline in incurred cash benefits. The reduction in the BLS injury rate in the 1990s explained about 21 percent of the drop in cash benefits. However, much more significant were statutory changes in benefit eligibility, a declining proportion of injuries reported to the BLS that resulted in workers' compensation claims, and a declining share of cash benefit claims that resulted in permanent partial disability benefits: in combination, these three variables explained 30 percent of the decline in incurred cash benefits in the 1990s. Thus, the reductions in cash benefits paid to disabled workers in the 1990s did not reflect just the beneficial consequences of safer workplaces, but also appear to reflect the shifting of costs of workplace disability to other public and private sources of cash benefits or to the workers and their families.

The 2000s. A definitive explanation of the changes in incurred benefits during the current decade is premature, in large part because we only have data on incurred benefits through 2004. Total benefits were up less than one percent in current dollars between 2000 and 2004 (Table 2) and were down 14 percent in constant dollars (Table 3). Cash benefits were down 14 percent in current dollars and down 21 percent in constant dollars, while medical benefits were up 15 percent in current dollars and down three percent in constant dollars since 2004. In addition to this disparity in results for cash and medical benefits, an analysis of the current decade will also need to sort out the difference between the first two years of the decade – when benefits were soaring – and the period since 2002 – when benefits were increasing modestly or even declining.

A major part of the explanation of the changes in incurred benefits during the current decade is the source of the substantial drop in benefits during 2004, as shown in Figure A. That decline is probably due in large part to the 8.5 percent decline in the statutory level of workers' compensation benefits during 2004 (Figure C), which is the biggest decline in benefits recorded by the National Council on Compensation Insurance (NCCI) since 1960. The 2004 decline, in turn, can be traced to the significant changes in the California workers' compensation statute, which the NCCI (2008: 103) reported represented a 29.2 percent decline in total (cash plus medical) benefits. The reforms in California also included an additional 38.8 percent reduction in cash benefits in 2005, which will undoubtedly affect the 2005 incurred benefits data when they are available.

Comparisons of Individual States for 2004

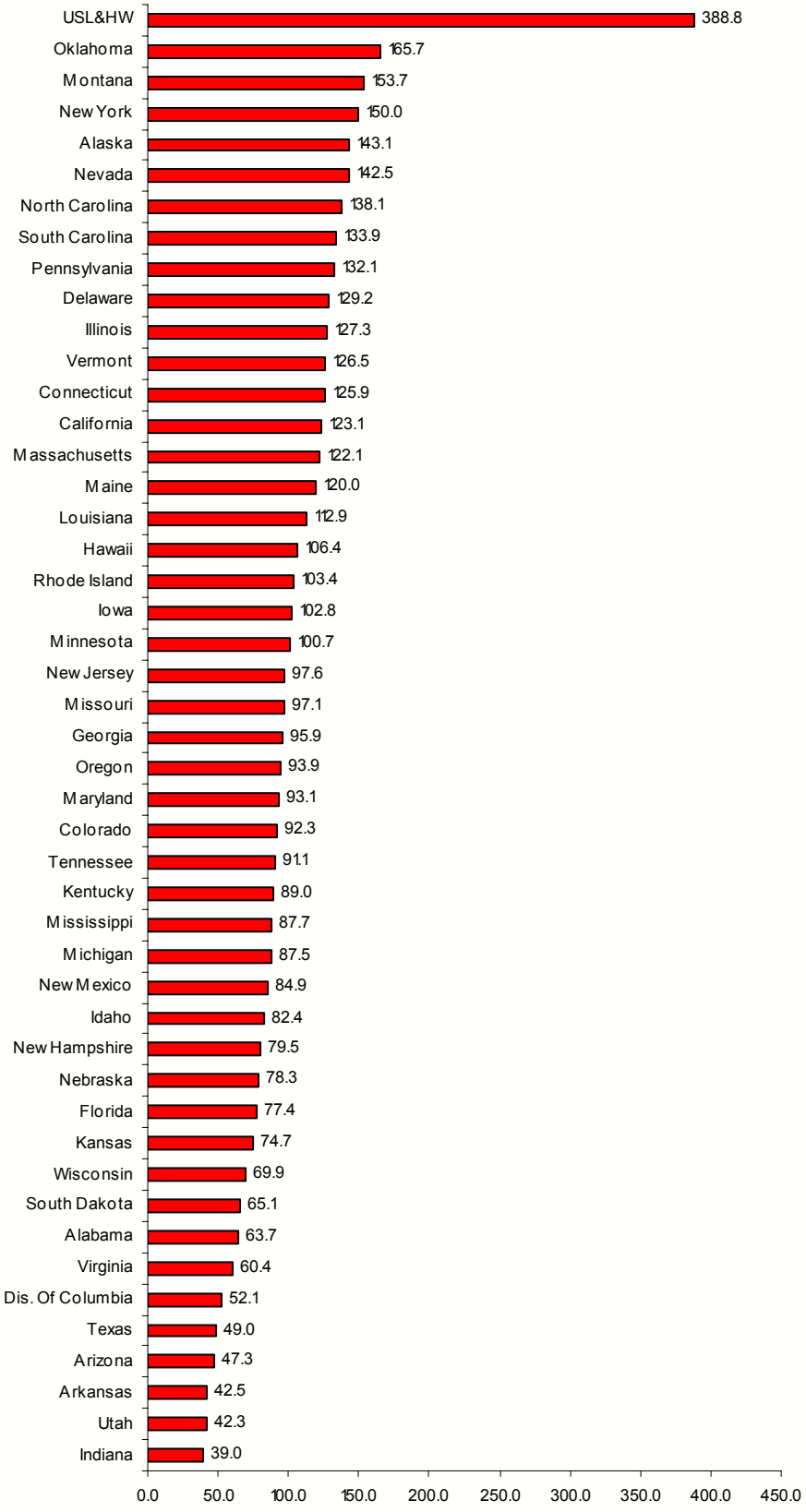
The 2004 data in Table 1.2004 allow comparisons among 47 jurisdictions for that year. The cash benefits per 100,000 workers in 2004 ranged from $89,494,439 in the USL&HW program to $8,970,165 in Indiana. Medical benefits per 100,000 workers varied from $104,715,504 in the USL&HW program to $6,509,703 in the District of Columbia. Total benefits (cash plus medical) per 100,000 workers were highest in the USL&HW program at $194,209,943 and were lowest in the District of Columbia at $18,492,278. These data were used to construct Figures D through F.

Cash Benefits. Each of the state's cash benefits per 100,000 workers as a percentage of the U.S. average payment in 2004 is shown in column (2) of Panel A of Table 1.2004. (The averages were calculated excluding the USL&HW program because that program is obviously an outlier.) States were ranked in Figure D in terms of how their cash benefits compared to the national average.

Two states plus the USL&HW program had cash benefits that were "well above average" – the benefits were more than 50 percent above the national average. The states were Oklahoma (where benefits were almost 66 percent above the national average), and Montana (where benefits were almost 54 percent above the national average). In addition, the USL&HW program had cash benefits that were almost four times the national average. Ten states had cash benefits that were "above average" – where cash benefits were more than 25 percent, but less than 50 percent above the national average. They ranged from New York with benefits 50 percent above the national average to Connecticut with benefits almost 26 percent above the national average.

Other states had much lower cash benefits relative to the national average in 2004. Five states had cash benefits that were "well below average" – benefits were at least 50 percent below the national average. These states ranged from Texas (where benefits were 51 percent below the national average) to Indiana (where cash benefits were 61 percent below the national average). In addition, six states had cash benefits that were "below average" – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Kansas (where benefits were more than 25 percent below the national average) to the District of Columbia (where benefits were almost

Figure D - Cash Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2004



Source: Table 1.2004, Panel A

48 percent below the national average).

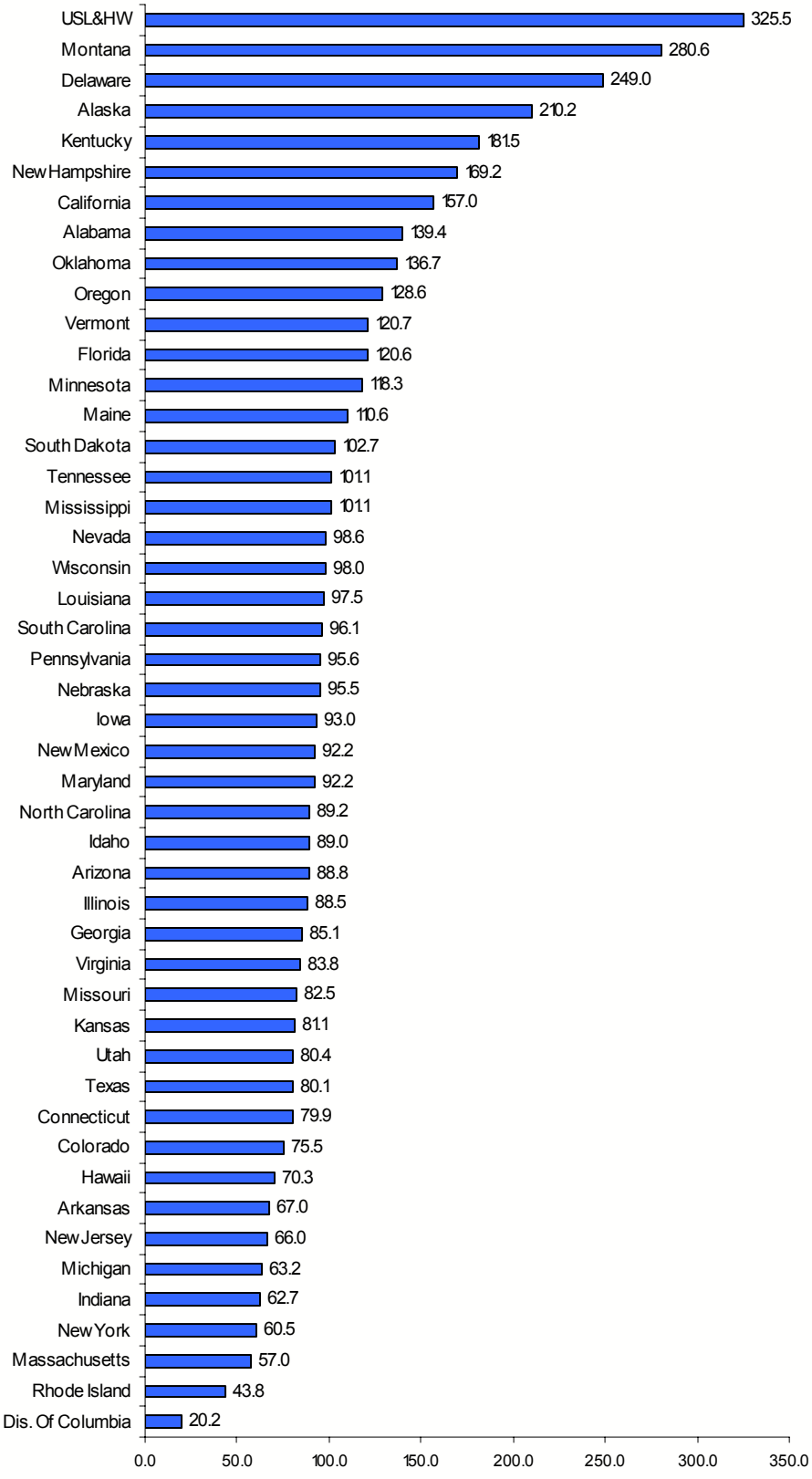
There were also 23 states with "average" cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Florida (where benefits were 22.6 percent below the national average) to California (where benefits were 23.1 percent above the national average).

