2018
State of the Line Guide
2018 State of the Line Guide — Introduction

NCCI’s annual State of the Line presentation provides an exclusive review of trends, cost drivers, and significant developments shaping the workers compensation industry. This Guide provides a slide-by-slide examination of the key takeaways, data sources, and formulas underlying the State of the Line presentation.

As you review the information contained in this Guide, it may be useful to keep in mind the following market indicators and trends that were highlighted in NCCI’s 2018 State of the Line presentation:

- The workers compensation 2017 calendar year combined ratio for private carriers was 89%. This is the fourth consecutive year the workers compensation line of business has posted an underwriting gain.
- The overall reserve position for private carriers improved in 2017. NCCI estimates the year-end 2017 reserve position to be a $1 billion deficiency—down from $5 billion in 2016.
- Average lost-time claim frequency across NCCI states declined by 6% in 2017, on a preliminary basis. A similar percentage decline was observed in 2016.
- In NCCI states, the preliminary 2017 average indemnity and medical lost-time accident year claim severities both increased by 4% relative to their corresponding 2016 values.
- The workers compensation Residual Market Pool premium volume declined to approximately $1B during 2017, while the average residual market share remained stable at 8%.

We hope you find the 2018 State of the Line Guide both a beneficial and informative resource.
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### P/C Industry Net Written Premium Growth

#### Private Carriers

<table>
<thead>
<tr>
<th>Line of Business</th>
<th>2016 ($B)</th>
<th>2017p ($B)</th>
<th>% Change From 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Auto</td>
<td>207.4</td>
<td>221.9</td>
<td>7.0</td>
</tr>
<tr>
<td>Homeowners</td>
<td>80.6</td>
<td>82.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Other Liability (Incl. Product Liability)</td>
<td>47.9</td>
<td>50.1</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Workers Compensation</strong></td>
<td>40.1</td>
<td>39.8</td>
<td>-0.7</td>
</tr>
<tr>
<td>Commercial Multiple Peril</td>
<td>33.8</td>
<td>34.1</td>
<td>0.9</td>
</tr>
<tr>
<td>Fire &amp; Allied Lines (Incl. EQ)</td>
<td>26.3</td>
<td>26.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Commercial Auto</td>
<td>28.3</td>
<td>30.6</td>
<td>7.0</td>
</tr>
<tr>
<td>All Other Lines</td>
<td>63.7</td>
<td>67.0</td>
<td>4.6</td>
</tr>
<tr>
<td><strong>Total P/C Industry</strong></td>
<td>528.0</td>
<td>552.1</td>
<td>4.6</td>
</tr>
</tbody>
</table>

**p Preliminary**

Source: NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers

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### Key Takeaways

- Total P/C net written premium for private carriers increased by 4.6% to just over $552 billion in 2017
- Almost half the total net written premium comes from the personal and commercial auto lines, and they were the standouts in premium growth for 2017
- Workers compensation is the only line of business that had a decrease in net written premium in 2017
Key Takeaways

- The total P/C industry’s combined ratio increased three points to 104% in 2017
- Despite record losses from Hurricane Harvey, the personal auto combined ratio improved as a result of the increase in premium along with improved fraud detection and usage-based insurance
- The workers compensation combined ratio for 2017 is 89%, which is the lowest seen in NCCI’s records
- Homeowners, fire & allied lines, and all other lines saw notable deterioration in their combined ratios, with fire & allied lines up by 34 points
Impact of Catastrophes on P/C Losses

Source: Willis Re Summary of Natural Cat Events 2017

Key Takeaways

- In 2017, three Category 4 hurricanes—Harvey, Irma, and Maria—made landfall in the United States, causing over $50 billion in insured losses
- Wildfires, tornados, hail, wind, and flood events resulted in over $20 billion in additional insured losses
P/C Industry Net Combined Ratio

Private Carriers

Calendar Year

Percent

97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17p

Average (1997–2016): 102

Key Takeaways

- Looking at the long-term history of the industry combined ratios, the underwriting cycle ebbs and flows around the break-even combined ratio of 100%
- The 2017 combined ratio of 104% is slightly worse than the long-term average of 102%
- The worst combined ratio over this period (116%) occurred in 2001 and included the impact of the 9/11 terrorist attacks; the best was 92% at the end of the hard market that followed

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Key Takeaway

- The net investment income ratio remained stable at 9% in 2017, while the net realized capital gains ratio increased, due primarily to the gain on sale of common stocks.
Key Takeaways

- Both Embedded and New Money Yields have generally declined over the last 30 years
- During and immediately after the last three recessions, the New Money Yield declined
- Throughout this period, the New Money Yield is generally below the Embedded Yield, but in recent years the two have continued to slowly converge
**Key Takeaways**

- The after-tax return on surplus decreased again—down to 6% in 2017, remaining below the long-term average of 7.6%.
- The largest contributor to the decrease was an additional $18 billion in P/C underwriting losses between 2016 and 2017. Surplus also increased, further contributing to the drop in the return.
**Key Takeaways**

- Unrealized capital gains, primarily from the appreciation of common stocks, helped push surplus to another record level.
- Surplus grew faster than net written premium over the period displayed, resulting in a small drop in the premium-to-surplus ratio to 0.74.
**Key Takeaways**

- In 2017, net written premium for private carriers dropped slightly to $39.8 billion
- Total market net written premium volume also declined slightly in 2017 to $45.0 billion
- Net written premium growth is stagnant, in part due to the continued growth in offshore cessions
- In addition, payroll growth has been offset by loss cost decreases and little to no change in carrier pricing levels
Key Takeaways

- Both total direct and assumed (D&A) and ceded premium volume increased between 2011 and 2017, with the growth rate in ceded earned premium exceeding that for D&A over this period.
- D&A earned premium increased at an average annual rate of 6% between 2011 and 2017, while earned premium ceded to reinsurers increased at an average annual rate of 11%.
WC Residual Market Premium
NCCI-Serviced WC Residual Market Pools

Key Takeaway

- Premium for the NCCI-serviced Residual Market Pools has not changed significantly over the last five policy years
Key Takeaways

- The average policy size in the residual market tends to be a leading indicator of the size of the residual market.
- When larger policies are removed, the size of the residual market typically declines. The opposite is a sign that the residual market is likely to start growing.
WC Residual Market Premium by Size of Risk
NCCI-Administered WC Residual Market Plan States

<table>
<thead>
<tr>
<th>Size of Risk</th>
<th>Premium ($ Millions)</th>
<th>% Change From 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 0 – 2,499</td>
<td>36.1 Q1 2017</td>
<td>36.1 Q1 2018</td>
</tr>
<tr>
<td>$ 2,500 – 4,999</td>
<td>20.0 Q1 2017</td>
<td>19.4 Q1 2018</td>
</tr>
<tr>
<td>$ 5,000 – 9,999</td>
<td>26.5 Q1 2017</td>
<td>25.3 Q1 2018</td>
</tr>
<tr>
<td>$ 10,000 – 49,999</td>
<td>68.5 Q1 2017</td>
<td>61.4 Q1 2018</td>
</tr>
<tr>
<td>$ 50,000 – 99,999</td>
<td>21.2 Q1 2017</td>
<td>19.5 Q1 2018</td>
</tr>
<tr>
<td>$ 100,000 and Over</td>
<td>26.6 Total 198.9</td>
<td>20.2 Total 185.1</td>
</tr>
</tbody>
</table>

Total estimated annual premium
Includes Pool and direct assignment data for all NCCI-administered WC Residual Market Plan states
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Key Takeaway
- Written premium volume has declined for all risk sizes greater than $2,500, with the largest decrease observed for risk sizes greater than $100,000
WC Residual Market Share

NCCI-Serviced WC Residual Market Pools

Key Takeaway

- The residual market share has remained steady at 8% since 2013

\[ p \text{ Preliminary} \]
\[ \text{Includes Pool and direct assignment data for all NCCI-serviced WC Residual Market Pool states} \]
\[ \text{Source: NCCI's Residual Market Management Summary} \]
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### Key Takeaway

