

State of the Line:

Analysis of Workers Compensation Results



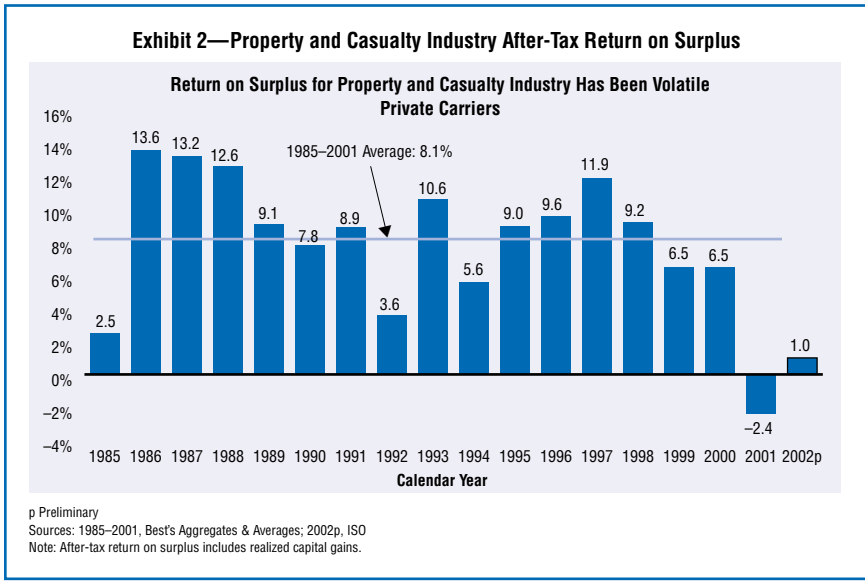
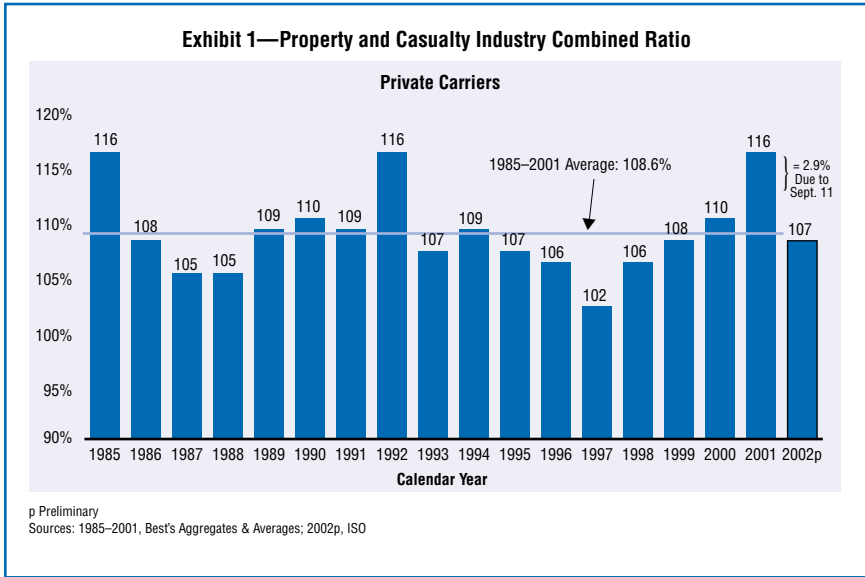
By Dennis C. Mealy, FCAS, MAAA
Chief Actuary
NCCI, Inc.

Poor Investment Environment, Medical Inflation, and Terrorism Exposure Dampen Dramatic Improvement in Combined Ratio

Each spring, NCCI prepares and publishes the “State of the Line”—our analysis and reporting on the trends, forces and economic realities that shape our outlook for the workers compensation market for the year ahead. This year, our outlook offers both positive and negative findings. Considered in total, profitability for the workers compensation line will continue to be elusive for many carriers and the outlook for the future is cautionary.

For example, as you will see below, the 2002 calendar year combined ratio has improved by 12 points, from 122% to 110%, reserve deficiencies have declined from \$21 billion to \$18 billion, and there have been solid gains in workers compensation premium volume, from \$26 billion to \$29 billion. These results, taken alone, are cause for optimism. Unfortunately, these positive results do not translate to carriers’ bottom lines. The ongoing poor investment income environment has resulted in a modest 2% pretax operating gain. The needed pretax gain in today’s investment climate is likely in excess of 10% to return the industry’s cost of capital.

Historically, long-tailed lines like workers compensation depend on investment income to earn an adequate overall profit. Therefore, a weak investment environment has greater impact on workers compensation than most other property/casualty (P/C) lines. Consequently, what was considered to be a profitable combined ratio over the last decade when investment income averaged 16.7%—or even over the last five years when it averaged 21.3%—is likely to be unprof-



itable today, when investment income is averaging just 12% of earned premiums. In addition to the depressing impact of today’s investment income environment, the continued cautionary outlook is primarily due to medical inflation and the need to fund against potential terrorism events. Workers compensation medical cost for lost-time claims

increased from 10.7% to 12% from 2001 to 2002, a number that is significantly higher than the 1996–2002 average of 8.1%. And while Congress offered the industry some protection by passing the Terrorism Risk Insurance Act of 2002, the fact remains that another attack could have a devastating financial impact on the industry.

The combined ratio, as calculated by NCCI for this report, is, by definition, an aggregate number averaging the experience of all states. Each state's experience is unique. Some states within NCCI's jurisdiction are in a crisis mode due to state-specific factors, but all states share to some extent in the cost-driving exposures mentioned above—medical inflation and terrorism.

Although some carriers may find the opportunity for profit in this environment, in general, the industry must rebuild its capital base following three straight years of declines, and fund for future exposures.