Medical Benefits. Each of the state's incurred medical benefits per 100,000 workers as a percentage of the U.S. average in 2004 is shown in column (5) of Panel B of Table 1.2004. States were ranked in Figure E in terms of how their medical benefits compared to the national average.

Six states plus the USL&HW program had medical benefits that were "well above average" – the benefits were more than 50 percent above the national average. They ranged from the USL&HW program (where benefits were more than three times the national average) to California (where benefits were 57 percent above the national average). Three states had medical benefits that were "above average" – cash benefits were more than 25 percent, but less than 50 percent above the national average. Alabama benefits were 39.5 percent above the national average, Oklahoma's benefits were 36.7 percent above the national average, and Oregon's benefits were 28.6 percent above the national average.

Other states had much lower medical benefits relative to the national average in 2004. Two states had medical benefits that were "well below average" – benefits were at least 50 percent below the national average. These states were Rhode Island (where benefits were 56.2 percent below the national average) to the District of Columbia (where medical benefits were almost 80 per-

Figure E - Medical Benefits Per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2004



Source: Table 1.2004, Panel B

cent below the national average). In addition, seven states had medical benefits that were "below average" – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Hawaii (where benefits were 29.7 percent below the national average) to Massachusetts (where medical benefits were 43 percent below the national average).

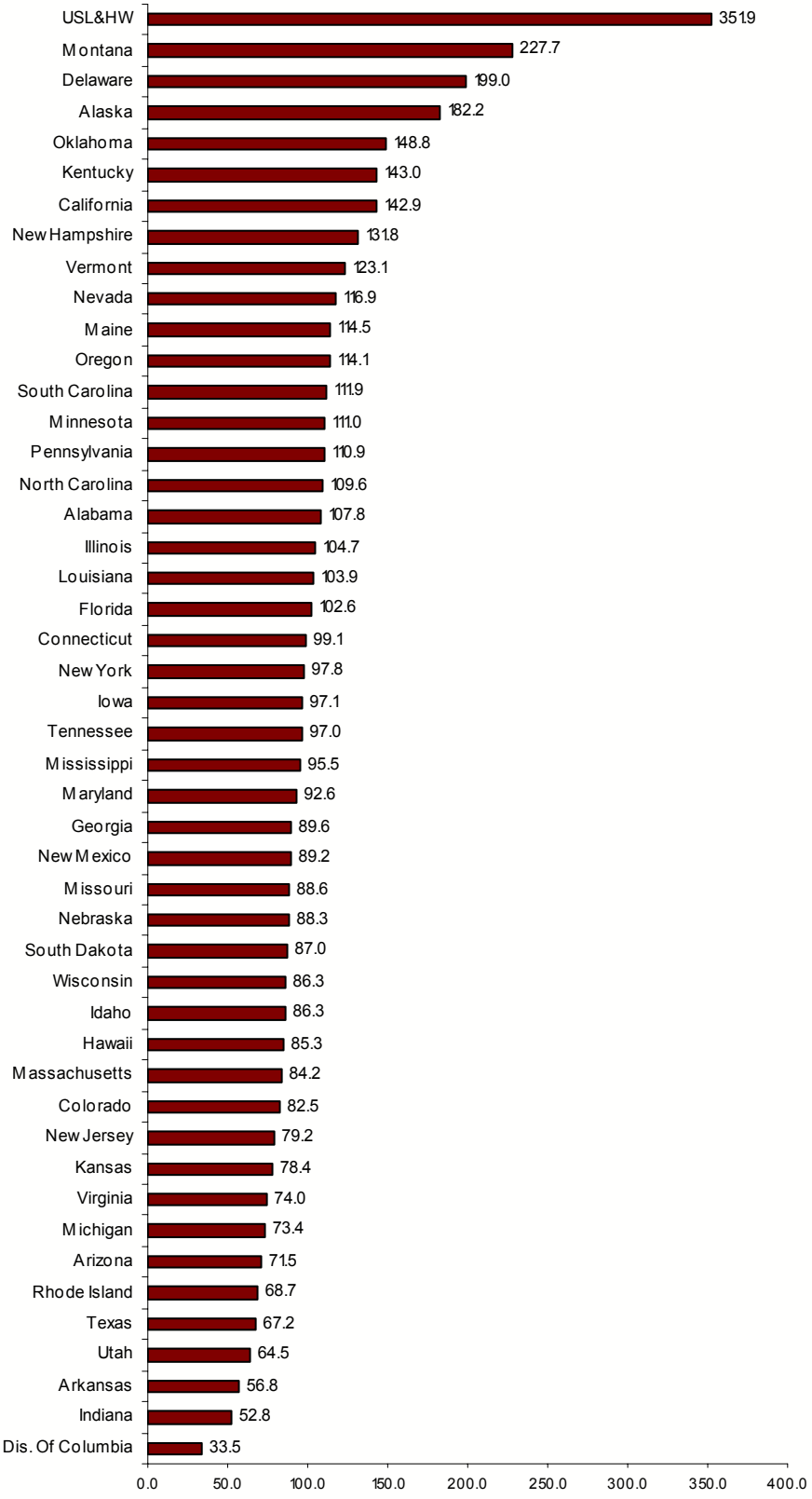
There were also 28 states with "average" medical benefits – the medical benefits were within 25 percent of the national average. These states ranged from Colorado (where benefits were 24.5 percent below the national average) to Vermont (where benefits were 20.7 percent above the national average).

Total Benefits. Each of the state's incurred total (cash plus medical) benefits per 100,000 workers as a percentage of the U.S. average in 2004 is shown in column (8) of Panel C of Table 1.2004. States were ranked in Figure F in terms of how their total benefits compared to the national average.

Three states plus the USL&HW program had total benefits that were "well above average" – the benefits were more than 50 percent above the national average. They ranged from the USL&HW program where benefits were three and a half times the national average to Alaska (where benefits were 82.2 percent above the national average). Only four states had total benefits that were "above average" – where total benefits were more than 25 percent, but less than 50 percent above the national average. They ranged from Oklahoma (where total benefits were 48.8 percent above the national average) to New Hampshire (where total benefits were 31.8 percent above the national average).

Other states had much lower total benefits relative to the national average in 2004. Only the District of

Figure F - Total (Cash plus Medical) Benefits per 100,000 Covered Workers, State's Benefits as a Percentage of U.S. Average Payments for 2004



Source: Table 1.2004, Panel C

Columbia had total benefits that were "well below average" – benefits at least 50 percent below the national average. Eight states had total benefits that were "below average" – benefits were at least 25 percent, but no more than 50 percent, below the national average. These states ranged from Virginia (where benefits were 26 percent below the national average) to Indiana (where benefits were more than 47 percent below the national average).

There were also 30 states with "average" cash benefits – the cash benefits were within 25 percent of the national average. These states ranged from Kansas (where benefits were more than 21 percent below the national average) to Vermont (where benefits were 23 percent above the national average).

Historical Comparisons of Individual States

Table 1.2003 and Table 1.2004, plus comparable unpublished tables for earlier years, present a formidable amount of data on incurred cash, medical and total benefits per 100,000 workers for each state for each year between 1985 and 2004. Some readers (and surely the authors) are likely to find that much data hard to assimilate. Tables 4 to 6 are designed to facilitate that assimilation.

Cash Benefits. Table 4 provides summary information on the relative amount of cash benefits for each of the 46 states plus the District of Columbia and the USL&HW for the 20 years included in this study. The coding scheme relies on the classifications previously introduced: a state receives a "++" in a particular year if its cash benefits are well above average; a "+" if the benefits are above average; a "- -" if the benefits are well below average; a "-" if benefits are below average; a "0" if benefits are average; and a "N/A" if data are not available for that year. (The ranges for the various categories are shown in the notes to Tables 4 to 6.)

The entries in Table 4 permit a quick assessment of how the cash benefits in each jurisdiction have compared to the national averages during the 20 years. Some jurisdictions demonstrate a consistent record through the years. The USL&HW program and West Virginia had cash benefits that were well above the national average (benefits were at least 50 percent above the national average) in all years with data. Kansas had below average cash benefits (benefits were from 25 to 50 percent below the national average) in every year. Indiana had well below average cash benefits (benefits were at least 50 percent below the national average) in all years. There was no states that always had average or above average cash benefits.

Other states showed somewhat less stability in terms of their benefits relative to the national average over the 20 year period and moved among adjacent categories. Connecticut and Illinois had average or above average cash benefits in every year. Five states (Arkansas, the District of Columbia, Utah, Virginia, and Wisconsin) had below average or well below average cash benefits in every year. Six states (Alabama, Georgia, Idaho, Maryland, Michigan, and New Jersey) had cash benefits that moved between average and below average over the 20-year period.

More interesting are the states that moved among three categories in terms of their cash benefits relative to the national averages over the 20 years. Twelve states (Alaska, California, Colorado, Florida, Hawaii, Louisiana, Massachusetts, Montana, Nevada, New York, Oklahoma, and Pennsylvania) varied between average and well above average cash benefits during all the years with data. Of these states, only Montana and Oklahoma had well above average benefits in 2004, Arkansas, Nevada, New York and Pennsylvania had above average benefits in 2004, and six states had average cash benefits in 2004, obviously well below their relatively high benefits in earlier years. Nine states (Arizona, Iowa, Kentucky, Mississippi, Missouri, Nebraska, South Dakota, Tennessee, and Texas) varied between average and well below average cash benefits between 1985 and 2004. Four states (Delaware, New Hampshire, South Carolina, and Vermont) varied between above average and below average cash benefits during these years.