- Carpentry, roofing, local and long-haul trucking, and painting made up about 24% of the residual market premium in 2017
Key Takeaways

- Between 2016 and 2017, the change in countrywide private carrier direct written premium is a slight increase of 0.1%
- There is considerable variation in premium growth across states
**WC Direct Written Premium Change by Component**

**Private Carriers—NCCI States**

Change in Direct Written Premium: 0.0%

2017 vs. 2016

- **Payroll**
  - +4.4%

- **Loss Cost and Mix**
  - -4.2%

- **Carrier Discounting**
  - +0.4%

- **Other Factors**
  - -0.4%

Sources: Direct Written Premium Change: NAIC’s Annual Statement Statutory Page 14 for all states where NCCI provides ratemaking services

Components: NCCI’s Policy data

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**Key Takeaways**

- For NCCI states, private carrier direct written premium volume remained flat between 2016 and 2017
- Changes in bureau loss cost level, mix of business, and other factors served to offset the premium level increases due to changes in payroll and carrier discounting
- The Other Factors category may include changes in audit impacts, average experience mod, deductible credit types or amounts, mix of policy types, or mix between private carrier and state fund markets
Increases in Payroll Continue to Drive Changes in Premium
Forecast Change 2016–2017

Key Takeaways

- The overall change in payroll (+3.4%) is driven equally by changes in average wage (+1.6%) and employment (+1.8%).
- Average wages grew at an above-average rate for the Trade, Transportation, and Utilities; Financial Activities; and All Other sectors. Employment grew at an above-average rate for the Professional and Business Services; Education and Health Services; Financial Activities; Construction; and Leisure and Hospitality sectors.
- After showing almost no growth in the previous year, employment in the Manufacturing sector resumed growth due to increases in durable goods-related manufacturing.

Sources: Moody’s Analytics and NCCI
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Key Takeaways

- The changes shown reflect several factors that impact NCCI filings, such as changes in claim frequency and severity, changes in the economy, cost containment initiatives, legislative reforms, and judicial decisions
- Written premiums are expected to decrease by an average of 9.6% from 2017 to 2018 as a result of NCCI filings
Key Takeaway

- The most recent filings resulted in decreases for all but one NCCI state
**Key Takeaway**

- The overall estimated impact of carrier discounting was 0.5% in 2017
**Key Takeaways**

- Recent years are a mix of relatively smaller dividend payouts, moderate schedule rating credits, and upward rate and loss cost departures.
- Since 2002, the individual elements have been offsetting, which has led to a modest overall impact from discounting.
Key Takeaway

- The percentage of respondents seeing price increases at renewal has remained consistent over the last few years.
Key Takeaways

- 2002 and 2012 coincide with the turning points in the respective underwriting cycles and the beginning of the improvement in the combined ratios
- It takes a couple years after the turning point for price decreases to become the norm
Key Takeaways

- This long-term history of workers compensation combined ratios for private carriers shows the low of 89% in Calendar Year 2017—well beneath the previous low of 93% seen in 2006
- The most recent underwriting cycle has shown a seven-year trend of improving results
Key Takeaways

- The loss ratio underlying the 2017 combined ratio is the primary driver of the decrease in the combined ratio versus that for 2016.
- The other components—LAE, underwriting expenses, and dividends as ratios to premium—have recently been relatively stable.
WC LAE-to-Loss Ratio—Net Incurred LAE to Incurred Losses

Private Carriers

Percent

Calendar Year

Key Takeaways

- LAE as a ratio to incurred losses has generally increased over time
- In recent years, the ratio has been slightly higher—likely resulting from favorable loss experience
WC Residual Market Combined Ratio

NCCI-Serviced WC Residual Market Pools

Percent

97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17p

Policy Year

4% lower

Tennessee Reinsurance Mechanism experience is not included in the combined ratios

Source: NCCI's Residual Market Quarterly Results

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Key Takeaways

- The residual market combined ratio for Policy Year 2017 is preliminary and based on an incomplete year
- The 2016 combined ratio of 98% is more mature and likely more representative of that year’s pool results
Key Takeaways

- The investment gain on insurance transactions increased slightly to 12% in 2017
- The latest gain remains below the long-term average of 13.2%, but consistent with the results for the most recent few years
Key Takeaways

- The combined ratio of 89%, paired with a 12-point investment gain on insurance transactions, resulted in a 23-point pretax operating gain in 2017.
- Underwriting gains due to the improvement in the loss ratios have driven the increase in the recent years’ operating gains.
Social Security Disability Insurance and Workers Compensation

The idea of a “race to the bottom” is not borne out by the facts

Interaction of Coverages

Most states did **not reduce WC benefits** in the last 15 years.

In states that did **lower WC benefits**, SSDI applications typically **decreased** following these reforms.

Observed **increases in SSDI** applications were impacted much more by the **Great Recession** than by WC benefit levels.

Dual Recipients

SSDI and WC work together to provide benefits to dual recipients. While workers receive dual benefits, **WC** generally shoulders the **majority** of the cost.

Cost shifting may serve to realign practices and/or to bring costs back in line with the original intent of a program, whether that program is WC, SSDI, or Medicare.

Sources: “Social Security Disability Insurance and Workers Compensation Cost Shifting” and “Social Security Disability Insurance and Workers Compensation” on ncci.com

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Key Takeaways

- NCCI’s research has shown that most states did not reduce WC indemnity benefits from 2000 to 2015
- Observed increases in SSDI applications by state were impacted far more by the Great Recession than by WC benefit levels
- When the work injury involves permanent total disability, WC generally shoulders the majority of the cost (in standard offset states)
**WC Net Combined Ratios—Calendar Year vs. Accident Year As Reported**

**Private Carriers**

<table>
<thead>
<tr>
<th>Year</th>
<th>Calendar Year</th>
<th>Accident Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>94</td>
<td>99</td>
</tr>
<tr>
<td>2009</td>
<td>95</td>
<td>99</td>
</tr>
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<td>2010</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017p</td>
<td>89</td>
<td>99</td>
</tr>
</tbody>
</table>

*Source: NAIC's Annual Statement data*

*Accident Year information is reported as of 12/31/2017*

*Includes dividends to policyholders*

*p Preliminary*

**Key Takeaways**

- The AY 2017 net combined ratio is 99% (4 points higher than AY 2016)
- While the AY 2017 combined ratio is currently higher than the corresponding CY 2017 value, NCCI expects AY 2017 to develop favorably over time
Key Takeaway

- For the years shown on this chart, NCCI's selections suggest that experience for the most recent AYs will develop favorably over time, and the opposite will occur for the relatively older AYs.
WC Net Loss and LAE Ratios—
NCCI’s Accident Year Selections vs. As Reported

Private Carriers

Key Takeaways

- Loss and LAE ratios result after removing the expense components from the combined ratios
- The largest difference between NCCI Selections and the As Reported values is in AY 2017, contributing to the decrease in the overall estimated reserve deficiency
Key Takeaways

- NCCI’s estimate of the 2017 overall reserve deficiency is $1 billion, which is $4 billion less than that for year-end 2016.
- NCCI’s estimate of the overall reserve deficiency reflects tabular discounts as deficiencies. For year-end 2017, since tabular discounts represent $4.3 billion, industry reserves net of tabular discounts may be considered redundant.
**Key Takeaways**

- The reported net loss and LAE ratios for AYs 2008–2011 have either increased or remained level since 1st report.
- NCCI expects the reported net loss and LAE ratios for AYs 2013–2017 to further decline over time.
Key Takeaways

- NCCI estimates a –6% claim frequency change between AYs 2016 and 2017
- The long-term average annual change in lost-time claim frequency is –3.7%
**WC Lost-Time Claim Frequency**

**Average Annual Change 1992–1996**

**Average Annual Change 2012–2016**

Source: NCCI’s Financial Call data, developed to ultimate, premium adjusted to current wage and voluntary pure premium level, excludes high-deductible policies; based on data through 12/31/2016

Values displayed reflect the methodology underlying the most recent rate/loss cost filing

Includes all states where NCCI provides ratemaking services

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**Key Takeaways**

- The average annual change for AYs 1992–1996 was \(-4.8\)% compared to \(-4.5\)% for AYs 2012–2016
- Declines in claim frequency have been occurring for decades
NCCI and BLS Measures of Lost-Time Claim Frequency
Index 1981 = 100

Key Takeaway
- The trend in BLS incidence rates closely tracks NCCI’s frequency values
Key Takeaways

- The majority of lost-time claims, approximately 75%, cost less than the average claim amount of $40K.
- Although claims over $1M make up less than 0.5% of claim counts, they account for 7% of total claim dollars.
Changes in Lost-Time Claims by Size

Number of Lost-Time Claims

Over the last 15 years, the number of claims under $1M has continued to decline, while the observed changes in larger claim sizes have been relatively more volatile.