We review the entire market and each of the above factors in the space below, beginning with an analysis of the economic underpinnings of the overall P/C market.

Outlook for the Property and Casualty Industry—2003

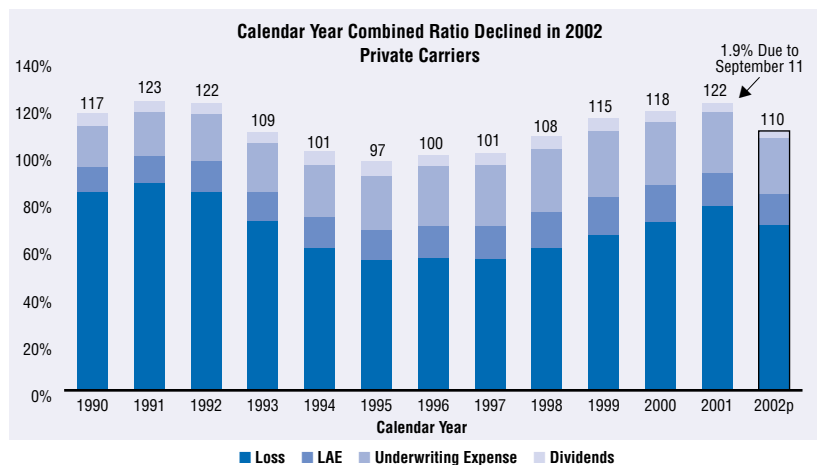
While there are many economic factors that are unique to workers compensation, it's useful to consider the line in the context of the total P/C market.

From 1985 to 2001, the combined ratio for the P/C market averaged 108.6% (Exhibit 1). The combined ratio for 2001 was 116%, the worst year since 1992. Although results in 2001 were adversely impacted by the terrible events of September 11, there were many causes of this unprofitable result.

For 2002, carriers are reporting a combined ratio of 107%, a dramatic 9-point improvement from 2001. Even excluding the 3-point impact of September 11 on 2001, it is a notable 6-point improvement. This reverses four consecutive years of increases, and puts results back near the long-term average.

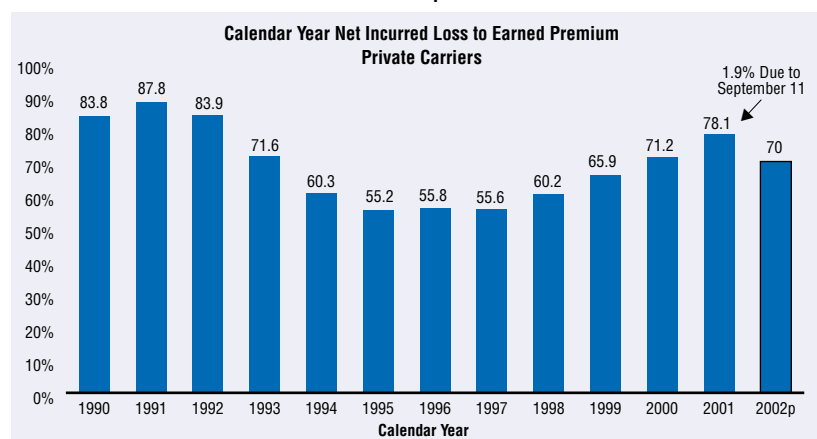
After experiencing the industry's first full-year loss in 2001, the P/C industry turned in a positive, albeit meager, 1% return on surplus in 2002 (Exhibit 2). The 2002 return on surplus stands in sharp contrast to the long-term average of 8.1%. Although the combined ratio is in line with historic averages, dramatically lower investment returns mean that a given underwriting ratio will produce a much smaller return on surplus.

Exhibit 3—Workers Compensation Combined Ratio



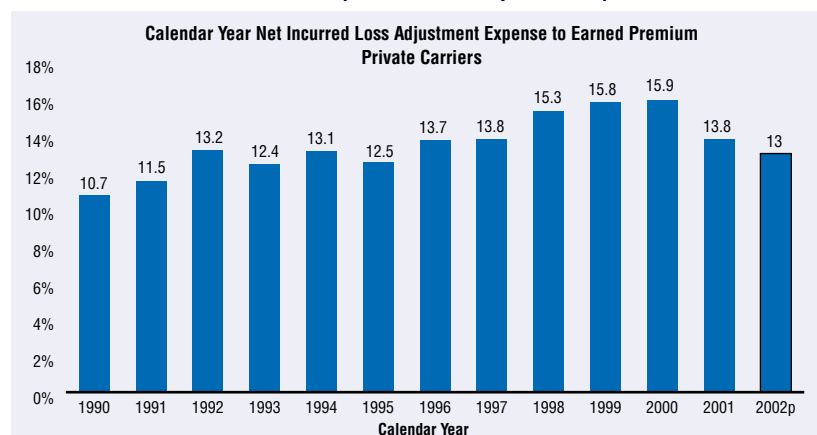
p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

Exhibit 4—Workers Compensation Loss Ratio



p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

Exhibit 5—Workers Compensation Loss Adjustment Expense Ratio



p Preliminary
Source: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

P/C industry surplus declined for the third successive year due primarily to unrealized capital losses. Current surplus stands at \$285 billion. In 2002, the industry lost \$4 billion of surplus, and \$49 billion cumulatively from the 1999 high point of \$334 billion. This decline in surplus comes despite \$20 billion of new capital added over the last couple of years.

Enhanced by solid net written premium growth of 14.1% in 2002, the industry leverage, as measured by the premium to surplus ratio, increased from 1.1 in 2001 to 1.3 in 2002.