Six states had cash benefits relative to the national averages that varied among four categories during the 20 years. Two states (North Carolina and Texas) varied between well below average and above average and four states (Maine, Minnesota, Oregon and Rhode Island) varied between below average and well above average. Maine was well above average for seven years, and then dropped to below average in 1994, and moved to average cash benefits for 1995 to 2004 (with one exception in 2002). Minnesota was well above average in 1985, dropped to average for most of the early 1990s, dropped further to below average cash benefits from 1995 to 2000 (with one exception in 1999), and then increased to average benefits from 2001 to 2004. Oregon had a similar pattern: cash benefits were well above average from 1985 to 1988, dropped to average cash benefits for most of the 1990s, had below average benefits from 1998 to 2001, and increased again to average benefits from 2002 to 2004. Rhode Island had a unique pattern, beginning with cash benefits well above the national average for seven years, dropped to below average or average cash benefits from 1992 to 1996, increased to above average or well above average

Table 4 - Cash Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
AL	-	-	-	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-
AK	++	++	++	+	+	+	+	0	0	0	+	+	+	++	++	++	++	++	++	+
AZ	-	-	0	-	-	0	0	0	0	0	0	-	-	-	-	--	--	--	--	--
AR	-	-	-	-	-	-	-	-	-	--	--	--	--	--	--	--	--	--	--	--
CA	+	+	+	0	0	0	+	0	0	0	+	+	++	++	++	++	++	++	++	0
CO	0	++	0	0	++	+	0	0	0	0	0	+	+	0	0	0	0	0	0	0
CT	0	0	+	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	+
DE	0	0	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	+
DC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-
FL	0	+	++	++	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GA	-	-	0	0	-	0	-	0	0	0	0	0	-	-	-	-	-	0	0	0
HI	0	0	0	0	0	+	++	++	++	++	0	0	0	0	0	0	0	0	0	0
ID	0	0	-	-	-	-	0	0	0	0	0	0	0	0	-	-	-	-	-	0
IL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+
IN	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IA	-	-	-	-	--	-	-	-	-	-	-	-	-	0	-	-	0	0	0	0
KS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KY	-	-	-	-	0	0	0	0	0	0	-	-	-	--	-	-	0	0	0	0
LA	+	+	++	++	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ME	++	++	++	++	++	++	++	+	0	-	0	0	0	0	0	0	0	+	0	0
MD	0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	0	0	0	0
MA	+	+	++	++	++	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0
MI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0
MN	++	+	+	+	0	+	0	0	0	0	-	-	-	-	0	-	0	0	0	0
MS	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
MO	--	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
MT	++	++	++	+	++	++	++	+	+	++	+	+	0	0	0	0	0	+	+	++
NE	--	--	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
NV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	++	++	++	+	0	0	0	0	+
NH	0	0	0	+	+	+	+	+	0	0	0	0	0	0	-	-	0	0	0	0
NJ	-	-	-	-	-	-	-	0	0	-	0	0	0	-	-	-	0	0	0	0
NM	++	+	++	+	0	0	0	-	-	-	-	--	-	-	-	-	-	-	-	0
NY	0	0	0	0	0	0	+	++	++	++	++	++	++	++	+	++	+	++	+	+
NC	--	--	--	--	--	-	-	-	-	-	-	-	0	0	0	0	0	0	+	+
OK	0	0	0	0	0	0	+	++	++	++	++	+	+	0	0	0	0	0	+	++
OR	++	++	++	++	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
PA	0	+	+	+	+	++	+	++	++	++	+	+	+	0	0	0	0	0	0	+
RI	++	++	++	++	++	++	++	-	-	0	0	0	+	++	++	0	0	0	0	0
SC	-	-	-	-	-	-	-	-	-	0	-	-	-	0	0	0	0	0	0	+
SD	-	-	-	-	-	-	-	0	-	-	0	0	--	--	-	--	--	--	-	-
TN	--	--	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TX	0	0	N/A	+	N/A	0	0	-	-	-	0	-	0	-	-	-	-	-	--	--
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
UT	--	--	--	--	--	--	--	-	-	-	--	--	--	--	--	--	--	--	--	--
VT	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+
VA	--	-	-	-	-	-	-	--	--	--	-	-	-	-	-	--	--	-	-	-
WV	++	++	++	++	++	++	++	++	++	++	++	++	++	++	N/A	N/A	N/A	N/A	N/A	N/A
WI	-	-	-	--	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
--	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: Tables 1.1985 - 1.2004

benefits from 1997 through 1999, and then dropped again to average from 2000 through 2004.

The most volatile state was New Mexico, which varied between well above average in 1985 and 1987 and well below average in 1996, thus spanning all five categories in Table 4. The experiences in Maine, Minnesota, and New Mexico clearly demonstrate that significant reductions in cash benefits are possible. There are also several states whose experience over the 20 years indicates that substantial increases in cash benefits are possible. The most notable example is New York, which provided average cash benefits from 1985 to 1990, increased to well above average cash benefits from 1992 to 1998, and then alternated between above average and well above average between 1989 and 2004.

Medical Benefits. Table 5 provides summary information on the relative generosity of medical benefits for each of the 46 states plus the District of Columbia and the USL&HW for the 20 years included in this study. The entries in Table 5 permit a quick assessment of how generous the medical benefits have been in each jurisdiction during the 20 years.

Some states demonstrate a consistent record in terms of generosity of medical benefits through the years. There were five programs that were in the same category of generosity of medical benefits for all 20 years: two (Idaho and Mississippi) were in the average category every year; one state (New Jersey) was in the below average category every year; one jurisdiction (the District of Columbia) was in the well below average category every year for which data are available; and one jurisdiction (the USL&HW) was in the well above average category every year for which data are available. There was no state in the above average category all 20 years.

There were a number of states that had relatively stable medical costs over the 20 years, with only movements among adjacent categories of relative generosity. For example, only one state, Alaska, moved between above average and well above average medical benefits between 1985 and 2004. Arizona, Oklahoma and Texas moved between average and above average medical benefits during the 20 years. There were 13 states that varied between below average and average benefits from 1985 to 2004 (Connecticut, Georgia, Illinois, Kansas, Michigan, Missouri, Nebraska, South Dakota, Tennessee, Utah Vermont, Virginia and Wisconsin). Indiana and Massachusetts moved between well below average and below average during the 20 year period between 1985 and 2004. Indiana began with well below average medical benefits in 1985 and 1986 before increasing to below average benefits during the period between 1987 and 2004. Massachusetts had below average medical benefits from 1985 through 1998 (with one exception in 1994); dropped to well below average benefits from 1999 to 2003 and then increased to below average in 2004.

As Table 5 also illustrates, there were 20 states that moved among non-adjacent categories during the 20 years. Eleven states (Alabama, California, Delaware, Florida, Kentucky, Louisiana, Montana, New Hampshire, Oregon, Pennsylvania, and West Virginia) varied among the average, above average, and well above average categories between 1985 and 2004. Six states (Iowa, Maryland, New York, North Carolina, Rhode Island and South Carolina) paid medical benefits that varied among the average, below average, and well below average categories between 1985 and 2004. Only three states (Arkansas, Colorado, and Nevada) varied among below average, average and above average during all the years with data. Four states (Hawaii, Maine, Minnesota, and New Mexico) had medical benefits relative to the national averages that varied among four categories during the 20 years, from below average to well above average.

The experiences in Louisiana, New Mexico, and Pennsylvania clearly demonstrate that significant reductions in medical benefits paid to workers are possible. There were also two states – Iowa and New York -- that had well below average medical benefits in 1986, but that paid average medical benefits in 1997, 1998 or 1999. These states demonstrate that states can also substantially increase the medical benefits paid to workers. Of particular interest are two states (Montana and Oregon) that had well above average medical benefits in at least two years between 1985 to 1988, reduced the relative generosity of their medical benefits to the average category for at least one year in the late 1980s or early 1990s, but had well above average medical benefits again in at least two years between 1994 to 2004. The “solutions” to high medical costs in these states are worth further examination.

Total Benefits. Table 6 provides summary information on the relative generosity of total (cash plus medical) benefits for each of the 46 states plus the District of Columbia and the USL&HW program for the 20 years included in this study. The entries in Table 6 permit a quick assessment of how generous the total benefits have been in each jurisdiction during these 20 years.

Some states demonstrate a consistent record in terms of generosity of total benefits through the years. There were four programs that have been in the same category of generosity of total benefits for all 20 years.

Table 5 - Medical Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
AL	0	0	0	+	+	+	+	+	+	+	+	++	++	+	+	0	0	+	+	+
AK	++	++	++	++	++	++	+	+	++	++	++	++	++	++	++	++	++	++	++	++
AZ	0	0	+	0	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0	0
AR	0	0	0	0	+	0	0	0	0	0	0	-	-	-	-	-	-	-	0	-
CA	++	++	++	++	+	++	++	+	0	0	0	0	0	+	++	++	++	++	++	++
CO	0	0	0	0	0	0	0	0	0	+	+	+	0	0	0	0	0	-	-	0
CT	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	-	0
DE	N/A	N/A	0	0	0	0	0	0	++	+	++	++	+	+	0	0	0	++	++	++
DC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FL	+	+	++	++	++	++	+	++	++	++	++	++	++	++	++	0	0	0	+	0
GA	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0	0
HI	+	0	0	0	0	+	+	++	++	++	0	0	0	0	0	-	-	0	0	-
ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IL	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	-	-	-	0	0
IN	--	--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IA	-	--	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	0	0
KS	-	-	-	-	0	0	0	0	0	-	0	-	0	0	0	-	-	-	0	0
KY	0	0	0	0	0	0	+	+	+	+	+	0	0	0	0	+	+	++	++	++
LA	++	++	++	++	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ME	+	0	+	++	+	0	0	0	0	0	-	0	0	0	0	0	0	+	0	0
MD	0	-	-	-	-	-	-	-	0	0	-	-	-	0	-	--	-	-	0	0
MA	-	-	-	-	-	-	-	-	-	--	-	-	-	-	--	--	--	--	--	-
MI	0	0	0	0	0	0	-	-	-	0	0	0	0	0	-	-	-	-	-	-
MN	++	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0
MS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MO	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	-	0	0	0
MT	+	++	++	+	0	+	+	+	+	++	++	+	+	+	++	0	++	++	++	++
NE	-	-	-	-	-	-	-	0	-	-	0	0	0	0	0	0	-	0	0	0
NV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	+	0	+	0	0	0	-	0	0
NH	0	0	0	0	0	0	0	0	0	0	+	0	+	0	+	0	0	+	++	++
NJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NM	+	+	++	++	+	++	+	+	0	0	0	0	0	0	0	0	-	-	0	0
NY	-	--	--	--	--	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-
NC	--	--	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	0	0	0
OK	0	0	0	0	0	0	0	+	+	+	0	0	0	0	0	0	0	0	0	+
OR	++	++	++	++	0	0	0	+	+	0	+	++	++	0	0	0	0	0	0	+
PA	N/A	0	N/A	N/A	++	++	+	+	0	0	0	0	0	0	0	0	0	0	0	0
RI	0	0	-	0	0	0	-	--	--	--	0	-	-	-	-	--	--	--	--	--
SC	-	-	-	--	-	-	-	-	-	0	-	-	-	0	-	-	-	0	0	0
SD	-	-	-	-	-	-	0	0	0	0	0	0	-	0	-	0	0	0	0	0
TN	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TX	+	+	N/A	+	N/A	0	+	0	0	+	+	0	+	0	+	0	0	0	0	0
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
UT	0	-	-	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-	-	0
VT	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VA	-	0	-	-	0	0	-	0	0	-	0	0	0	0	-	-	-	-	0	0
WV	+	+	+	0	0	0	0	+	+	+	++	+	++	++	N/A	N/A	N/A	N/A	N/A	N/A
WI	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note:	++	150.1% or more of National Average	Well Above Average
	+	125.1 - 150.0% of National Average	Above Average
	0	75.0 - 125.0% of National Average	Average
	-	50.0 - 74.9% of National Average	Below Average
	--	49.9% or less of National Average	Well Below Average
	N/A	Data Not Available	

Source: Tables 1.1985 - 1.2004

Two programs (USL&HW and West Virginia) had well above average total benefits in every year. One state (Alabama) was in the average category every year; and one state (Virginia) was in the below average category every year. There were no states that paid above average total benefits or well below average benefits in all 20 years.