Key Takeaway

- The number of claims less than $1M have generally exhibited a declining pattern, while the number of claims exceeding that dollar amount have been relatively more volatile over time.
### Indemnity Data Call (IDC)

#### Implementation Timeline

- **2018**: Approved by NCCI's Board of Directors and updates available on ncci.com.
- **2019**: Release of IDC Implementation Guide and webinar. Data Educational Program to include IDC classes.
- **2020**: First IDC Reporting Deadline. Start of IDC Collection.

Source: NCCI Circular IND-2018-02 “Indemnity Data Call—New Indemnity Data Call Resources—Available on ncci.com”

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### Key Takeaways

- The Indemnity Data Call was approved by the NCCI Board of Directors in January 2018.
- The IDC Implementation Guide and webinar were released in April.
- By the second quarter of 2020, carriers should be collecting IDC data, with the first reporting due to NCCI by the third quarter of that year.
Key Takeaway

- NCCI estimates that the average indemnity cost per claim for AY 2017 will be about 4% higher than that for AY 2016
Key Takeaway

- Indemnity costs (+112%) have risen faster than wages (+81%) over this time period
Key Takeaways

- The majority of the gap between the cumulative changes in indemnity claim severity and wages arises from years prior to 2007
- Since 2007, indemnity severity and wages have grown at approximately the same rate
Key Takeaways

- The average annual change in indemnity severity from 2012 to 2016 is +1.8%
- Observed decreases in Oklahoma and Tennessee may be attributable to reforms in these states that lowered indemnity benefits
- The Alaska increase is driven by large claim activity in 2016
Key Takeaway

- NCCI estimates that the AY 2017 average medical lost-time claim severity is 4% higher than the corresponding AY 2016 value
WC Average Medical Lost-Time Claim Severity
Private Carriers and State Funds—NCCI States

Cumulative Change in Medical Lost-Time Claim Severity (1997–2017p): +175%

Cumulative Change in the Personal Health Care Chain-Weighted Price Index (1997–2017p): +61%

Key Takeaway

- Medical lost-time claim costs have risen faster (+175%) than the PHC index (+61%) over the period displayed, with the majority of the gap occurring in prerecession years
Key Takeaways

- Similar to indemnity, the majority of the gap between the cumulative changes in medical lost-time claim severity and the PHC index since 1997 arises from years prior to 2007
- Since 2007, medical lost-time claim severity and medical care prices have grown at approximately the same rate
Key Takeaways

- The average annual change in medical lost-time claim severity was +2.3% from 2012 to 2016
- The increase in Nevada is due to a very large claim occurring in 2016
- The decrease in North Carolina is driven by the combination of large claim activity in 2012 and medical fee schedule changes in 2013 and 2015
Utilization of Opioids
The Decline in Prescribed Opioids in Workers Compensation

In 2012, approximately 55% of WC claimants with a prescription were prescribed an opioid.

By 2016, that share decreased to about 45%.

Source: NCCI’s Medical Data Call, Service Years 2012 and 2016

Key Takeaways

- Research utilizing NCCI’s Medical Data Call compared opioid use in WC claimants that received a prescription of any kind in Service Years 2012 and 2016.
- Approximately 55% of those claimants were prescribed an opioid in 2012. By 2016, that share had decreased to about 45%.
BACKGROUND AND DATA SOURCES

SLIDE 1:  ←
P/C INDUSTRY NET WRITTEN PREMIUM GROWTH

Background

The net written premium in this slide provides a measure of the size of each major line of business in the property/casualty (P/C) insurance industry.

Data Sources

- National Association of Insurance Commissioners’ (NAIC’s) Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 2:  ←
P/C INDUSTRY NET COMBINED RATIO

Background

The calendar year combined ratios in this slide measure the overall performance of each line of business and the P/C industry as a whole, prior to the consideration of investment and other income. A combined ratio is the sum of the loss ratio, the loss adjustment expense (LAE) ratio, the dividend ratio, and the underwriting expense ratio. The loss, LAE, and dividend ratios are calculated as ratios to earned premium. The underwriting expense ratio is calculated as a ratio to written premium to provide a better match of the timing of the numerator and denominator.

Data Sources

- National Association of Insurance Commissioners’ (NAIC’s) Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
SLIDE 3: IMPACT OF CATASTROPHES ON P/C LOSSES

Background
This slide summarizes the impact on P/C industry losses due to natural catastrophes in the United States in 2017.

Data Source
- Willis Re Summary of Natural Cat Events 2017

SLIDE 4: P/C INDUSTRY NET COMBINED RATIO (BY YEAR)

Background
This slide displays a longer history of the combined ratios for the total P/C industry. See the background section of Slide 2 for more information.

Data Sources

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
SLIDE 5: **P/C Industry Investment Gain Ratio**

Background

The *investment gain ratio* includes both realized capital gains and net investment income.

The investment gain ratio measures the investment performance of the P/C industry by comparing investment income to earned premium, the primary source of investment funds for insurance carriers.

Data Sources


The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 6: **P/C Industry Bond Embedded Yield and New Money Yield**

Background

Embedded Yield is the reported pretax investment income, excluding capital gains, for bond instruments held by P/C insurers divided by the asset value of those instruments. Embedded Yield is derived from accounting data as reported. It includes investment income both from (old) bonds owned at the beginning of each year and (new) bonds acquired during the year.

New Money Yield is the pretax yield for a bond portfolio containing similar securities and maturities, but whose yields reflect current bond prices.

The gray bars in the graph indicate periods of recession in the United States.

Data Sources

- Embedded Yield is based on data from *A.M. Best’s Aggregates & Averages*
- New Money Yield is based on data from *A.M. Best’s Aggregates & Averages*, the Federal Reserve Bank, Value Line, TreasuryDirect.gov, Barron’s, and Bloomberg
**SLIDE 7:**
P/C INDUSTRY AFTER-TAX RETURN ON SURPLUS

Background

The after-tax return on surplus compares net income generated from all sources to policyholder surplus. Since surplus varies throughout the year as income is earned, the return is calculated as the ratio of net income to the average of the surplus at the beginning of the year and end of the year. The return on surplus tends to follow the ebb and flow of the underwriting cycle.

Data Sources


The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

**SLIDE 8:**
P/C INDUSTRY PREMIUM-TO-SURPLUS RATIO

Background

The premium-to-surplus ratio is one measure that can be used to help determine whether there is sufficient policyholder surplus to support the P/C insurance industry’s writings.

Data Sources


The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
**SLIDE 9: WC NET WRITTEN PREMIUM**

**Background**

This slide exhibits workers compensation (WC) net written premium by year, separately for private carriers and state funds.

In the context of the *State of the Line* presentation, NCCI’s definition of state funds includes only those carriers that are both members of the American Association of State Compensation Insurance Funds and largely exempt from paying federal income taxes. All other carriers are included in the private carrier values.

**Data Sources**

- NAIC’s Annual Statement data
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

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**SLIDE 10: PROPORTION OF TOTAL WC PREMIUM CEDED**

**Background**

This slide highlights the relative rates of growth between Direct and Assumed (D&A) and ceded earned premium.