Workers Compensation Market Results

As with the overall P/C industry, the workers compensation line also posted a significant year-over-year improvement. However, continued improvement is needed to restore the industry to health.

During the mid-1990s, workers compensation maintained positive profitable results (**Exhibit 3**). In fact, the combined ratio hovered around 100 during 1994–1997, which is considered excellent for a long-tailed line like workers compensation.

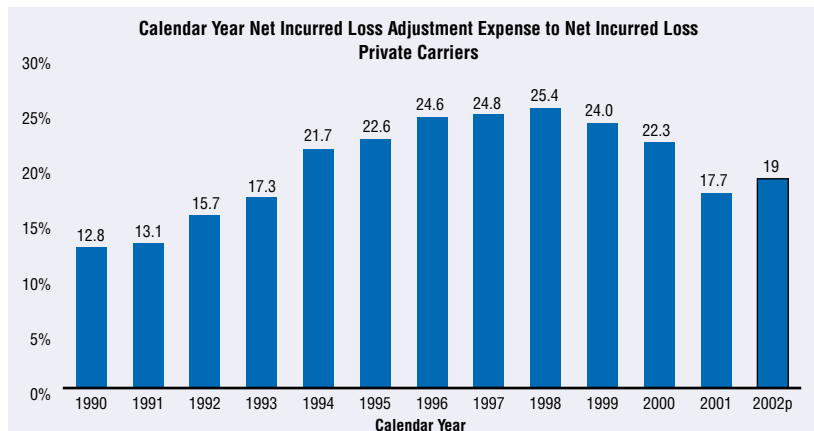
Unfortunately, that trend could not be maintained, and beginning in 1998, the combined ratio began to climb back to levels last seen in the early 1990s.

NCCI's preliminary analyses indicate that the workers compensation combined ratio for Calendar Year 2002 is 110%, a remarkable 12-point improvement from 2001, and breaking a six-year string of deteriorating results. Less than two percentage points of the improvement on the net combined ratio is due to the absence of a significant terrorist event in 2002.

An analysis of the workers compensation combined ratio shows the following:

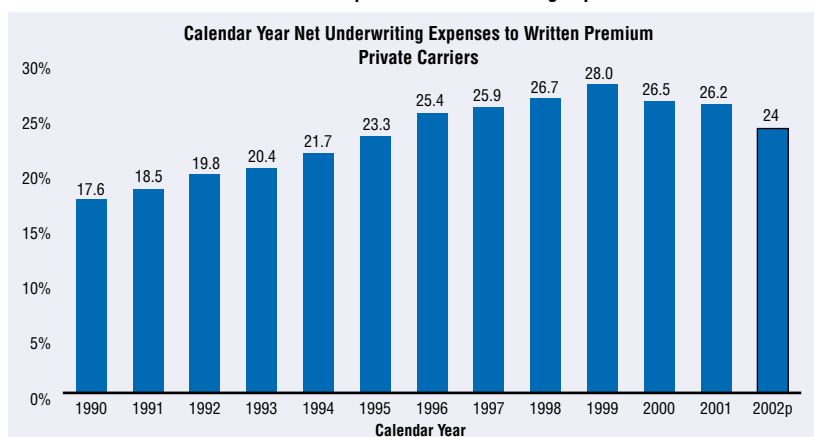
- **The loss ratio (Exhibit 4)** shows an 8-point decrease to 70% after four straight years of deterioration
- **The loss adjustment expense (LAE) ratio to net earned premiums** dropped for the second consecutive year and is 13% for 2002 (**Exhibit 5**)
- **LAE to Losses (Exhibit 6)** shows a slight increase in 2002 to 19%

Exhibit 6—Workers Compensation Loss Adjustment Expense Ratio to Losses



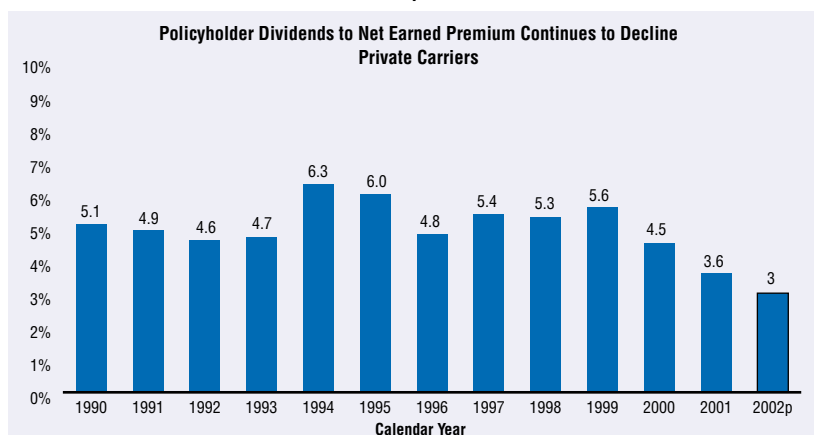
p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

Exhibit 7—Workers Compensation Underwriting Expense Ratio



p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

Exhibit 8—Workers Compensation Dividend Ratio



p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI

- **Expenses**, excluding LAE, declined for the third consecutive year, and are now 24% of premium, down 4 points from the high in 1999 (**Exhibit 7**); strong premium growth and cost-cutting efforts have both had an impact
- **Dividends** continue to decline and are now at 3% of net earned premium (**Exhibit 8**)

Investment income associated with workers compensation insurance transactions fell dramatically in 2001 to an estimated 14%—down from approximately 20% during 1997–2000 (**Exhibit 9**). This year's decrease to 12% is due to continued lower interest rates as well as a reduction in realized capital gains.