A number of states had relatively constant total benefits throughout the 20 years and only moved between adjacent categories of relative generosity. Connecticut had average benefits for 18 years and moved to above average benefits for two years. Five states (Idaho, Illinois, Michigan, Mississippi and Vermont) had average benefits for at least 15 years and moved to below average benefits for one to five years. Two jurisdictions (the District of Columbia and Indiana) had well below average benefits for at least 14 years and moved to below average benefits for 1 to 6 years.

As shown in Table 6, there were 18 states that moved among non-adjacent categories during the 20 years shown. Ten states (California, Florida, Hawaii, Louisiana, Maine, Montana, Nevada, Oklahoma, Oregon, and Pennsylvania) had total benefits that varied between average and well above average during the 20 years. Five states (Arizona, Kentucky, Massachusetts, New York and Texas) had total benefits that varied among the above average, average, and below average categories of generosity during the 20 years, while three states (Nebraska, North Carolina and Utah) varied among the average, below average, and well below average categories over the years included in Table 6.

Finally, Delaware, Minnesota, New Mexico and Rhode Island experienced an exhilarating ride over the 20 years that ranged among four categories of generosity of total benefits. Of particular interest are New Mexico and Rhode Island, which had well above average total benefits in at least three years in the 1980's, reduced the relative generosity of their total benefits to the average category for at least five years in the 1990s, and reduced their benefits even further to below average in at least three years in the 2000's.

The experiences in eight jurisdictions (Hawaii, Louisiana, Maine, Minnesota, Nevada, New Mexico, Oregon and Pennsylvania) that had average benefits in 2004 following well above average benefits in at least one earlier year make clear that significant reductions in total benefits (cash plus medical) provided to injured workers are possible. The fleeting nature of "reform" in Florida is also evident in the data in Table 6. The state began with average total benefits in 1985, achieved well above average total benefits in 1987-1989, cut total benefits to the average category again in 1991, and then re-achieved well above average total benefits in 1994 and 1996 before dropping to the average category again from 2000 through 2004.

Are the States Converging or Diverging?

A casual perusal of the information in Tables 4 to 6 suggests that the differences among states in workers' compensation benefits have narrowed over the 20 years for which we have data. For example, in terms of the data on total benefits (cash plus medical) shown in Table 6, there were eight states with well above average benefits and four jurisdictions with well below average benefits in 1985, while in 2004 there were only three states (Alaska, Delaware, and Montana) with well above average benefits and one jurisdiction (the District of Columbia) with well below average benefits.

A more rigorous examination of whether the differences among states in the amounts of incurred benefits are narrowing over the 20 years for which we have data is presented in Table 7. For each of the years between 1985 and 2004, Table 7 shows the dispersion among the same 42 states in each state's benefits as a percentage of the national average for cash benefits, for medical benefits, and for total (cash plus medical) benefits. The dispersion is measured by the standard deviation, which is a commonly used statistical measure of the variability of the values of individual observations around the average value (mean) for all observations.

Several patterns revealed in Table 7 are worth mentioning. First, there was a pronounced tendency for the dispersion among states in incurred benefits to narrow over the 20 years, although some measures of the dispersion have been widening moderately since 1998. Second, this narrowing has occurred for cash benefits, for medical benefits, and for total benefits, although all of the narrowing for medical benefits occurred between 1985 and 1991, and the differences among states in medical benefits increased between 1998 and 2004. Third, there was a greater dispersion among states for cash benefits than for medical benefits in every year from 1985 to 1995, but the reverse has been true for 1996 through 2004 (with the exception of 1998). Fourth, between 1985 and 2004, the dispersion for cash benefits declined much more substantially than the dispersion for medical benefits.

Conclusions

Four conclusions seem warranted for the data on workers' compensation benefits presented in this article. First, as shown in Table 2 and Figures A and B, the national averages of incurred benefits per 100,000

Table 6 - Total (Cash plus Medical) Benefits per 100,000 Workers Relative to National Average

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
AL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AK	++	++	++	+	+	+	+	+	+	+	++	++	++	++	++	++	++	++	++	++
AZ	0	0	0	0	0	0	0	0	+	0	0	0	0	0	-	-	-	-	-	-
AR	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
CA	++	+	+	+	0	+	+	0	0	0	0	+	+	+	++	++	++	++	++	+
CO	0	+	0	0	+	+	0	0	0	+	0	+	0	0	0	0	0	0	0	0
CT	0	0	0	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DE	N/A	N/A	0	0	0	-	0	0	0	0	+	+	0	0	0	0	0	++	++	++
DC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	--
FL	0	+	++	++	++	+	0	+	+	++	+	++	+	+	+	0	0	0	0	0
GA	0	0	0	0	0	0	-	0	0	0	0	0	-	-	-	-	-	-	0	0
HI	0	0	0	0	0	+	++	++	++	++	0	0	0	0	0	0	0	0	0	0
ID	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0	-	0	0	-	0
IL	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IN	--	--	--	--	--	--	--	--	--	-	--	--	-	-	-	--	--	--	-	-
IA	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	0	0	0
KS	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0
KY	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+
LA	+	+	++	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ME	++	++	++	++	++	++	++	0	0	0	0	0	0	0	0	0	0	+	0	0
MD	0	-	-	-	-	-	-	-	0	0	0	-	-	0	-	-	-	0	0	0
MA	0	0	+	+	+	0	0	0	0	0	0	-	-	0	-	-	-	-	-	0
MI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
MN	++	0	+	0	0	0	0	0	0	0	-	0	-	-	0	0	0	0	0	0
MS	-	-	0	0	0	0	0	0	-	0	0	0	0	-	0	-	0	0	0	0
MO	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0
MT	++	++	++	+	++	++	++	+	+	++	++	+	+	+	++	0	+	++	++	++
NE	--	-	-	-	-	-	-	-	-	-	-	0	0	0	0	-	-	0	0	0
NV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	++	++	+	0	0	0	0	0	0
NH	0	0	0	+	0	+	+	+	0	0	0	0	0	0	0	0	0	0	0	+
NJ	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	0	0	0
NM	++	+	++	++	0	+	0	0	0	-	0	-	0	-	-	-	-	-	0	0
NY	0	-	-	-	0	0	0	+	+	+	+	+	0	+	0	0	0	0	0	0
NC	--	--	--	--	-	-	-	-	-	-	-	-	-	0	-	-	-	0	0	0
OK	0	0	0	0	0	0	0	+	++	++	+	+	+	0	0	0	0	0	+	+
OR	++	++	++	++	0	0	0	+	0	0	0	+	0	0	0	0	0	0	0	0
PA	N/A	0	N/A	N/A	+	++	+	+	+	+	+	0	0	0	0	0	0	0	0	0
RI	+	++	++	++	++	++	0	-	-	-	0	-	0	0	0	-	-	-	-	-
SC	-	-	-	-	-	-	-	-	-	0	-	-	-	0	0	0	0	0	0	0
SD	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	-	0	0
TN	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TX	0	0	N/A	+	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-
USL&HW	N/A	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++
UT	-	--	--	--	-	-	-	0	-	-	0	-	-	-	-	--	--	--	-	-
VT	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WV	++	++	++	++	++	++	++	++	++	++	++	++	++	++	N/A	N/A	N/A	N/A	N/A	N/A
WI	-	-	-	-	-	-	-	-	0	0	0	-	-	0	0	0	-	0	0	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
--	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: Tables 1.1985 - 1.2004

workers have experienced dramatic swings in the last 20 years with available data. For example, cash benefits per 100,000 workers averaged increases of almost 12 percent annually for the four years from 1986 to 1989, but then average annual decreases of more than eight percent occurred from 1991 to 1995. The most recent data show a rapid increase of benefits from 1998 to 2000, and then a sudden slowdown in 2001 followed by a drop in the most recent years, with incurred cash benefits decreasing by 3.1 percent in 2002, 3.3 percent in 2003, and 11.2 percent in 2004. Similar turnarounds occurred in the averages of medical benefits and total benefits per 100,000 workers over these 20 years.

Second, the decline in incurred workers' compensation cash benefits during the 1990s can be explained by several factors, including the drop in the workplace injury rate and the constrictions in eligibility rules for the program adopted by many state workers' compensation programs. A similar explanation of the developments during the 2000s is not yet possible.

Third, data are available for up to 48 jurisdictions for 1985 to 2004 for the averages of cash benefits, medical benefits, and total benefits per 100,000 workers. Again, the experience of individual states varies widely, including the changes in the amounts of benefits in a state relative to the national averages over the 20 years. Some states, such as Alabama, Indiana, Iowa, Michigan, and New Jersey, have shown little variation over the 20 years in their total benefits (cash plus medical) compared to the national averages in those years. But a few other states, such as New Mexico, and Rhode Island, have seen their benefits plummet. Other states, such as New York and Oklahoma, experienced significant increases in total benefits relative to national averages during the 1990s, although these states had total benefits that were much closer to the national averages in recent years. As these examples indicate, for better or worse, the amount of incurred benefits in a state is not an immutable condition.

Fourth, the dispersion in benefits among states has narrowed considerably over the 20 years encompassed in this study. The explanation of this phenomenon apparent from the data in this article is that the narrowing of the dispersion is due both to the substantial reductions in the amounts of benefits in well above average states as well as some increases in benefits in well below average states.

APPENDIX A: Data Sources, Terminology, and Methodology

This appendix provides additional information on the data sources and methodology used to prepare this article, as well as a discussion of some of the terminology used for workers' compensation data.

Data Sources

The primary source of the data used in this article is the National Council on Compensation Insurance (NCCI). The *2008 Edition* of the *Annual Statistical Bulletin* published by the NCCI (the *NCCI Bulletin*) provides data for the 46 jurisdictions (including the District of Columbia) in which private insurance carriers sold workers' compensation insurance policies in 2004. For 1985 to 1998, we also obtained information from one state (West Virginia) with an exclusive state fund. (We appreciate the assistance of Judith Greenwood, formerly of the Research, Information and Analysis Division of the West Virginia Bureau of Employment Programs for providing the West Virginia data used in this study.) Comparable data are not available from four states that had exclusive state workers' compensation funds in 2004 (North Dakota, Ohio, Washington, and Wyoming). Several previous editions of the *NCCI Bulletin* did not contain data on some states with private carriers. For example, the 2001 *NCCI Bulletin* did not contain information on two states (Delaware and Pennsylvania), and we obtained information directly from the rating bureaus for those states.