**Data Source**

- NAIC’s Annual Statement data, Schedule P, Part 1D—Workers Compensation
SLIDE 11: WC RESIDUAL MARKET PREMIUM

Background

Insureds unable to obtain coverage in the voluntary market can secure coverage through the Residual Market Pool in participating states. The estimated ultimate premium for all Residual Market Pools serviced by NCCI is displayed by policy year.

Data Sources

- Pool data for all NCCI-serviced WC Residual Market Pool states, valued as of 12/31/2017
- Tennessee Reinsurance Mechanism premium is not included
- NCCI’s Residual Market Quarterly Results

SLIDE 12: WC RESIDUAL MARKET—CHANGES IN PREMIUM VS. AVERAGE POLICY SIZE

Background

The residual market total estimated annual premium and average policy size are displayed by policy year.

Data Source

- Pool and direct assignment data for all NCCI-administered WC Residual Market Plan states, including the prorated premium of cancelled policies
**SLIDE 13:**
**WC RESIDUAL MARKET PREMIUM BY SIZE OF RISK**

**Background**

This slide compares estimated residual market premium volumes by size of risk between the first quarters of 2017 and 2018.

**Data Source**

- Pool and direct assignment data for all NCCI-administered WC Residual Market Plan states, including the prorated premium of cancelled policies

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**SLIDE 14:**
**WC RESIDUAL MARKET SHARE**

**Background**

Pool and direct assignment premium for all NCCI-serviced Residual Market Pool states as a percentage of total WC market premium is displayed by calendar year.

**Data Sources**

- Pool and direct assignment data for all NCCI-serviced WC Residual Market Pool states valued as of 12/31/2017
- NCCI’s *Residual Market Management Summary*
SLIDE 15:  
TOP FIVE RESIDUAL MARKET CLASS CODES

Background
The top five residual market class codes are based on Policy Year 2017 estimated written premium in the residual market, excluding Standard Exception classifications, for all states in which NCCI provides ratemaking services except Texas.

Data Source
• NCCI’s Policy data

SLIDE 16:  
WC DIRECT WRITTEN PREMIUM CHANGE—2017

Background
Underlying the change in countrywide direct written premium volume are the changes in premium volume by individual jurisdiction. These percentage changes are based on private carrier data only and exclude monopolistic fund states. Teal represents premium volume increases, while red represents premium volume decreases. The deeper colors represent larger magnitudes of change.

Data Source
• NAIC’s Annual Statement Statutory Page 14 for calendar year written premium by state
**SLIDE 17: WC DIRECT WRITTEN PREMIUM CHANGE BY COMPONENT**

**Background**

This slide provides the major components impacting the overall change in private carrier direct written premium (DWP) for all states where NCCI provides ratemaking services.

**Data Sources**

- DWP Change: NAIC’s Annual Statement Statutory Page 14
- Components: NCCI’s Policy data

**SLIDE 18: INCREASES IN PAYROLL CONTINUE TO DRIVE CHANGES IN PREMIUM**

**Background**

Since payroll is the major driver of premium growth, we can use Moody’s forecasts to analyze it further. Although the +3.4% growth in payroll shown on this slide does not match the +4.4% change shown on the prior slide due to differing underlying data sources, the detail from Moody’s helps explain the underlying components of the payroll growth.

The bottom of the slide contains the changes in average wages and employment by economic sector. The sectors are listed by size of total payroll, with the largest sector shown at the left. The respective white lines represent the average growth rates for wages and employment.

**Data Sources**

- Moody’s Analytics
- NCCI
- All Other includes the three smallest sectors: Natural Resources and Mining, Information, and Other Services
SLIDE 19:  
WC APPROVED CHANGES IN BUREAU PREMIUM LEVEL

Background
The bureau premium level changes shown here reflect the approved changes in advisory rates, loss costs, and assigned risk rates as filed in jurisdictions where NCCI provides ratemaking services as of May 10, 2018.

The percentage changes by state, which reflect the impact on written premium (from one year to the next) due to NCCI filing activity, are weighted using calendar year direct written premium as reported to the NAIC. Texas is included beginning with Calendar Year 2011, and West Virginia beginning with Calendar Year 2008.

The methodology underlying this slide has been revised (from that used in past years) to reflect the effective date of each state’s filing when determining the impact on written premium from one year to the next.

Data Source
• NAIC’s Annual Statement Statutory Page 14

The value for the most recent year is preliminary because there may be additional filing approvals with effective dates in 2018.

SLIDE 20:  
MOST RECENT CHANGES IN BUREAU PREMIUM LEVEL

Background
This slide displays the most recent approved change (or filed and pending change) in voluntary market advisory rates or loss costs in each jurisdiction where NCCI provides ratemaking services as of May 10, 2018. Law-only filings are not included in this analysis.

In the slide, teal represents premium level increases, while red represents premium level decreases. The deeper colors represent larger magnitudes of change.
SLIDE 21:  

WC IMPACT OF DISCOUNTING ON PREMIUM

Background
This slide shows the combined impact of rate/loss cost departures, schedule rating, and dividends on **policy year** premium based on private carrier data for all jurisdictions where NCCI provides ratemaking services, excluding Texas. Dividend ratios are based on calendar year statistics. The rate/loss cost departure reflects carrier departures from the NCCI rate level, which excludes both a profit and contingency provision and an expense constant.

Data Sources
- NAIC’s Annual Statement Statutory Page 14
- NCCI’s Financial Call data

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 22:  

WC IMPACT OF DISCOUNTING ON PREMIUM BY COMPONENT

Background
This slide shows the component impacts of rate/loss cost departures, schedule rating, and dividends on **policy year** premium based on private carrier data for all jurisdictions where NCCI provides ratemaking services, excluding Texas. Dividend ratios are based on calendar year statistics. The rate/loss cost departure reflects carrier departures from the NCCI rate level, which excludes both a profit and contingency provision and an expense constant.

Data Sources
- NAIC’s Annual Statement Statutory Page 14
- NCCI’s Financial Call data

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
Survey respondents were asked to review recent renewals and determine how premium rates have changed over a specific period of time. Blue represents the percentage of agents that observed an increase in premium rates at renewal, while light gray represents the percentage of agents that observed a decrease. These observations may be used to determine trends in pricing from one year to the next.

Data Source
- The pricing survey was provided by The Council of Insurance Agents & Brokers
SLIDE 25: WC COMBINED RATIO—UNDERWRITING GAIN ACHIEVED

Background
This slide shows workers compensation combined ratios. See the background section of Slide 2 for more information.

Data Sources
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 26: WC COMBINED RATIO BY COMPONENT

Background
This slide shows the components of the workers compensation combined ratios. The loss ratios in this slide compare net incurred losses to net earned premium. The loss ratio is the largest component of the combined ratio.

The loss adjustment expense (LAE) ratio compares net incurred LAE to net earned premium. LAE includes both defense and cost containment expenses (DCCE) and adjusting and other expenses.

The underwriting expense ratio compares the costs associated with writing insurance to net written premium. The underwriting expenses included in the ratio are:
- Commission and brokerage expenses
- Taxes, licenses, and fees
- Other acquisition expenses
- General expenses
- Policyholder dividends are the smallest component of the combined ratio and are compared to net earned premium.

Data Sources
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
SLIDE 27:

WC LAE-TO-LOSS RATIO—NET INCURRED LAE TO INCURRED LOSSES

Background
The ratio of net incurred LAE to net earned premium provides the contribution of LAE to the overall combined ratio. This slide displays LAE as a ratio to losses, which may be a more meaningful measure of the effort it takes to manage and settle claims.

Data Sources
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 28:

WC RESIDUAL MARKET COMBINED RATIO

Background
Historical residual market combined ratios are displayed on this slide for all NCCI-serviced Residual Market Pool states. These ratios reflect projected ultimate losses, servicing carrier allowance, producer fees, and other pool and plan administration expenses as a ratio to ultimate premium plus pool interest income on cash flow.