Incorporating the combined ratio with the investment gains results in a slight pretax operating profit of 2% for workers compensation in 2002 (**Exhibit 10**). Although positive, the return remains well below both historical returns and the cost of capital.

Based on today's weak investment environment, our analysis indicates that many carriers may need a combined ratio of less than 100% in order to return their cost of capital. Combined ratios this low are extremely rare in long-tailed lines like workers compensation, where underwriting losses are generally offset with investment income.

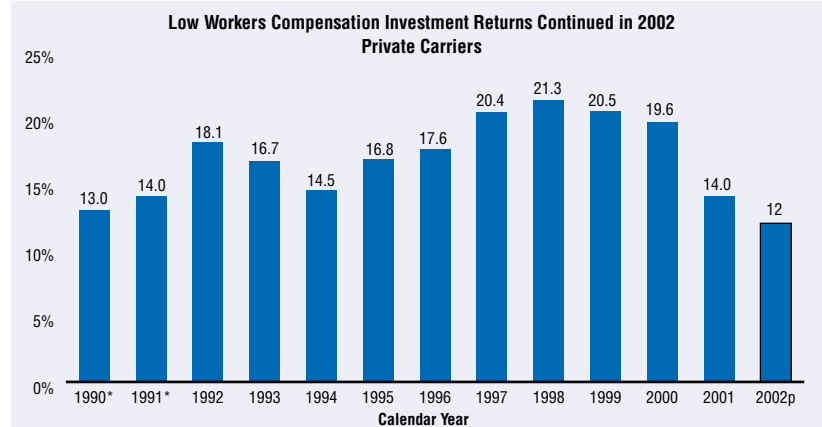
Premium Volume Continues to Increase

For the third straight year, net workers compensation premium volume for private carriers showed a strong gain, increasing \$3 billion, or 11.7%, from 2001 (**Exhibit 11**). The bars on Exhibit 11 represent workers compensation net written premium, while the line plots wages and salaries for corresponding years. For several years, wages and salaries grew at a higher rate than net premium volume; in the last two years, premium volume growth has been larger. In particular, payroll grew at only a 0.6% rate in 2002. The cost of workers compensation to employers as a percentage of employee total compensation is approximately 1.7%, which is lower than it was in the 1990s (**Exhibit 12**).

Accident Year Results Improved Significantly

The high-water mark for the workers compensation accident year combined

Exhibit 9—Workers Compensation Ratio of Investment Gain on Insurance Transactions to Premium



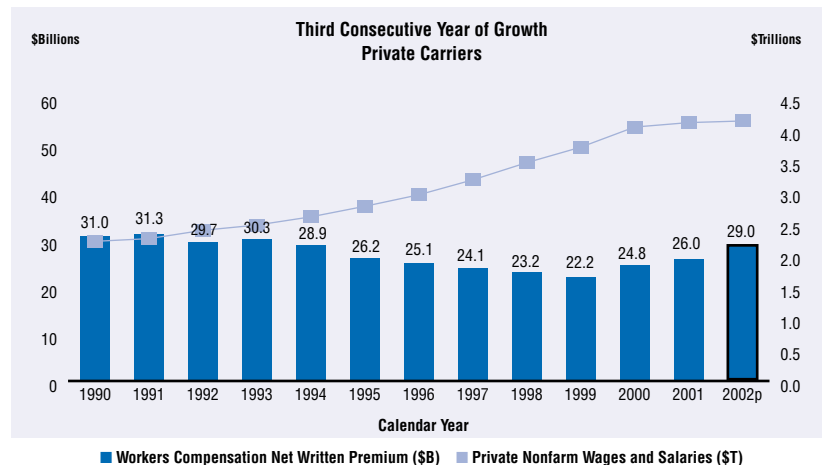
p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI
* Adjusted to include realized capital gains to be consistent with 1992 and after.

Exhibit 10—Workers Compensation Pretax Operating Gain Ratio



p Preliminary
Sources: 1990–2001, Best's Aggregates & Averages; 2002p, NCCI
* Adjusted to include realized capital gains to be consistent with 1992 and after.

Exhibit 11—Workers Compensation Net Written Premium



p Preliminary
Sources: 1990–2001 WC Net Written Premium, AM Best; 2002p, NCCI; Private Nonfarm Wages and Salaries from Economy.com

ratio was 137% in 1999. The improvement since then has accelerated, moving to 107 in 2002 (18 points better than 2001) (Exhibit 13). As shown in later exhibits, this improvement reflects, among other things, a combination of bureau rate/loss cost increases and a decline in pricing departures.

Workers Compensation Reserve Deficiency

There was marked improvement in the workers compensation reserve deficiency in 2002, down to \$18 billion after seven years of increases (Exhibit 14). Assuming losses are paid out during a 30-year period, the implied reserve discount rate is approximately 4%.

About one-quarter of this reserve deficiency is due to statutorily permitted discounting of reserves on pension-type cases, which are discounted at approximately a 3.5% interest rate.

Approved Rates/Loss Costs Beginning to Increase

Approved bureau rate/loss cost increases were significant in 2002, increasing 4.9% (Exhibit 15). These changes are prior to the application of individual company pricing programs. With some of the rate/loss cost filings effective in 2003 already approved, their impact for 2003 also stands at +4.9%.