Exclusion of the four states with exclusive state funds for which we do not have data means that 47 is the maximum number of jurisdictions we use in any year to calculate national averages. However, data are lacking for Nevada prior to 1996 and for various other states in certain years, and the averages in Panel A of Table 2 pertain only to the number of jurisdictions for which data are available in the designated year. (The jurisdictions missing in any year are shown in parentheses.) We also have calculated a national average for those 42 states with data available for all years between 1984 and 2004, and the results are shown in Panel B of Table 2.

In addition to the maximum of 47 jurisdictions used to calculate the national averages, the *NCCI Bulletin* also contains information on the federal Longshore and Harbor Workers' Compensation Act (USL&HW). However, the benefits paid by the USL&HW are considerably higher than those in any other workers' compensation program, and so we do not include USL&HW data in calculating the national averages. We do include in-

formation on the USL&HW benefit payments in some of our tables, including Table 1.2003 and Table 1.2004, where we show the USL&HW program's benefits relative to the national average in the other jurisdictions.

Data on the annual frequencies per 100,000 workers and the average costs for five types of injuries are presented in Exhibits XI and XII of the *NCCI Bulletin*. The five types are fatalities, permanent total disabilities, permanent partial disabilities, temporary total disabilities, and "medical-only" cases, in which medical benefits but no cash benefits were paid. We used these data to calculate three variants of benefits incurred annually per 100,000 workers: (1) the cash (or "indemnity") benefits (which are the sum of the cash benefits for the four types of cases paying cash benefits); (2) the medical benefits; and (3) the total (cash plus medical) benefits.

Insurance Terminology

The benefits are the incurred benefits for the injuries that occurred during the policy periods indicated in Exhibits XI and XII in the 2007 and earlier editions of the *NCCI Bulletin*. The following definitions of terms, such as "policy period" and "incurred," are based on the more definitive descriptions in Appendix B of Thomason, Schmidle, and Burton (2001).

Policy Period. Data for a policy period include reports on all the financial transactions for all the insurance policies with coverage beginning during the policy period. The policy period typically is a 12-month period. In some states, the policy period begins on January 1, and thus the policy period and the calendar year correspond. (For example, the 2004 policy period for South Dakota began on January 1, 2004 and ended on December 31, 2004.) However, the policy period in many states begins on a date other than January 1. (For example, the 2004-05 policy period for Alabama began on May 1, 2004 and ended on April 30, 2005.) The experience in a single policy period occurs over a 24-month time span because a policy may be effective on any date during the policy period and does not expire until 12 months later. Thus the 2004-05 policy-period experience for Alabama includes those accidents that occurred between May 1, 2004 and April 30, 2005, and that were covered by policies sold during the 2004-2005 policy period.

One of the challenges we faced in preparing this and previous versions of this article is that the policy period sometimes changes between successive issues of the *NCCI Bulletin*. For example, the policy period changed in Florida between the 2003 and 2004 editions of the *NCCI Bulletins*. The policy period for Florida reported in the 2003 *NCCI Bulletin* was for the twelve months between October 1, 1998 and September 30 of 1999, while the policy period for Florida reported in the 2004 *NCCI Bulletin* was for the twelve months between January 1, 2000 and December 31, 2000. This meant that the successive issues of the *NCCI Bulletins* did not include information on the three months from October 1, 1999 to December 31, 1999. The NCCI provided us unpublished data for these three missing months for Florida, which we used to prepare the tables in this article. (We appreciate the assistance of Derek Schaff of the NCCI, who provided us the missing data.)

First Reports. The data included in the *NCCI Bulletins* we use in this article are based on the first reports for the each of the policies that are sold in the policy period. These first reports are based on an evaluation of the claims as of 18 months after the inception of each of the policies. Thus, the 2004-05 policy-period experience for Alabama is based on evaluations made between November 1, 2005 (for policies effective May 1, 2004) and October 31, 2006 (for policies effective April 30, 2005). All editions of the NCCI Bulletin prior to 2005 only contained information based on first reports. The *Revised 2005 Edition and the 2006 Edition* of the

Table 7
Standard Deviations for State's Benefits as a Percentage of U.S. Average

Dispersion Among 42 States in Benefits Per 100,000 Workers for Years 1985-2004

Year	Cash Benefits	Medical Benefits	Total Benefits
1985	90.2	51.2	71.1
1986	89.6	48.0	68.2
1987	68.3	43.8	53.4
1988	64.0	42.2	50.3
1989	63.3	34.0	45.5
1990	59.9	32.7	41.6
1991	43.9	33.0	32.9
1992	39.4	34.6	32.3
1993	36.8	35.7	32.2
1994	38.6	38.1	34.4
1995	34.2	33.3	27.9
1996	34.0	37.0	29.5
1997	33.9	35.0	28.4
1998	34.0	32.8	27.8
1999	35.2	42.2	32.3
2000	36.2	39.2	34.2
2001	36.1	43.1	36.4
2002	33.9	41.4	33.8
2003	30.9	45.1	33.4
2004	31.0	45.3	33.4

Note: The 42 states are those included in Panel B of Table 2.

NCCI Bulletin also contains information in Exhibit XI on average cost per case for second reports and third reports of earlier policy periods, and information in Exhibit XII on frequency by injury type for second and third reports. The *2007 and 2008 Editions* of the *NCCI Bulletin* contains information on the first through fifth reports of average cost per case and frequency by injury type. In order to make the 2004 results in Table 1.2004 of this article comparable to the results for earlier years, we have only used the data based on the first reports.

Paid Benefits and Incurred Benefits. The first reports contain information on the paid benefits (paid losses) that the insurance company has paid as of the valuation date for all the accidents occurring during the policy period. The first reports also contain information on the incurred benefits for these claims. Incurred benefits are the carrier's estimates of the benefits that will ultimately be paid for all of these claims. These incurred benefits include the benefits actually paid to the date of the first report, plus case reserves (anticipated payments for the claims that are known as of the evaluation date), bulk reserves, and IBNR reserves (incurred but not reported reserves) that are reserves for claims that have not yet been reported as of the valuation date even though the claims occurred in the specified period (e.g., during the policy period).

Loss Development. The incurred loss development factor is the ratio between (1) incurred losses for a particular policy period (or policy year or accident year) at a particular evaluation date and (2) comparable estimates at a later evaluation date. Incurred loss development factors are available for each state based on historical experience in the state. An incurred loss development factor of 1.200 for first to second means that a 20 percent growth is expected between the first report and the second report. Incurred loss development factors are available from first to second, second to third, etc. through eighth to ultimate. Chain multiplication of the loss development factors means that once a first report is received on actual experience for a policy year, the incurred benefit estimated as of the evaluation date for the first report can be multiplied by the subsequent loss development factors to produce an estimate of the ultimate benefits that will be paid for the injuries and diseases that occurred during that policy period.

The frequency data in Exhibit XII of the 2008 *NCCI Bulletin* are based on actual data from the first reports developed to the fifth reporting basis. The average cost per case (benefits per case) data we use from Exhibit XI of the 2008 *NCCI Bulletin* are based on actual data from the first reports developed to the ultimate reporting basis in most states. (The losses are only developed to the fifth reporting basis in California, Massachusetts, New Jersey, and New York.)

Methodology

There are some limitations of the data on average benefits (losses) per case and frequency per 100,000 workers included in Exhibits XI and XII of the *NCCI Bulletins*. Some are inherent, such as the absence of data from most of the states with exclusive state workers' compensation funds for which the NCCI does not collect data. Another inherent limitation is that the data pertain only to the experience of employers who purchase insurance from private carriers and from some of the competitive and exclusive state workers' compensation funds. The most significant problem is that the experience of self-insuring employers is not included.

Other drawbacks of the data included in Exhibits XI and XII of the *NCCI Bulletins* can be overcome, however. We are able to add two states (Delaware and Pennsylvania) with data we obtained directly from these states for some earlier years. Another problem with the information in the *NCCI Bulletins* used to generate the data for this article is that in some editions of the *NCCI Bulletin*, the age of the first report for policy years varies considerably. In the 2008 *NCCI Bulletin*, the policy years ranged from the oldest results for South Carolina (May 2003 to April 2004) to the most recent results for Louisiana and Mississippi (September 2004 to August 2005). There is also considerable variation among policy years in earlier editions of the *NCCI Bulletin*. In the 1997 edition, for example, the policy years ranged from Georgia and Mississippi (January to December 1992) to Montana and South Dakota (January to December 1994). Given the volatility in workers' compensation costs, it is questionable whether, for example, the Georgia and Montana data in the 1997 *NCCI Bulletin* were comparable, since the Montana data were two years more current. Finally, the fact that different states often do not correspond in terms of the months included in their policy years complicates comparisons. For example, as noted, the Alabama policy period in the 2007 *NCCI Bulletin* covered May 2003 to April 2004, while the South Dakota data covered January to December 2003.

We have dealt with the problem of data with different vintages in a particular issue of the *NCCI Bulletin* and with different months of inclusion in the policy periods by creating a series of tables that reallocate – by calendar year – data from the 1988 to 2008 issues of the *NCCI Bulletin*. Thus three months of data from the Michigan policy period from April 1999 to March 2000 that were published in the 2003 *NCCI Bulletin* were combined with nine months of data from the Michigan policy period from April 2000 to March 2001 that were published in the 2004 *NCCI Bulletin* to calculate a twelve-month average for calendar year 2000 for Michigan.

Table 1.2004 and Tables 2 to 6 present information for those jurisdictions for which data for at least six months in 2004 are found in any of the 20 issues of the *NCCI Bulletin,* or for which unpublished data were provided to us by the NCCI, or for which we were able to obtain data directly from state workers' compensation agencies. In similar fashion, Table 1.2003 and Tables 2 to 6 present information on those jurisdictions for which data for at least six months in 2003 are available from any of these sources.

The data included in this and the previous issues of the *Workers' Compensation Policy Review* are largely derived from data published in various editions of the *NCCI Bulletin*. There are several ways in which our tables and analysis are unique, however. First, we have added data from several states not included in the *NCCI Bulletin*. Second, the NCCI has provided us some unpublished data, such as data for policy periods or months skipped in successive issues of the *NCCI Bulletin*. Third, we have corrected some of the NCCI data based on error checks of the data and correspondence with the NCCI or independent state rating agencies. Fourth, we have calculated incurred benefits per 100,000 workers, which are results not included in the *NCCI Bulletin*. Finally, we have reallocated policy period data as published in the *NCCI Bulletin* to calendar years.