The results are calculated by policy year (PY), which allows a direct match between premium earned and claims incurred for a given block of policies. PY combined ratios can change over time as new claims are reported and the reserves on existing claims are reevaluated.

Data Sources
- Pool data and Plan expenses for pool members for all NCCI-serviced WC Residual Market Pool states; data valued as of 12/31/2017
- Tennessee Reinsurance Mechanism experience is not included in the combined ratios
- NCCI’s Residual Market Quarterly Results
SLIDE 29:
WC INVESTMENT GAIN ON INSURANCE TRANSACTIONS

Background
The overall investment gain is allocated by line of business according to the NAIC-prescribed allocation procedure.

The WC Investment Gain on Insurance Transactions (IGIT) ratio measures investment performance by comparing investment income allocated to the WC line of business to WC earned premium.

Data Sources
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

SLIDE 30:
WC PRETAX OPERATING GAIN

Background
The pretax operating gain in this slide measures the overall financial performance of the workers compensation line, considering both underwriting income and investment income. Pretax operating gain excludes direct changes to surplus, including, but not limited to, changes in:

- Unrealized capital gains
- Unrealized foreign exchange gain
- Net deferred income tax
- Nonadmitted assets
- The provision for reinsurance
- Surplus notes

Data Sources
- NAIC’s Annual Statement data for individual carriers prior to consolidation of affiliated carriers
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
SLIDE 31:  
SOCIAL SECURITY DISABILITY INSURANCE AND WORKERS COMPENSATION

Background

Workers compensation (WC) is intended to compensate employees for work-related injuries. Social Security Disability Insurance (SSDI) provides benefits for workers who become totally disabled from injuries or conditions, whether work-related or not.

A disabled person may qualify as a “dual-recipient,” eligible to receive both WC and SSDI benefits, subject to a cap. For example, a preexisting cardiovascular condition coupled with a work-related injury may result in total disability.

This slide displays the takeaways of NCCI’s analysis of the interaction of WC and SSDI benefits. NCCI analyzed SSDI applications immediately following reforms in selected states. NCCI also analyzed benefits paid to dual recipients of WC and SSDI to determine the share of benefits paid under each program.

Data Sources

- “Social Security Disability Insurance and Workers Compensation Cost Shifting”
- “Social Security Disability Insurance and Workers Compensation”

These articles can be found on ncci.com.

SLIDE 32:  
WC NET COMBINED RATIOS—CALENDAR YEAR VS. ACCIDENT YEAR AS REPORTED

Background

The net combined ratios are the sum of the net incurred loss and LAE ratio, underwriting expense ratio, and dividend ratio. In this slide, the overall private carrier workers compensation combined ratios are shown for the most recent 10 years on both calendar year (CY) and accident year (AY) bases.

The AY combined ratio reflects the experience on accidents as of the latest data evaluation date. See Slide 4 for more background.

Data Sources

- NAIC’s Annual Statement, Schedule P, Part 1D
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.
**SLIDE 33:**

**WC NET COMBINED RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED**

**Background**

The net combined ratios are the sum of the net incurred loss and LAE ratio, underwriting expense ratio, and dividend ratio. In this slide, NCCI’s selected combined ratios are compared to reported private carrier workers compensation combined ratios. The values are shown for the most recent 10 years on an accident year (AY) basis. The AY combined ratio reflects the experience on accidents as of the latest data evaluation date.

**Data Sources**

- NAIC’s Annual Statement, Schedule P, Part 1D
- Insurance Expense Exhibit Part II—Allocation to Lines of Business Net of Reinsurance

The value for the most recent year is preliminary because additional data submissions may still be received by the NAIC.

**SLIDE 34:**

**WC NET LOSS AND LAE RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED**

**Background**

The accident year (AY) net incurred loss and LAE ratio is calculated as a ratio of AY net losses and LAE to CY earned premium. The values in this slide compare NCCI selections to those reported at the latest evaluation by private carriers.

For a given AY, a deficiency is reflected where NCCI’s selected net loss and LAE ratio is higher than the reported value by carriers; a redundancy is reflected where NCCI’s selected net loss and LAE ratio is lower than the reported value by carriers.

**Data Source**

- NAIC’s Annual Statement, Schedule P, Part 1D
**SLIDE 35:** WC NET LOSS AND LAE RESERVE DEFICIENCIES

**Background**

The net reserve deficiency is the dollar difference (in billions) between NCCI’s estimate of net loss and LAE reserves and the reported private carrier net loss and LAE reserves.

The overall workers compensation net reserve deficiency is calculated for all accident years combined at each year-end valuation.

A positive value on this slide indicates an overall reserve deficiency.

**Data Source**

- NAIC’s Annual Statement, Schedule P, Part 1D

**SLIDE 36:** EMERGENCE OF REPORTED WC NET LOSS AND LAE RATIOS

**Background**

The net incurred loss and LAE ratio is calculated as the ratio of incurred losses and LAE to earned premium. The accident year (AY) net incurred loss and LAE ratios change over time as losses are paid, and the reserves on claims are reevaluated (i.e., AY emergence).

For each accident year, the dot on the left is the net loss and LAE ratio reported at 1st report, while the dot on the right is the value reported at year-end 2017.

**Data Source**

- NAIC’s Annual Statement, Schedule P, Part 1D
**Slide 37: WC Lost-Time Claim Frequency**

**Background**
This slide displays changes in frequency (lost-time claims per million dollars of pure premium) for all jurisdictions where NCCI provides ratemaking services. Accident Years 1997–2011 exclude West Virginia. High-deductible policies are excluded from all years.

Premium and lost-time claims are developed to an ultimate basis. Premium is also adjusted to current wage and voluntary pure premium level. Data is valued as of 12/31/2016. However, Accident Year 2017 is based on preliminary data valued as of 12/31/2017. Accident Years 2010 and 2011 show adjusted values, primarily due to significant changes in audit activity due to the Great Recession.

**Data Source**
- NCCI’s Financial Call data

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**Slide 38: WC Lost-Time Claim Frequency (by State)**

**Background**
The average annual changes in lost-time claim frequency between AYs 1992–1996 and AYs 2012–2016 (based on an exponential fit) are displayed in these US maps. Teal represents increases in average frequency, while red represents decreases. The deeper colors represent larger magnitudes of change.

Data is included for all jurisdictions where NCCI provides ratemaking services. The data for Nevada and West Virginia was not available for the 1992–1996 calculation.

**Data Sources**
- NCCI’s Financial Call data
SLIDE 39:  NCCI AND BLS MEASURES OF LOST-TIME CLAIM FREQUENCY

Background

NCCI lost-time frequency values and US Bureau of Labor Statistics (BLS) incidence rates for total private industry have been separately tracked since 1981.

For the NCCI frequency values, Accident Years 1981–2011 exclude West Virginia. High-deductible policies are excluded from all years. Premium and claims are developed to an ultimate basis. Premium is also adjusted to current wage and voluntary pure premium level.

BLS values are a countrywide measure of the frequency of workplace injuries and illnesses based on cases involving days away from work.

Data Sources

- NCCI’s Frequency and Severity Analyses
- US Bureau of Labor Statistics (BLS)

SLIDE 40:  DISTRIBUTION OF LOST-TIME CLAIMS BY SIZE

Background

This slide shows the distribution of claims based on the reported total incurred loss amount. Claim counts, as reported, are grouped into their respective claim size ranges. Data includes five policy periods, generally expiring between 2010 and 2015, in all states for which NCCI provides ratemaking services. All claims are valued as of a 2nd report and have been inflation-adjusted to a common level.

Data Source

- NCCI Unit Statistical Plan data
SLIDE 41: CHANGES IN LOST-TIME CLAIMS BY SIZE

Background
Lost-time claim counts were aggregated by accident year (2001–2015) and by claim size range to illustrate how the distribution of losses by size changes over time. Loss dollars were adjusted to a common inflation level prior to assigning to a size range. The data reflects all states where NCCI provides ratemaking services, excluding Texas and West Virginia.