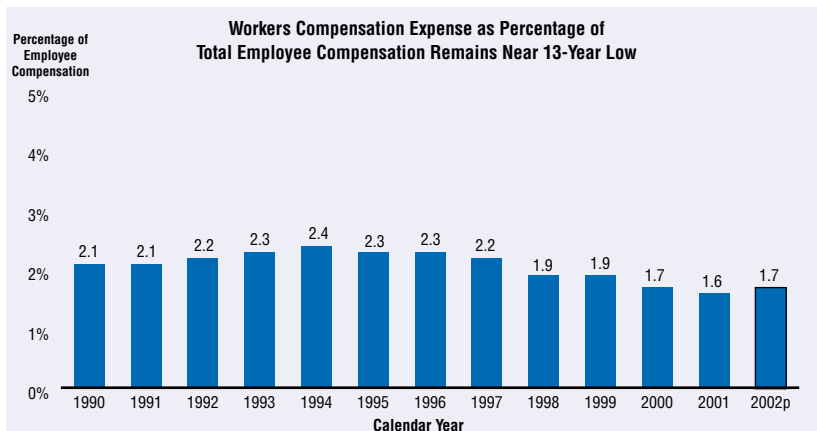
In 2003, California is a major driver of this change at +10.5%. Other key recent rate/loss cost approvals include South Carolina (+17.5%), Missouri (+13.8%), Florida (+13.7%), and Montana (+13.2%).

Exhibit 16 shows the corresponding effect of discounting, including dividends, schedule rating, and rate/loss cost departures. This data represents NCCI states and indicates a preliminary estimate of 8% in 2002.

Indemnity and Medical Severity Continue to Rise

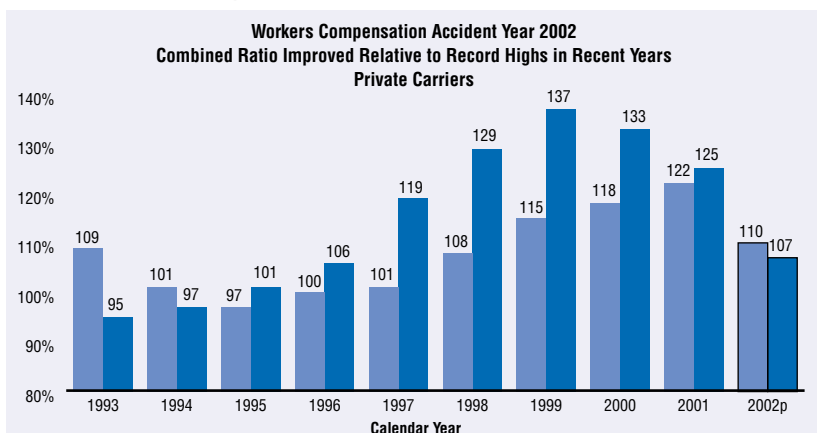
The change in the average cost of workers compensation indemnity claims has continued to increase in the last few years (Exhibit 17). This followed a period from 1990 to 1995 when the average indemnity cost was relatively stable.

Exhibit 12—Workers Compensation Cost to Employers



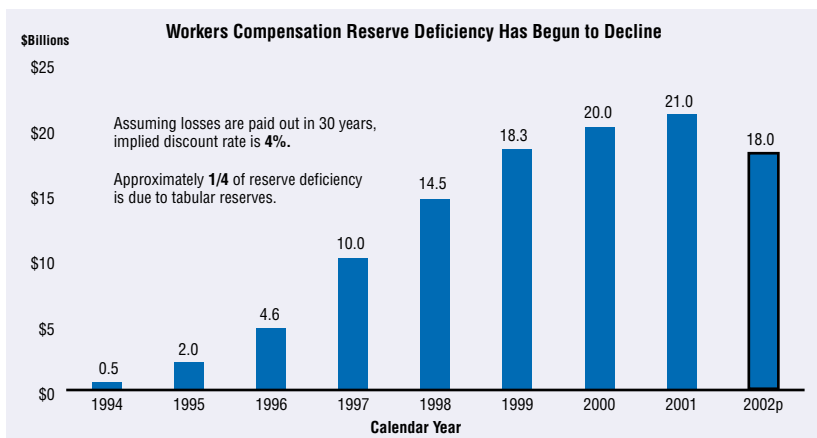
p Preliminary
Source: U.S. Department of Commerce, Bureau of Labor Statistics

Exhibit 13—Workers Compensation Calendar Year vs. Ultimate Accident Year Combined Ratios



p Preliminary
Sources: Calendar Years 1993–2001, AM Best; 2002p, NCCI; Accident Years 1993–2002p, NCCI (evaluated as of 12/31/02 and developed to ultimate)
Includes dividends to policyholders.

Exhibit 14—Workers Compensation Reserve Deficiency



p Preliminary
Difference between NCCI estimated ultimate losses and LAE.
Numbers are based on Schedule P-Incurred Losses and LAE reported in the respective annual statement for each accident date.

The flat severity trend during that stable period was mainly a result of the industry's substantial reform/cost-containment efforts in the early 1990s. The last seven years have seen the trend turn upward once again, with workers compensation indemnity claims increasing an average of 6.8% annually since 1996 (claims cost rose 7.0% and 7.7% in 2002 and 2001, respectively).

Medical claim cost trends are alarming, with double-digit increases the last two years. In 2002, medical severity increased by 12%, even greater than the 2001 increase of 10.7% (Exhibit 18). Utilization, including the increased use of prescription drugs, is a major driver of this increase.