The meaning of our data can be illustrated by reference to Table 1.2004. The data pertain to the incurred cash, medical, and total (cash plus medical) benefits for the policies that were first effective in the twelve months between January and December 2004. For a policy effective on January 1, 2004, the experience thus includes all injuries that occurred between January 1 and December 31, 2004. For a policy effective on December 31, 2004, the experience thus includes all injuries that occurred between December 31, 2004 and December 30, 2005. Thus our calendar year data encompass experience for injuries that occurred over a 24-month period. Ideally, we would like "calendar-accident" year data, which would pertain strictly to those injuries that occurred during a calendar year. That is, 2004 calendar-accident year data would pertain to the experience of all injuries that occurred between January 1 and December 31, 2004. Unfortunately, as far as we know, there are no published frequency and average benefits per case data on a calendar-accident year basis.

ENDNOTES

1. We exclude the United States Longshore and Harbor Workers Act (USL&HW) from these comparisons because the program's costs are so out of line with other program. We also exclude the USL&HW data when we calculate the national averages shown in Tables 1 and 3.

2. Presumably, if Nevada data were available and used to construct the national averages for 1985 to 1995, the amounts for those years in Panel A of Table 2 would have been higher.

3. West Virginia data are not available for 1999 to 2004. Based on data from previous years, West Virginia probably had total costs that were well above the national average in 1999 to 2004.

4. Data on work-related injury and illness incidence rates from 1972 to 2003 are included in Table 12 of Burton and Blum (2005).

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Workers' Compensation Insurance Industry Profits Remain High in 2007

by John F. Burton, Jr.

The underwriting results for the workers' compensation insurance industry deteriorated in 2007 but remained highly profitable by historical standards according to results from A.M. Best. The overall operating ratio, which is the most comprehensive measure of underwriting experience for insurance carriers, increased from 86.3 in 2006 to 88.6 in 2007, as shown in Figure A and Table 1 (column (8)).

The overall operating ratio is calculated as (1) the total of all carrier expenditures (2) minus investment income (3) as a percentage of premiums.[1] When the overall operating ratio is greater than 100, carriers lose money even when investment income is considered. Conversely, an operating ratio of less than 100 indicates that the industry is profitable when investment income is included. The underwriting results in 2006 and 2007 were the two most profitable years for the workers' compensation insurance industry since 1997.

Underwriting Results Vary Over Time

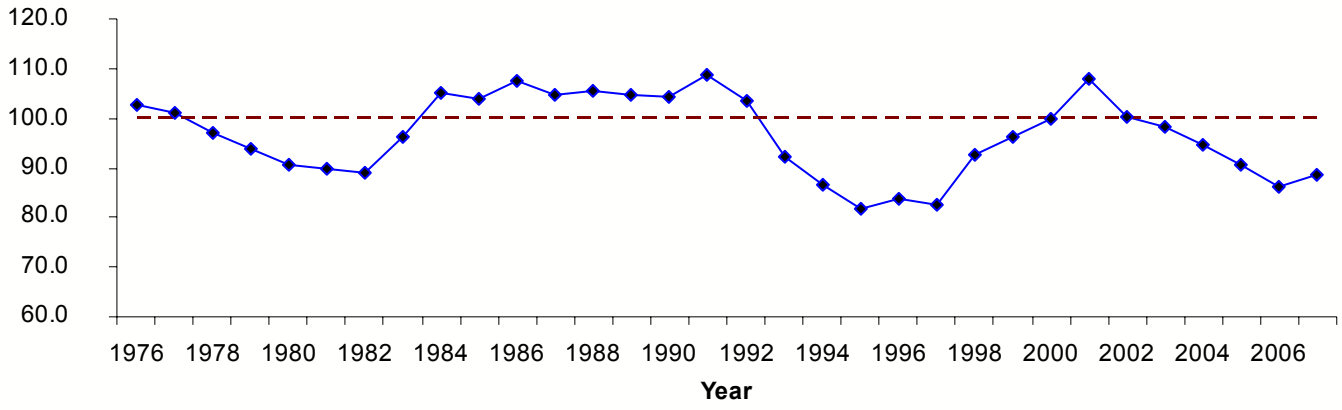
The overall operating ratio for the workers' compensation industry for 1976 to 2007 is shown in Figure A and Table 1, and the cyclical nature of profitability in the industry is evident. Two years of losses in 1976-1977 were followed by six years of profits through 1983. For example, the operating ratio was below 90 in 1981 and 1982, indicating that carriers had profits that exceeded $10 for every $100 of premiums in those years.

The workers' compensation insurance industry was then unprofitable in every year from 1984 to 1992. During this nine-year stretch of unfavorable results, carriers' losses ranged from $3.40 to $8.70 for every $100 of workers' compensation premiums. One result of this unfavorable experience is that the workers' compensation industry took the lead in "reform" efforts that reduced benefits and tightened eligibility standards in many states.[2] Also, because insurance regulators refused to allow insurance rates to increase as rapidly as losses in many jurisdictions, which resulted in underwriting losses in these states, workers' compensation carriers pursued and achieved deregulation of the workers' compensation insurance markets in most states.[3]

The results of deregulation and the various other reforms of workers' compensation in the early to mid-1990s are evident in the underwriting results for 1993 to 2000, when the overall operating ratio was less than 100 in every year. This was the longest string of profitable years for the workers' compensation insurance industry in the last half-century (and probably in the history of workers' compensation). The best years were 1995 to 1997, when on average carriers had profits of more than $17.00 per $100 of premium.

The underwriting experience of workers' compensation carriers deteriorated for several years after 1997. Indeed, between 1997 and 2001, the overall operating

Figure A
Overall Operating Ratio as a Percent of Premiums, 1976-2007



Note: The Overall Operating Ratio is the total of all underw riting expenses and income from investments as a percentage of premiums.

Table 1
Workers' Compensation Insurance Underwriting Experience, 1973-2007

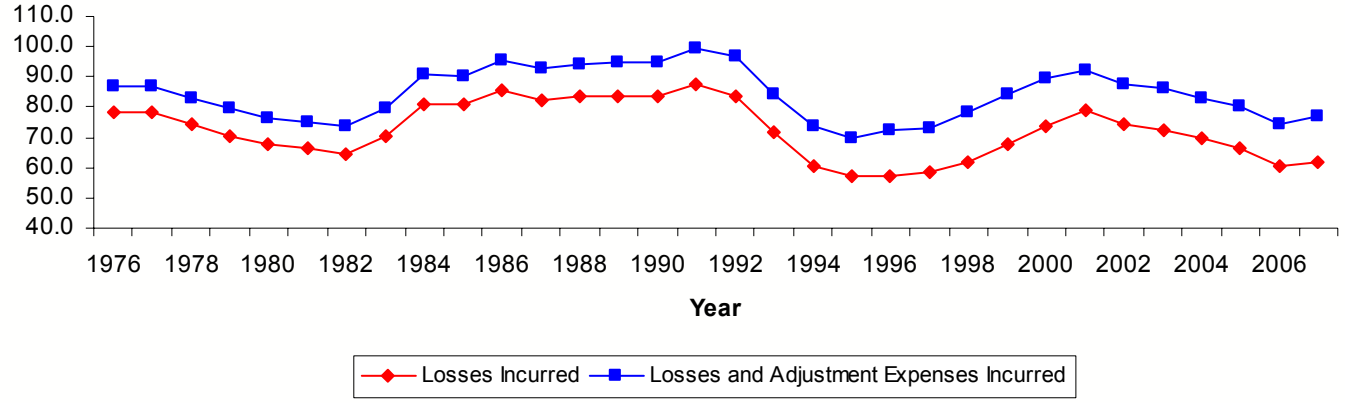
Year	Losses Incurred* (1)	Loss Adjustment Expenses* (2)	Losses and Adjustment Expenses Incurred* (3)	Underwriting Expenses Incurred** (4)	Dividends to Policyholders* (5)	Combined Ratio After Dividends (6)	Net Inv. Gain/Loss and Other Income* (7)	Overall Operating Ratio (8)
1973	68.5	8.5	77.0	19.8				
1974	71.6	8.7	80.3	19.6				
1975	74.0	8.2	82.2	18.9	6.3	107.4		
1976	78.2	8.4	86.6	17.6	5.4	109.6	6.9	102.6
1977	78.0	8.9	86.9	16.7	5.1	108.6	7.4	101.2
1978	74.4	8.7	83.0	16.4	5.6	105.0	7.8	97.2
1979	70.4	9.2	79.6	16.8	6.5	103.0	9.2	93.7
1980	67.6	8.4	76.1	17.4	8.0	101.4	10.8	90.7
1981	66.1	9.0	75.1	19.0	8.7	102.8	13.0	89.8
1982	64.3	9.1	73.4	20.6	9.9	103.9	15.0	88.9
1983	70.6	9.2	79.9	22.0	10.6	112.5	16.2	96.3
1984	81.0	9.8	90.8	21.2	9.9	121.9	16.7	105.2
1985	81.0	9.5	90.5	19.0	9.3	118.8	15.0	103.8
1986	85.4	10.2	95.5	18.0	7.6	121.1	13.7	107.4
1987	82.2	10.9	93.1	18.0	6.4	117.6	12.8	104.8
1988	83.4	10.8	94.2	17.8	6.4	118.4	12.7	105.7
1989	83.3	11.4	94.7	17.4	6.1	118.2	13.4	104.8
1990	83.8	10.7	94.6	17.6	5.1	117.4	13.0	104.4
1991	87.8	11.5	99.3	18.5	4.9	122.6	14.0	108.7
1992	83.9	13.2	97.1	19.8	4.6	121.5	18.1	103.4
1993	71.6	12.4	84.0	20.4	4.7	109.1	16.7	92.4
1994	60.5	13.1	73.6	21.0	7.0	101.6	15.1	86.4
1995	57.0	12.8	69.8	22.7	6.9	99.5	17.7	81.8
1996	57.5	14.5	72.1	24.9	5.4	102.4	18.6	83.8
1997	58.6	14.4	73.0	25.3	6.5	104.8	22.4	82.4
1998	62.0	16.2	78.2	26.3	6.6	111.2	18.6	92.6
1999	68.0	16.2	84.2	27.5	6.7	118.5	22.4	96.1
2000	73.5	16.0	89.5	25.8	5.4	120.7	20.9	99.8
2001	78.9	13.6	92.4	25.0	3.5	120.9	12.8	108.1
2002	74.6	12.9	87.5	22.3	2.8	112.6	12.2	100.4
2003	72.2	14.0	86.2	20.7	1.6	108.6	10.5	98.1
2004	69.7	13.4	83.1	20.8	1.3	105.1	10.6	94.5
2005	66.1	14.1	80.2	20.8	1.7	102.7	12.2	90.5
2006	60.6	13.6	74.2	22.2	2.0	98.5	12.2	86.3
2007	61.8	15.0	76.9	23.9	2.6	103.4	14.8	88.6

Source:
Best's Aggregate & Averages Property/Casualty , 2008 and prior Editions, © A.M. Best Company - used with permission.
Data for years 1998 - 2006 updated to reflect values from 2008 Edition.