Data Source
- NCCI’s Financial Call data

SLIDE 42: INDEMNITY DATA CALL (IDC)

Background
This chart contains a timeline for the new Indemnity Data Call (IDC), beginning with the NCCI Board of Directors’ decision to proceed with collecting this information and extending through when data providers will be required to make their first IDC submissions to NCCI.

Data Source
- NCCI Circular IND-2018-02 “Indemnity Data Call–New Indemnity Data Call Resources–Available on ncci.com”
**SLIDE 43: WC AVERAGE INDEMNITY CLAIM SEVERITY**

**Background**
This slide displays average indemnity claim severity based on data for all jurisdictions where NCCI provides ratemaking services. Accident Years 1997–2007 exclude West Virginia. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2016. However, Accident Year 2017 is based on preliminary data valued as of 12/31/2017.

**Data Source**
- NCCI’s Financial Call data

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**SLIDE 44: WC AVERAGE INDEMNITY CLAIM SEVERITY (AND WAGE INFLATION)**

**Background**
This slide compares the growth in average indemnity claim severity with the growth in average weekly wages.

Average weekly wages between 2008 and 2011 were adjusted to compensate for exceptional volatility in bonuses for the financial sector during these years.

Both the WC average indemnity claim severity and average weekly wage trend lines have been indexed to 1997.

**Data Sources**
- Indemnity severity is from NCCI’s Financial Call data
- US Average Weekly Wage is based on (a) Quarterly Census of Employment and Wages (QCEW) data from the US Bureau of Labor Statistics (BLS) for 1997–2007 and 2012–2016 and (b) QCEW and average weekly earnings data from the BLS for 2008–2011; 2017p is estimated by NCCI using forecasts from Moody’s Analytics
SLIDE 45: RELATIVE GROWTH RATES–INDEMNITY SEVERITY VS. WAGE INFLATION

Background
This slide compares the growth in indemnity claim severity to the growth in workers’ wages during the 1997–2007 and 2007–2017 time periods.

Data Sources
- Indemnity severity is from NCCI’s Financial Call data
- US Average Weekly Wage is based on (a) Quarterly Census of Employment and Wages (QCEW) data from the US Bureau of Labor Statistics (BLS) for 1997–2007 and 2012–2016 and (b) QCEW and average weekly earnings data from the BLS for 2008–2011; 2017p is estimated by NCCI using forecasts from Moody’s Analytics

SLIDE 46: WC AVERAGE INDEMNITY CLAIM SEVERITY (BY STATE)

Background
The average annual change in indemnity claim severity by state between 2012 and 2016 (based on an exponential fit) is displayed here. Teal represents increases in average indemnity severity, while red represents decreases. The deeper colors represent larger magnitudes of change.

The average indemnity claim severity includes data for all jurisdictions where NCCI provides ratemaking services. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2016. The displayed changes in severity are different from those used in ratemaking, with the most significant differences being that these values are not on-leveled or wage-adjusted.

Data Source
- NCCI’s Financial Call data
SLIDE 47:  

WC AVERAGE MEDICAL LOST-TIME CLAIM SEVERITY

Background
This slide displays average medical lost-time claim severity based on data for all jurisdictions where NCCI provides ratemaking services. Accident Years 1997–2007 exclude West Virginia. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2016. However, Accident Year 2017 is based on preliminary data valued as of 12/31/2017.

Data Source
- NCCI’s Financial Call data

SLIDE 48:  

WC AVERAGE MEDICAL LOST-TIME CLAIM SEVERITY (AND PRICE INFLATION)

Background
This slide compares the growth in average medical lost-time severity with the growth in the Personal Health Care Chain-Weighted Price Index (PHC). The PHC is a proxy for medical care price inflation that responds to changes in the blend of different medical services over time.

Both the WC average medical lost-time claim severity and PHC trend lines have been indexed to 1997.

Data Sources
- Medical severity is from NCCI’s Financial Call data
- PHC Chain-Weighted Price Index is from the Centers for Medicare & Medicaid Services
SLIDE 49:  Relative Growth Rates—Medical Severity vs. Price Inflation

Background

This slide compares the growth in medical claim severity to the growth in the Personal Health Care (PHC) index during the 1997–2007 and 2007–2017 time periods.

Data Source

- NCCI’s Financial Call data
- PHC Chain-Weighted Price Index is from the Centers for Medicare & Medicaid Services

SLIDE 50:  WC Average Medical Lost-Time Claim Severity (by State)

Background

The average annual change in medical lost-time claim severity by state between 2012 and 2016 (based on an exponential fit) is displayed here. Teal represents increases in average medical severity, while red represents decreases. The deeper colors represent larger magnitudes of change.

The average medical lost-time claim severity includes data for all jurisdictions where NCCI provides ratemaking services. High-deductible policies are excluded from all years. Losses are developed to an ultimate basis. Data is valued as of 12/31/2016. The displayed changes in severity are different from those used in ratemaking, with the most significant differences being that these values are not on-leveled or wage-adjusted.

Data Source

- NCCI’s Financial Call data
**SLIDE 51:**

**Utilization of Opioids**

**Background**
This slide shows the percentage of claimants with a prescription, of any kind, who also had at least one prescription for an opioid. The percentages are based on prescriptions in 2012 and 2016.

**Data Source**
- NCCI’s Medical Data Call, Service Years 2012 and 2016
## DATA TABLES

### Slide 4:
**P/C Industry Net Combined Ratio (By Year)**

Combined ratios in the following table are shown in percentages.

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### Slide 5:
**P/C Industry Investment Gain Ratio**

Values in the following table are shown in percentages.

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</tbody>
</table>
### SLIDE 6:  
P/C Industry Bond Embedded Yield and New Money Yield

Values in the following table are shown in percentages.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Pretax Embedded Yield</td>
<td>9.2</td>
<td>8.8</td>
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</tr>
<tr>
<td>Pretax New Money Yield</td>
<td>9.6</td>
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<td>5.9</td>
<td>5.0</td>
<td>6.3</td>
<td>6.1</td>
<td>5.8</td>
<td>5.8</td>
<td>5.0</td>
<td>5.3</td>
</tr>
</tbody>
</table>

<table>
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</tr>
</thead>
<tbody>
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<td>6.3</td>
<td>6.0</td>
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<td>4.9</td>
<td>4.9</td>
<td>4.8</td>
<td>4.5</td>
<td>4.3</td>
<td>4.0</td>
<td>3.7</td>
<td>3.5</td>
<td>3.4</td>
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<td>–</td>
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<tr>
<td></td>
<td>5.8</td>
<td>4.4</td>
<td>3.8</td>
<td>3.1</td>
<td>3.3</td>
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<td>2.4</td>
<td>2.2</td>
<td>1.9</td>
<td>1.4</td>
<td>1.6</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.9</td>
</tr>
</tbody>
</table>

### SLIDE 7:  
P/C Industry After-Tax Return on Surplus

After-tax return on surplus values in the following table are shown in percentages.

<table>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13.1</td>
<td>9.6</td>
<td>6.6</td>
<td>6.3</td>
<td>–2.3</td>
<td>3.2</td>
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<td>11.4</td>
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<td>12.7</td>
<td>0.6</td>
<td>5.9</td>
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<td>6.1</td>
<td>10.2</td>
<td>8.5</td>
<td>8.5</td>
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</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017p</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>6</td>
</tr>
</tbody>
</table>
### Slide 8:

**P/C Industry Premium-to-Surplus Ratio**

<table>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus ($ Billions)</td>
<td>309</td>
<td>333</td>
<td>334</td>
<td>318</td>
<td>290</td>
<td>288</td>
<td>349</td>
<td>396</td>
<td>428</td>
<td>489</td>
<td>524</td>
<td>460</td>
<td>511</td>
</tr>
<tr>
<td>Net Written Premium ($ Billions)</td>
<td>277</td>
<td>282</td>
<td>287</td>
<td>300</td>
<td>324</td>
<td>370</td>
<td>405</td>
<td>426</td>
<td>425</td>
<td>442</td>
<td>439</td>
<td>432</td>
<td>418</td>
</tr>
<tr>
<td>Premium-to-Surplus Ratio</td>
<td>0.90</td>
<td>0.84</td>
<td>0.86</td>
<td>0.94</td>
<td>1.12</td>
<td>1.29</td>
<td>1.16</td>
<td>1.08</td>
<td>0.99</td>
<td>0.90</td>
<td>0.84</td>
<td>0.94</td>
<td>0.82</td>
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</tbody>
</table>

### Slide 9:

**WC Net Written Premium**

Premium values in the following table are shown in $ billions.