Frequency Continues to Decline

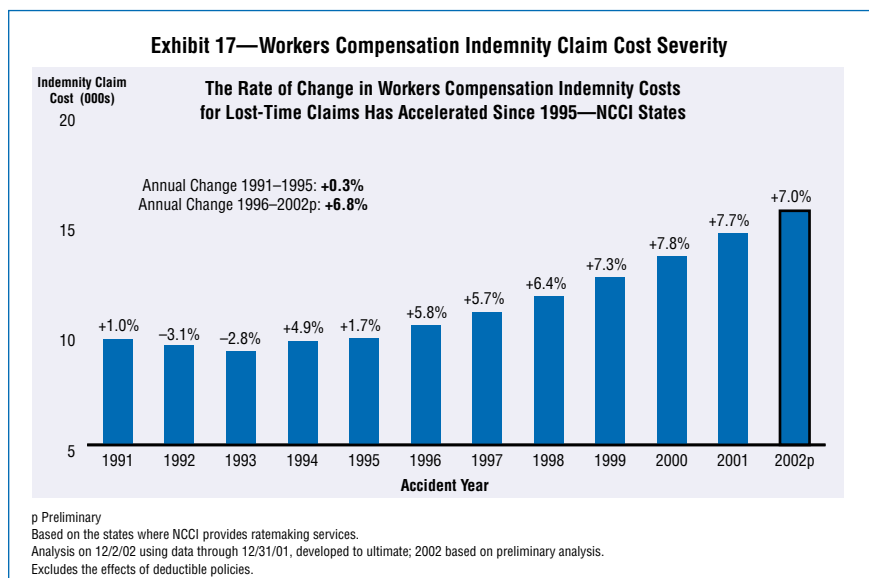
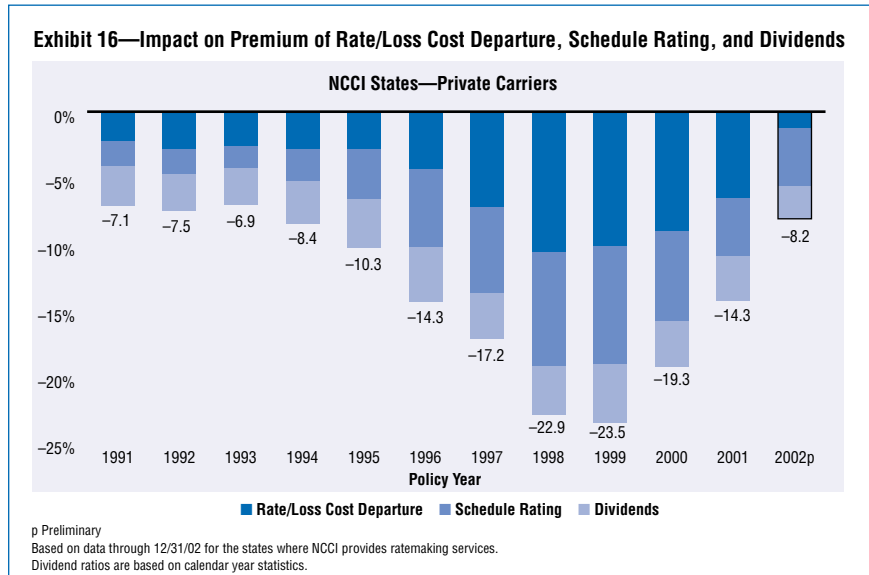
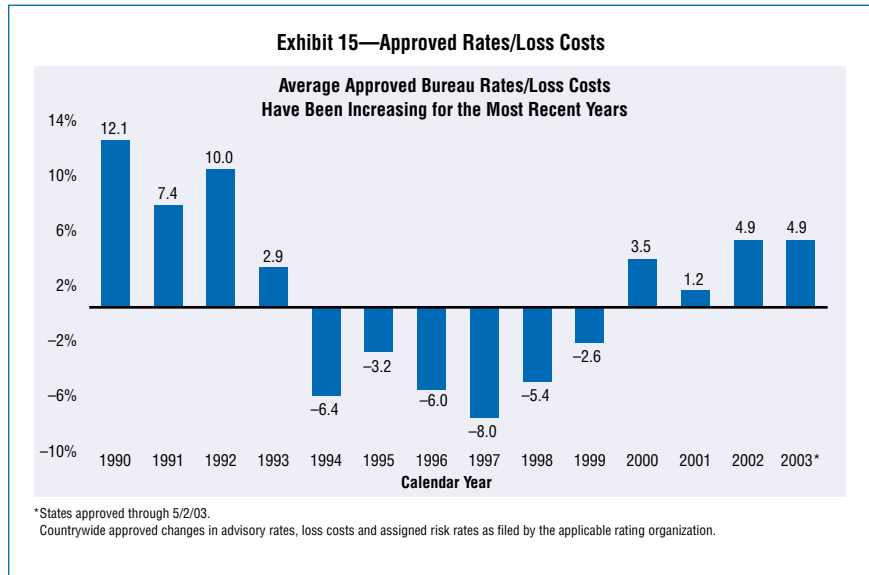
Preliminary results indicate that the frequency of lost-time claims declined during 2002 by approximately 4.5%. This continued a decade-long trend of decreasing frequency, averaging 5% per year (Exhibit 19).

Exhibit 20 shows recent claim frequency changes for 15 large classes. The majority of classes exhibited strong frequency declines.

The factors that NCCI believes are driving this long-term trend include:

- Continued emphasis on workplace safety in all employment classes
- Increased use of robotics
- Increased use of modular design and construction techniques
- Increased use of power-assisted processes
- Advances in ergonomic design
- Proliferation of cordless tools
- More and better job training
- Improved fraud deterrents

Some speculate that the nation's poor economy may result in increased claim frequency as workers targeted for layoffs may file workers compensation claims. In fact, the Bureau of Labor Statistics data shows the opposite effect: frequency of claims declined during five of the last six recessions.



If the substantial frequency declines of the recent past prove to be a one-time phenomenon, then frequency may increase as the economy begins to expand. NCCI is actively researching fast-track methods of identifying medical/indemnity severity trends, as well as examining different methods for obtaining more timely indications of frequency changes.