Notes:
Losses Incurred (also termed the pure loss ratio) (1) plus Loss Adjustment Expenses (2) equals Losses and Adjustment Expenses Incurred (3). Losses and Adjustment Expenses Incurred (3) plus Total Underwriting Expenses Incurred (4) plus Dividends to Policy Holders (5) equals Combined Ratio after Dividends (6). Combined Ratio after Dividends (6) minus Net Investment Gain/Loss and Other Income (7) equals Overall Operating Ratio (8). As of 1992, the methodology for allocating investment income changed slightly; as a result, 1992-2001 numbers in the last two columns are not directly comparable to those for earlier years.

* Percentage of net premiums earned ** Percentage of net premiums written

Figure B
Losses Incurred and Losses and Adjustment Expenses Incurred as Percent of Premiums, 1976-2007



ratio jumped almost 26 points, which is the most rapid rate of deterioration during the period covered by the data in Figure A (namely 1976 to 2007). Moreover, the overall operating ratio of 108.1 in 2001 indicates the underwriting losses in that year were worse than in all but one other year (1991) for which data are available.

The reduction in the overall operating ratio from 108.1 in 2001 to 100.4 in 2002 brought the industry to essentially a break-even point in that year. A further decline in that ratio in 2003 to 98.1 returned the industry to a profitable position for the first time since 2000. The overall operating ratio has significantly improved since 2003, and the ratio of 86.3 for 2006 was the lowest figure, and most profitable, since 1997, as carriers had profits of $13.70 per $100 of premium last year. In 2007, profits fell slightly, with an operating ratio of 88.6 and profits of $11.40 per $100 of premium.

A full explanation of the deterioration in the underwriting experience between 1997 and 2001 is beyond the scope of this article. However, there is one fundamental difference between the adverse experience of the late 1980s and early 1990s and the deteriorating profitability between 1997 and 2001. In the earlier period, benefits paid to workers were increasing rapidly, while this was not true from 1997 to 2001. In 1984, benefits paid to workers were 1.09 percent of payroll and continued to climb until 1991 and 1992, when they peaked at 1.64 percent of payroll. In contrast, between 1997 and 2001, when underwriting results deteriorated, benefits declined from 1.17 percent to 1.10 percent of payroll. The rapid improvement in underwriting experience between 2001 (when the overall operating ratio was 108.1) and 2007 (when the ratio was 88.6) is also beyond the scope of this article. A reduction in benefits does not appear to have been a major source of the

Figure C
Underwriting Expenses Incurred as a Percent of Premiums, 1976-2007

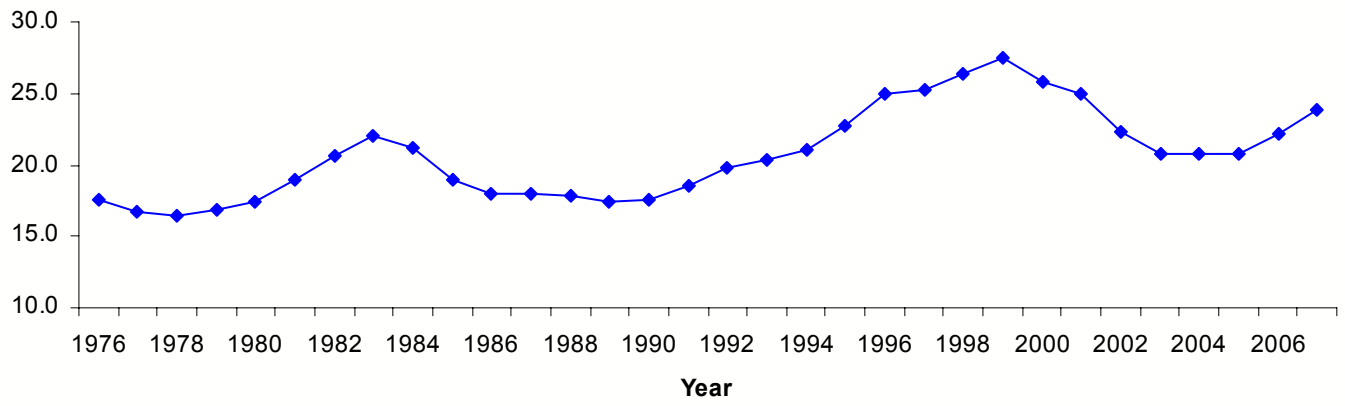
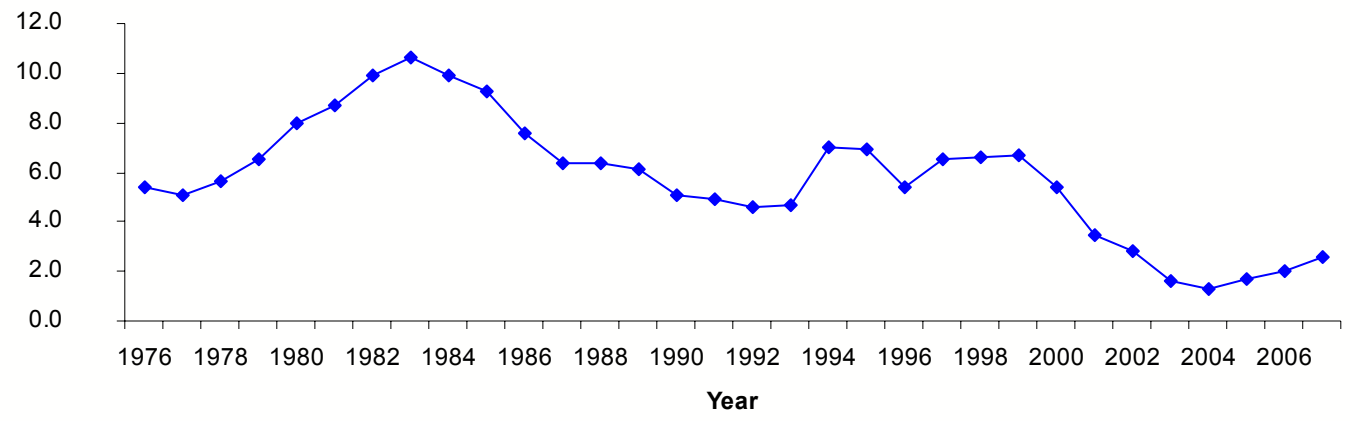


Figure D
Dividends to Policyholders as Percent of Premiums, 1976-2007



improved underwriting results between 2001 and 2005, since benefits as a percent of payroll only dropped from 1.10 percent of payroll in 2001 to 1.07 percent in 2005. However, benefits dropped from 1.07 percent of payroll in 2005 to 0.99 percent of payroll in 2006, which was probably a contributing factor to the favorable underwriting results that year.[4]

Components of the Overall Operating Ratio

The loss ratio is incurred losses (benefits) as a percentage of premiums.[5] When premiums drop more rapidly than losses (or when premiums increase less rapidly than losses), the loss ratio will increase. As shown in Figure B and Table 1 (column 1), the loss ratio increased rapidly from 58.6 percent in 1997 to 78.9 percent in 2001, and then plummeted to 60.6 percent in 2006 before increasing to 61.8 percent in 2007.

The total of incurred losses and incurred loss adjustment expenses is also shown in Figure B and in Table 1 (column 3). The difference between the two lines in Figure B is incurred loss adjustment expenses, which are also shown in Table 1 (column 2). Loss adjustment expenses include the cost of processing claims. From 1973 to 1985, loss adjustment expenses were always less than 10 percent of premium, but they have been at least 12 percent in every year since 1992. Loss adjustment expenses were 16 percent or higher in 1998 to 2000, and averaged 13.8 percent in the seven years from 2001 and 2007. The higher loss adjustment expenses since the early 1990s compared to earlier years may reflect in part the more intensive efforts to manage health care costs for disabled workers.

Underwriting expenses incurred as a percent of premiums are shown in Figure C and Table 1 (column

Figure E
Combined Ratio After Dividends as Percent of Premiums, 1976-2007

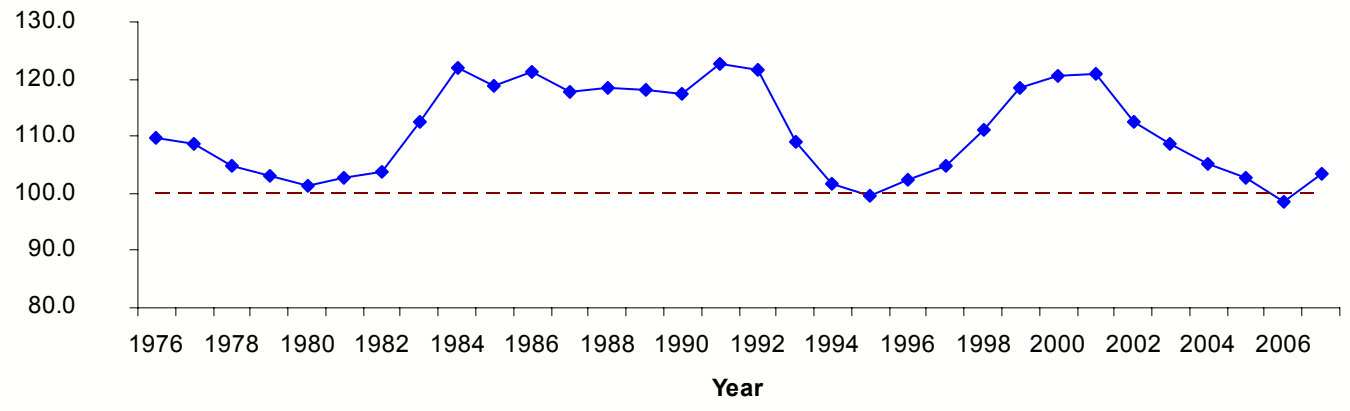
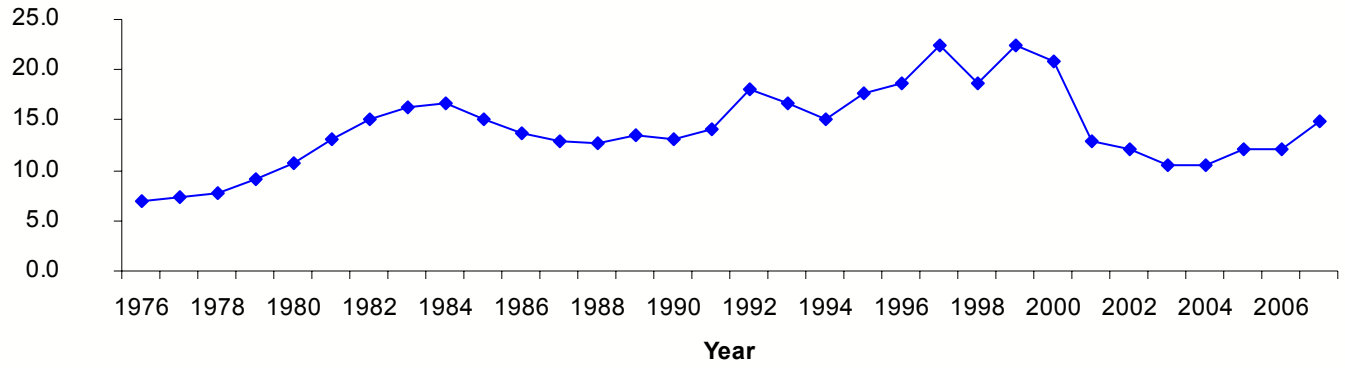