<table>
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<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Funds</td>
<td>2.8</td>
<td>2.6</td>
<td>2.7</td>
<td>3.7</td>
<td>6.0</td>
<td>8.4</td>
<td>11.2</td>
<td>11.8</td>
<td>10.1</td>
<td>7.8</td>
<td>6.7</td>
<td>5.5</td>
<td>4.3</td>
<td>3.9</td>
</tr>
<tr>
<td>Private Carriers</td>
<td>24.2</td>
<td>23.3</td>
<td>22.3</td>
<td>25.0</td>
<td>26.1</td>
<td>29.2</td>
<td>31.1</td>
<td>34.7</td>
<td>37.8</td>
<td>38.6</td>
<td>37.6</td>
<td>33.8</td>
<td>30.3</td>
<td>29.9</td>
</tr>
<tr>
<td>Total</td>
<td>27.0</td>
<td>25.9</td>
<td>25.0</td>
<td>28.6</td>
<td>32.1</td>
<td>37.7</td>
<td>42.3</td>
<td>46.5</td>
<td>47.8</td>
<td>46.5</td>
<td>44.3</td>
<td>39.3</td>
<td>34.6</td>
<td>33.8</td>
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</table>

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>4.4</td>
<td>4.9</td>
<td>5.7</td>
<td>5.8</td>
<td>5.4</td>
<td>5.2</td>
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<tr>
<td>32.3</td>
<td>35.1</td>
<td>36.9</td>
<td>38.5</td>
<td>39.7</td>
<td>40.1</td>
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<td>36.4</td>
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<td>41.8</td>
<td>44.2</td>
<td>45.5</td>
<td>45.6</td>
<td>45.0</td>
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</tbody>
</table>
SLIDE 11: WC RESIDUAL MARKET PREMIUM

Residual market premium values in the following table are shown in $ billions.

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.6</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>1.1</td>
<td>1.4</td>
<td>1.5</td>
<td>1.4</td>
<td>1.2</td>
<td>0.9</td>
<td>0.7</td>
<td>0.5</td>
<td>0.5</td>
<td>0.8</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td>1.1</td>
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</tr>
<tr>
<td>2017p</td>
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<td>1.0</td>
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</tbody>
</table>

SLIDE 12: WC RESIDUAL MARKET—CHANGES IN PREMIUM VS. AVERAGE POLICY SIZE

Residual market premium values and average policy size values in the following table are shown in dollars.

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<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium ($ Millions)</td>
<td>791</td>
<td>997</td>
<td>1,015</td>
<td>924</td>
<td>781</td>
<td>660</td>
<td>501</td>
<td>396</td>
<td>344</td>
<td>389</td>
<td>580</td>
<td>758</td>
<td>808</td>
<td>799</td>
<td>758</td>
<td>726</td>
</tr>
<tr>
<td>Average Policy Size</td>
<td>5,405</td>
<td>5,419</td>
<td>4,948</td>
<td>4,426</td>
<td>3,822</td>
<td>3,436</td>
<td>3,024</td>
<td>2,790</td>
<td>2,675</td>
<td>3,008</td>
<td>4,194</td>
<td>4,875</td>
<td>4,775</td>
<td>4,394</td>
<td>3,948</td>
<td>3,769</td>
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</tbody>
</table>

SLIDE 14: WC RESIDUAL MARKET SHARE

Residual market shares in the following table are shown in percentages.

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>11</td>
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<tr>
<td>2017p</td>
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</table>
### SLIDE 16: WC DIRECT WRITTEN PREMIUM CHANGE—2017

Direct written premium changes in the following table are shown in percentages.

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<th>CO</th>
<th>CT</th>
<th>DC</th>
<th>DE</th>
<th>FL</th>
<th>GA</th>
<th>HI</th>
<th>IA</th>
<th>ID</th>
<th>IL</th>
<th>IN</th>
<th>KS</th>
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</thead>
<tbody>
<tr>
<td>%</td>
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<td>2.5</td>
<td>1.9</td>
<td>1.8</td>
<td>0.5</td>
<td>3.4</td>
<td>6.3</td>
<td>11.4</td>
<td>7.5</td>
<td>15.0</td>
<td>5.2</td>
<td>2.3</td>
<td>2.1</td>
<td>10.7</td>
<td>5.7</td>
<td>5.7</td>
<td>5.1</td>
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<td>LA</td>
<td>MA</td>
<td>MD</td>
<td>ME</td>
<td>MI</td>
<td>MN</td>
<td>MO</td>
<td>MS</td>
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<td>NC</td>
<td>NE</td>
<td>NH</td>
<td>NJ</td>
<td>NM</td>
<td>NV</td>
<td>NY</td>
</tr>
<tr>
<td>%</td>
<td>4.1</td>
<td>4.7</td>
<td>2.7</td>
<td>0.3</td>
<td>1.8</td>
<td>4.6</td>
<td>6.4</td>
<td>4.2</td>
<td>0.2</td>
<td>4.5</td>
<td>3.0</td>
<td>2.4</td>
<td>6.3</td>
<td>1.9</td>
<td>1.2</td>
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</tr>
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<td>PA</td>
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<td>1.3</td>
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</table>

### SLIDE 18: INCREASES IN PAYROLL CONTINUE TO DRIVE CHANGES IN PREMIUM

Values in the following table are shown in percentages.

<table>
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<tr>
<th>Sector</th>
<th>Change in Average Wage</th>
<th>Change in Employment</th>
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<tbody>
<tr>
<td>Professional and Business Services</td>
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<td>2.1</td>
</tr>
<tr>
<td>Trade, Transportation, and Utilities</td>
<td>2.2</td>
<td>0.8</td>
</tr>
<tr>
<td>Education and Health Services</td>
<td>1.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Construction</td>
<td>1.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Leisure and Hospitality</td>
<td>1.5</td>
<td>2.6</td>
</tr>
<tr>
<td>All Other</td>
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<td>1.0</td>
</tr>
</tbody>
</table>
**SLIDE 19: WC APPROVED CHANGES IN BUREAU PREMIUM LEVEL**

Approved changes in bureau premium level in the following table are shown in percentages.

<table>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>−1.9</td>
<td>2.2</td>
<td>−0.1</td>
<td>−0.9</td>
<td>−0.4</td>
<td>−2.3</td>
<td>−4.1</td>
<td>−4.6</td>
<td>−3.3</td>
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<td>1.4</td>
<td>0.1</td>
<td>−1.3</td>
<td>−3.9</td>
<td>−3.6</td>
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<tr>
<td>2017</td>
<td>−5.4</td>
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</tr>
<tr>
<td>2018p</td>
<td>−9.6</td>
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</tr>
</tbody>
</table>

**SLIDE 20: MOST RECENT CHANGES IN BUREAU PREMIUM LEVEL**

Changes in bureau premium level in the following table are shown in percentages.