Residual Market Growth

The workers compensation residual market pools approximately doubled to \$1.2 billion in 2002 (Exhibit 21). Residual market premium as a percentage of direct written premium also grew from a low of 3% in 1999 to an estimated 8% last year. However, while residual market premium continues to grow, the current level remains far below the \$4 billion reached in the residual market for each year from 1990 to 1993.

Residual market combined ratios have averaged around 116% for the last four years (Exhibit 22). This is in sharp contrast to the 160%-plus combined ratios of the late 1980s.

The majority of the turnaround in combined ratios between these periods is due to appropriate rate changes as well as the adoption of effective pricing programs in the residual market. These programs include:

- Assigned risk rate differentials
- Removal of premium discounts
- Assigned Risk Adjustment Program and Simplified Assigned Risk Adjustment Program (ARAP and SARAP)
- Loss Sensitive Rating Program (LSRP)

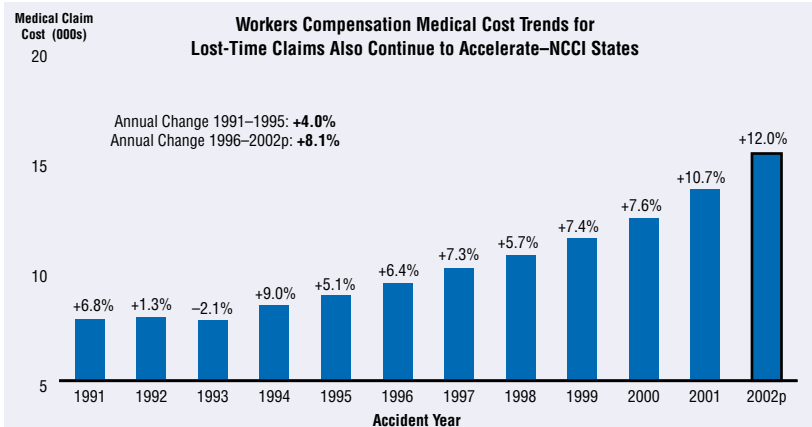
The programs went into effect in the early 1990s and are now in place in a majority of states.

Terrorism and Its Impact on Workers Compensation

No single issue has had a bigger impact across all commercial lines of insurance than terrorism. The impact on workers compensation is unique because:

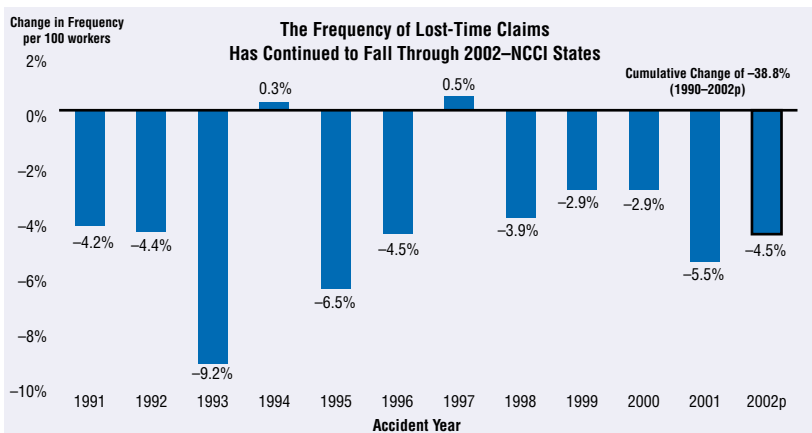
- Coverage is mandated by law; exclusions aren't possible

Exhibit 18—Workers Compensation Medical Claim Cost Severity



p Preliminary
Based on the states where NCCI provides ratemaking services.
Analysis on 12/2/02 using data through 12/31/01, developed to ultimate; 2002 based on preliminary analysis.
Excludes the effects of deductible policies.

Exhibit 19—Workers Compensation Frequency



p Preliminary
Based on the states where NCCI provides ratemaking services.
Analysis on 12/2/02 using data through 12/31/01, developed to ultimate; 2002 based on preliminary analysis.
Excludes the effects of deductible policies.

Exhibit 20—Workers Compensation Frequency for Selected Classes

Countrywide Class	Policies Expiring in 2000*			Policies Expiring in 1996**		Freq. Change
	Payroll (\$M)	Lost-Time Only Claims	Freq.	Lost-Time Only Claims	Freq.	
Clerical	\$ 472,967	33,120	0.07	31,276	0.08	-12%
Salesperson—Outside	\$ 112,211	11,350	0.10	11,511	0.12	-16%
College Professional	\$ 67,398	8,433	0.13	7,633	0.14	-10%
Retail Store	\$ 30,846	17,449	0.57	18,043	0.68	-16%
Auditor/Accountant	\$ 26,203	595	0.02	342	0.02	-3%
Hospital Professional	\$ 23,739	8,160	0.34	7,995	0.42	-18%
Caterer	\$ 20,364	18,215	0.89	4,020	1.02	-13%
Auto Service/Repair	\$ 14,468	11,938	0.83	12,904	0.96	-14%
Architect/Engineer	\$ 12,629	1,885	0.15	1,829	0.18	-16%
Electrical Wiring	\$ 11,404	9,527	0.84	8,848	1.00	-16%
Driver/Chauffer	\$ 10,540	13,818	1.31	14,672	1.45	-10%
Convalescent/Nursing Home	\$ 9,397	12,956	1.38	14,604	1.68	-18%
Plumbing, NOC & Drivers	\$ 9,242	8,905	0.96	9,286	1.13	-15%
Store—Wholesale	\$ 8,855	10,469	1.18	12,028	1.55	-24%
Hotel: All Other & Sales	\$ 8,076	8,042	1.00	9,342	1.33	-25%
Total	\$ 830,263	166,820	0.20	154,991	0.23	-12%
All Class Total	\$ 1,462,895	679,215	0.46	720,468	0.57	-19%

* Actual policy expiration between 9/30/1999 and 8/31/2000.
** Actual policy expiration between 9/30/1995 and 8/31/1996.
Frequency = Lost-Time Claims/Payroll; payroll adjusted for inflation.