Figure F
Net Investment Gain/Loss and Other Income as Percent of Premiums, 1976-2007

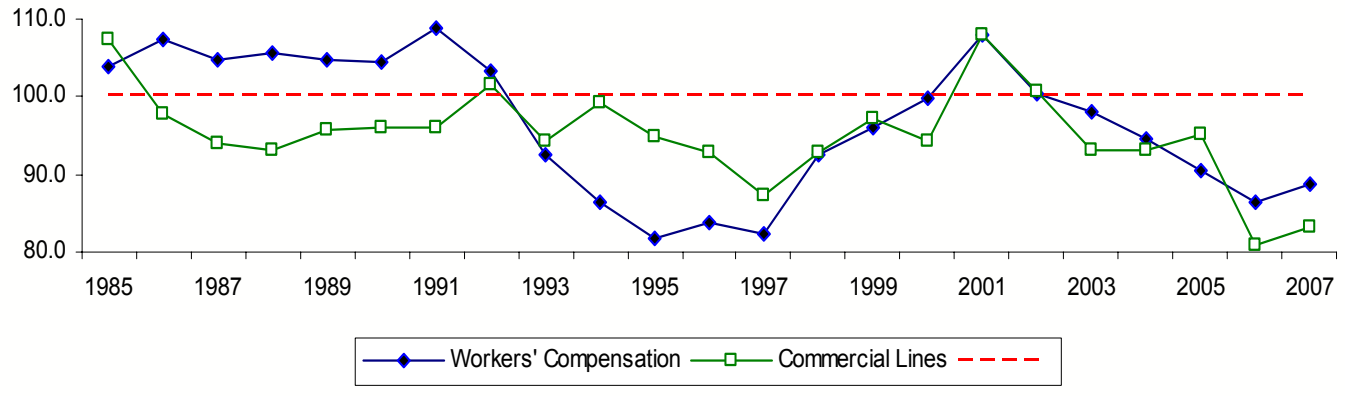


4). These expenses, which include commissions and broker fees, have also generally increased over time. Between 1973 and 1992, underwriting expenses were greater than 20 percent of premium only thrice; since 1993, underwriting expenses have been 20 percent or greater in every year. There has been some moderation in underwriting expenses recently: after averaging 26.2 percent of premium in 1998 to 2001, underwriting expenses averaged only 21.8 percent of premiums in 2002 to 2007.

Dividends as a percent of premiums are presented in Figure D and Table 1 (column 5). Prior to deregulation of the workers' compensation insurance markets in recent decades, carriers were limited in their ability to compete by lowering insurance rates at the beginning of the policy period. However, both mutual and stock companies could compete by offering policies that paid dividends to policyholders after the policy period. In the early 1980s, dividends ranged from 8.0 to 10.6 percent of premiums. Since 1990, dividends have never exceeded 7.0 percent of premiums. Dividends averaged less than four percent of premiums in 2000 to 2003, reaching their lowest point in 2004 for the then 32 years of available data at a mere 1.3 percent of premiums. Since 2004 dividends have shown a steady increase from 1.7 percent of premiums in 2005, to 2.0 in 2006, and to 2.6 percent in 2007.

The combined ratio after dividends is presented in Figure E and Table 1 (column 6). The combined ratio is the sum of the loss ratio (column 1), loss adjustment expenses (column 2), underwriting expenses (column 3), and dividends (column 4). When the combined ratio exceeds 100 percent, premiums are not adequate to cover losses and expenses. As shown in Figure E, the

Figure G
Overall Operating Ratio as Percent of Premiums, Workers' Compensation and Commercial Lines, 1985-2007



combined ratio exceeded 100 percent in every year between 1975 and 1994, and was greater than 110 percent in every year from 1983 to 1992. The combined ratio then dropped sharply after 1992 until reaching a low of 99.5 in 1995. The combined ratio deteriorated (increased) in every year between 1995 and 2001, reaching 120.9 percent in 2001 and averaging nearly 118 percent in 1998 to 2001. Restated, for every $100 of premiums received by workers' compensation carriers in 1998 to 2001, there was an average of almost $118 of losses, loss adjustment expenses, underwriting expenses, and dividends. The combined ratio then dropped sharply to 112.6 in 2002, to 108.6 in 2003, to 105.1 in 2004, and to 102.7 in 2005. A further improvement in 2006 to 98.5 made the combined ratio the lowest figure in the 32 years with data in Table 1, and represents only the second time during this period that the combined ratio has been less 100. The combined ratio then increased to 103.4 percent in 2007.

The combined ratio after dividends provides an incomplete report on the underwriting experience in the workers' compensation insurance market, however, because no account is taken of investment gains (or losses) and other income received by workers' compensation carriers. Net investment gains (or losses) and other income as a percent of premium ("net investment income") are shown in Figure F and Table 1 (column 7).[6] From 1981 to 2002, net investment income was at least 12 percent of premium in every year. Net investment income dropped below 12 percent in 2003 to 10.5 percent, which was the lowest rate since 1979. Net investment income recovered slightly to 10.6 percent in 2004, to 12.2 percent in 2005 and 2006, and to 14.8 percent in 2007.

The results for 2007 illustrate why underwriting results that only focus on the combined ratio after dividends are misleading. In that year, the combined ratio was 103.4, which means that for every $100 of premiums, there was a total of $103.4 of losses, loss adjustment expenses, underwriting expenses, and dividends. However, in 2007 net investment income was 14.8 percent of premiums, which means that the insurance industry had investment income of $14.8 for every $100 of premiums. When

Table 2
Underwriting Experience, Workers' Compensation and Commercial Lines, 1991-2007

Year	Overall Operating Ratio-Workers' Compensation	Overall Operating Ratio-Commercial Lines
1976	102.6	
1977	101.2	
1978	97.2	
1979	93.7	
1980	90.7	
1981	89.8	
1982	88.9	
1983	96.3	
1984	105.2	
1985	103.8	107.5
1986	107.4	97.7
1987	104.8	93.9
1988	105.7	93.2
1989	104.8	95.7
1990	104.4	95.9
1991	108.7	96.0
1992	103.4	101.5
1993	92.4	94.2
1994	86.4	99.2
1995	81.8	95.0
1996	83.8	92.7
1997	82.4	87.3
1998	92.6	92.8
1999	96.1	97.2
2000	99.8	94.3
2001	108.1	108.0
2002	100.4	100.6
2003	98.1	93.1
2004	94.5	93.0
2005	90.5	95.1
2006	86.3	80.8
2007	88.6	83.3

Source:
Best's Aggregate & Averages Property/Casualty, 2008 and prior Editions, © A.M. Best Company - used with permission. Data for years 1998 - 2006 updated to reflect values from 2008 Edition.

Notes:
The Overall Operating Ratio is the total of all underwriting expenses and income from investments as a percentage of premiums.
"Commercial Lines" includes all insurance lines except passenger auto and homeowner multiples peril insurance.

the net investment income ratio is subtracted from the combined ratio, the overall operating ratio for 2007 was 88.6, which – as discussed earlier in this article – means that the industry had $11.40 profit for each $100 of premiums in 2007.

Comparison to Other Insurance Lines

The overall operating ratio of workers' compensation is compared to all commercial lines of insurance for 1985 to 2007 in Figure G and Table 2. The comparison reinforces the impression of the volatility of the underwriting results in the workers' compensation insurance industry. The workers' compensation industry had smaller losses (a lower operating ratio) than other commercial lines in 1985; workers' compensation had losses (overall operating ratios were in excess of 100) while other commercial lines were profitable (overall operating ratios were less than 100) from 1986 until 1991; workers' compensation had greater losses than other commercial lines in 1992; workers' compensation was more profitable (a lower overall operating ratio) than other lines from 1993 to 1999; workers' compensation was profitable but less so than other lines in 2000; workers' compensation had losses that slightly exceeded those in other commercial lines in 2001; and workers' compensation had losses that were slightly lower than the losses in other commercial lines in 2002.

Both workers' compensation and other commercial lines of insurance returned to a profitable overall operating ratio in 2003, but workers' compensation was less profitable than the other lines in 2003 and 2004. Profitability was greater in 2005 for workers' compensation than for other lines of commercial insurance, but profits were lower in workers' compensation than in all commercial lines in 2006 and 2007. This "underachievement" in workers' compensation for the two most recent years should be placed in perspective: for all commercial lines, the overall operating ratios of 80.8 in 2006 and 83.3 in 2007 are the two most profitable years in the 23 years included in Table 2.

Analysis

There are cycles in profitability in the workers' compensation insurance industry using the overall operating ratio, which is shown in Figure A and Table 1. The data series begins with two years of losses (1976-1977), followed by six years of profits (1978-1983). Then nine years of losses (1984-1992) were followed by eight years of profits (1993-2000). Most recently, two years of losses (2001-2002) were succeeded by five years of profits (2003-2007).

Based on this "normal" history of workers' compensation cycles, a prediction that 2008 will be a profitable year for the industry should be a sure bet. An overall operating ratio of 88.6 in 2007 would require an unprecedented deterioration in underwriting experience to drive that ratio over 100.0 in 2008 and result in losses for the workers' compensation insurance industry. But 2008 is a unique year for the U.S. economy during the post-WW II period, which undoubtedly will affect workers' compensation. In 2007, the workers' compensation insurance industry achieved profitability by offsetting a combined ratio exceeding 100.0 with investment income of almost $15 per $100 of premiums. It is hardly a courageous or brilliant analysis to suggest that – as this issue goes to press[7] – investment income will fall significantly from 2007 to 2008. With some trepidation, I remind you that American International Group, Inc. was the largest workers' compensation carrier in 2007 (Best's 2008a: 81)

ENDNOTES

1. More complete definitions of the overall operating ratio are provided subsequently in the text and in the notes to Table 1.

2. The reform efforts are examined in Spieler and Burton (1998).

3. The deregulation of the workers' compensation insurance market is examined in Thomason, Schmidle, and Burton (2001: 39-43).

4. The 1984 result for benefits paid to workers as a percent of payroll is from Sengupta, Reno, and Burton (2007): Table A4. The 1991, 1992, 1997, 2001, and 2006 results are from Sengupta, Reno, and Burton (2008): Table 12.

5. Incurred losses include paid losses plus reserves for future losses for injuries or diseases that have already occurred. An extended discussion of insurance terminology is included in Thomason, Schmidle, and Burton (2001, Appendix B).

6. Net investment income does not include realized or unrealized capital gains (Best 2008b: 34).

7. I am completing this article for the September/October 2008 issue of the *Workers' Compensation Policy Review* in mid-November 2008, which is consistent with the author's, editor's, and publisher's commitment to merit over metrics.

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