- Benefits are defined by law; limits aren't possible
- Business that is declined by carriers will be written by the involuntary pools

NCCI has made a significant investment in applying terrorism catastrophe modeling to workers compensation. Although predicting frequency is very difficult, modeling is still a strong analytic tool to help us understand these extreme events.

Through modeling, NCCI has demonstrated that the workers compensation losses alone from a single event could have a devastating impact on segments of the P/C industry. This could happen anywhere in the country, not just in big cities.

To ensure that terrorism coverage would be available in all P/C lines and that the industry could survive the financial consequences of the next terrorist attack, Congress enacted the Terrorism Risk Insurance Act of 2002 (TRIA). Immediately after its passage, NCCI filed provisions for terrorism in the 36 jurisdictions where we provide ratemaking services.

Included in that filing was an estimate of TRIA's impact on expected terrorism losses. Additionally, we shared our results and analysis with the independent workers compensation bureaus.

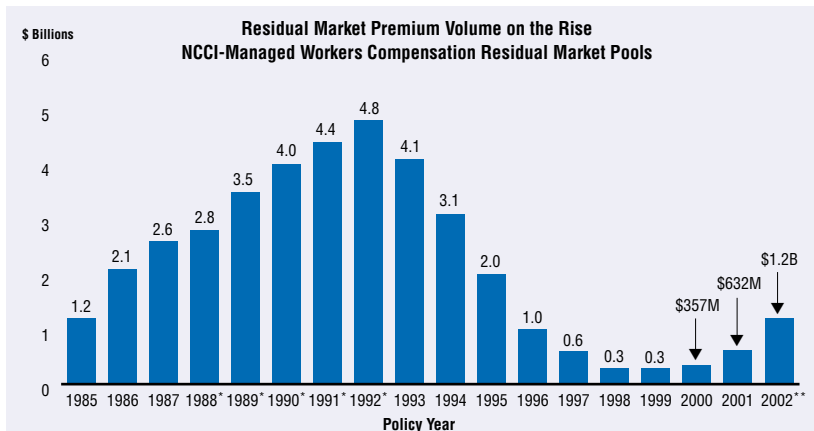
In spite of the passage of TRIA, the challenges facing workers compensation carriers are large. While TRIA provides very high-layer catastrophic reinsurance, it does not replace the traditional reinsurance markets. These markets haven't been the same for terrorism coverage since September 11. Also, many feel that TRIA company-mandated retentions are too high, ultimately reaching 15% of direct earned premium for commercial lines. Lastly, TRIA expires at the end of 2005 with no assurance of a successor program.

Looking Forward

Although the improvement in workers compensation results is a very positive sign, there are still serious issues that need to be addressed. Good news includes continuing frequency decline and a manageable residual market burden.

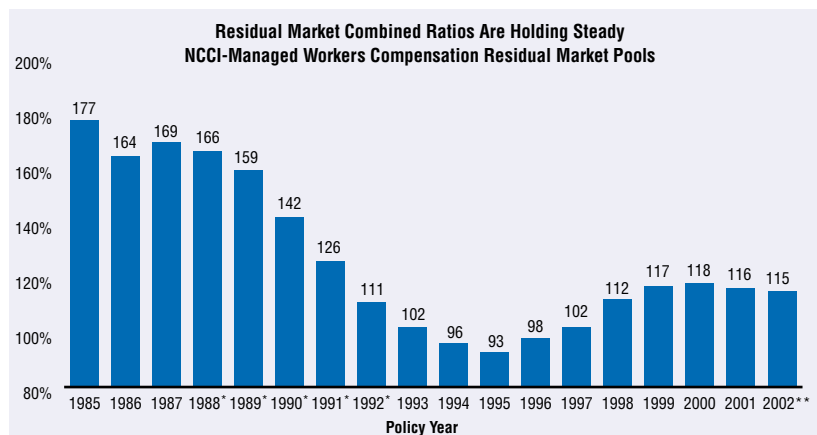
On the other side of the ledger, investment returns are low, requiring continued improvement in underwriting results.

Exhibit 21—Workers Compensation Residual Market Premium as of December 31, 2002



* Excludes Maine Residual Market Pool.
** Incomplete Policy Year Projected to Ultimate.

Exhibit 22—Workers Compensation Residual Market Combined Ratios as of December 31, 2002



* Excludes Maine Residual Market Pool.
** Incomplete Policy Year Projected to Ultimate.

Medical costs are accelerating. And industry efforts to find alternatives to manage the terrorism catastrophe exposure must bear fruit soon.

NCCI will continue to support the industry by making adequate rate/loss cost filings that are fully responsive to emerging trends and catastrophe exposures, and by ensuring that residual markets function smoothly and have an appropriate price differential to voluntary business.

In addition to these activities, NCCI will continue to actively research other key workers compensation issues. Please see the accompanying "NCCI Research Index" on page 48

of this **Issues Report** to find out more about our recent research efforts.

Dennis C. Mealy, FCAS, MAAA, is NCCI's chief actuary and leads the Actuarial and Economic Services Division. Before coming to NCCI, Mr. Mealy was vice president and chief actuary for Wausau Insurance Companies. His career at Wausau Insurance spanned 24 years in various actuarial capacities. He received his B.S. in mathematics and M.B.A. in finance from the University of Wisconsin—Whitewater.