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<tr>
<th>AK</th>
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<th>AZ</th>
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<th>IL</th>
<th>IN</th>
<th>KS</th>
<th>KY</th>
</tr>
</thead>
<tbody>
<tr>
<td>−7.9</td>
<td>−13.9</td>
<td>−15.4</td>
<td>−6.4</td>
<td>−12.7</td>
<td>−14.1</td>
<td>−3.0</td>
<td>−9.8</td>
<td>−8.7</td>
<td>−1.7</td>
<td>−8.7</td>
<td>−5.8</td>
<td>−10.7</td>
<td>−12.8</td>
<td>−7.6</td>
<td>−4.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LA</th>
<th>MD</th>
<th>ME</th>
<th>MO</th>
<th>MS</th>
<th>MT</th>
<th>NC</th>
<th>NE</th>
<th>NH</th>
<th>NM</th>
<th>NV</th>
<th>OK</th>
<th>OR</th>
<th>RI</th>
<th>SC</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>−13.0</td>
<td>−12.0</td>
<td>−3.0</td>
<td>−6.0</td>
<td>−10.7</td>
<td>−11.3</td>
<td>−7.6</td>
<td>−13.3</td>
<td>−16.2</td>
<td>−2.3</td>
<td>−16.3</td>
<td>−14.0</td>
<td>−4.6</td>
<td>−7.0</td>
<td>−7.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TN</th>
<th>TX</th>
<th>UT</th>
<th>VA</th>
<th>VT</th>
<th>WVV</th>
</tr>
</thead>
<tbody>
<tr>
<td>−12.6</td>
<td>−13.7</td>
<td>−9.4</td>
<td>−0.9</td>
<td>−3.7</td>
<td>−10.3</td>
</tr>
</tbody>
</table>
**SLIDE 21: **
**WC IMPACT OF DISCOUNTING ON PREMIUM**

Values in the following table are shown in percentages.

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>–21.1</td>
<td>–21.0</td>
<td>–18.1</td>
<td>–12.4</td>
<td>1.4</td>
<td>3.5</td>
<td>2.2</td>
<td>–0.8</td>
<td>–3.7</td>
<td>–6.7</td>
<td>–7.4</td>
<td>–7.7</td>
<td>–6.0</td>
<td>–2.7</td>
<td>1.3</td>
<td>2.5</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>–17.1</td>
<td>–21.8</td>
<td>–21.0</td>
<td>–12.4</td>
<td>1.4</td>
<td>3.5</td>
<td>2.2</td>
<td>–0.8</td>
<td>–3.7</td>
<td>–6.7</td>
<td>–7.4</td>
<td>–7.7</td>
<td>–6.0</td>
<td>–2.7</td>
<td>1.3</td>
<td>2.5</td>
<td>2.4</td>
<td>2016</td>
<td>0.3</td>
</tr>
<tr>
<td>1999</td>
<td>–17.1</td>
<td>–21.8</td>
<td>–21.0</td>
<td>–12.4</td>
<td>1.4</td>
<td>3.5</td>
<td>2.2</td>
<td>–0.8</td>
<td>–3.7</td>
<td>–6.7</td>
<td>–7.4</td>
<td>–7.7</td>
<td>–6.0</td>
<td>–2.7</td>
<td>1.3</td>
<td>2.5</td>
<td>2.4</td>
<td></td>
<td>0.5</td>
</tr>
</tbody>
</table>

**SLIDE 23: **
**WC PRICING—MARKET INDEX SURVEY**

Values in the following table are shown in percentages.

<table>
<thead>
<tr>
<th>Year (4Q)</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported Increase</td>
<td>43</td>
<td>12</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Reported No Change</td>
<td>26</td>
<td>31</td>
<td>25</td>
<td>41</td>
</tr>
<tr>
<td>Reported Decrease</td>
<td>31</td>
<td>57</td>
<td>62</td>
<td>47</td>
</tr>
</tbody>
</table>

**SLIDE 25: **
**WC COMBINED RATIO—UNDERWRITING GAIN ACHIEVED**

Combined ratios in the following table are shown in percentages. Information for state funds is included for informational purposes.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Carriers</td>
<td>101</td>
<td>107</td>
<td>115</td>
<td>118</td>
<td>122</td>
<td>111</td>
<td>110</td>
<td>107</td>
<td>103</td>
<td>93</td>
<td>101</td>
<td>101</td>
<td>110</td>
<td>115</td>
<td>115</td>
<td>109</td>
<td>102</td>
<td>100</td>
<td>94</td>
</tr>
<tr>
<td>State Funds</td>
<td>131</td>
<td>142</td>
<td>145</td>
<td>137</td>
<td>117</td>
<td>116</td>
<td>103</td>
<td>102</td>
<td>102</td>
<td>106</td>
<td>115</td>
<td>121</td>
<td>129</td>
<td>138</td>
<td>133</td>
<td>124</td>
<td>115</td>
<td>116</td>
<td>107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year (4Q)</th>
<th>2016</th>
<th>2017p</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>2017p</td>
<td>0.5</td>
<td></td>
</tr>
</tbody>
</table>
**SLIDE 26: WC COMBINED RATIO BY COMPONENT**

Values in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend Ratio</td>
<td>5.4</td>
<td>5.3</td>
<td>5.6</td>
<td>4.7</td>
<td>3.7</td>
<td>2.8</td>
<td>1.6</td>
<td>1.3</td>
<td>1.3</td>
<td>1.5</td>
<td>1.7</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Underwriting Expense Ratio</td>
<td>25.9</td>
<td>26.7</td>
<td>28.0</td>
<td>26.4</td>
<td>26.1</td>
<td>23.5</td>
<td>22.2</td>
<td>22.1</td>
<td>22.3</td>
<td>19.6</td>
<td>24.6</td>
<td>24.5</td>
<td>26.2</td>
<td>26.7</td>
<td>25.9</td>
</tr>
<tr>
<td>LAE Ratio</td>
<td>13.8</td>
<td>15.3</td>
<td>15.8</td>
<td>15.9</td>
<td>13.8</td>
<td>13.7</td>
<td>15.0</td>
<td>14.5</td>
<td>14.4</td>
<td>13.6</td>
<td>14.5</td>
<td>14.1</td>
<td>14.9</td>
<td>16.0</td>
<td>17.0</td>
</tr>
<tr>
<td>Loss Ratio</td>
<td>55.5</td>
<td>60.1</td>
<td>65.9</td>
<td>71.2</td>
<td>78.0</td>
<td>70.8</td>
<td>70.7</td>
<td>68.9</td>
<td>64.5</td>
<td>58.7</td>
<td>60.1</td>
<td>60.3</td>
<td>67.6</td>
<td>70.7</td>
<td>70.3</td>
</tr>
<tr>
<td>Combined Ratio</td>
<td>101</td>
<td>107</td>
<td>115</td>
<td>118</td>
<td>122</td>
<td>111</td>
<td>110</td>
<td>107</td>
<td>103</td>
<td>93</td>
<td>101</td>
<td>101</td>
<td>110</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>

**SLIDE 27: WC LAE-TO-LOSS RATIO—NET INCURRED LAE TO INCURRED LOSSES**

LAE-to-loss ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>24.9</td>
<td>25.5</td>
<td>24.0</td>
<td>22.3</td>
<td>17.7</td>
<td>19.4</td>
<td>21.2</td>
<td>21.0</td>
<td>22.3</td>
<td>23.2</td>
<td>24.1</td>
<td>23.4</td>
<td>22.0</td>
<td>22.6</td>
<td>24.1</td>
<td>23.0</td>
<td>23.7</td>
<td>24.2</td>
<td>26.1</td>
</tr>
</tbody>
</table>

| 2016 | 2017p | 26.6 | 27    |
### SLIDE 28: WC RESIDUAL MARKET COMBINED RATIO

Combined ratios in the following table are shown in percentages.

|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>98</td>
<td>106</td>
</tr>
</tbody>
</table>

### SLIDE 29: WC INVESTMENT GAIN ON INSURANCE TRANSACTIONS

Investment gain ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.1</td>
<td>14.9</td>
<td>18.5</td>
<td>18.3</td>
<td>11.6</td>
<td>14.9</td>
<td>10.2</td>
<td>10.0</td>
<td>12.8</td>
<td>9.9</td>
<td>12.0</td>
<td>8.7</td>
<td>10.8</td>
<td>14.8</td>
<td>14.7</td>
<td>13.7</td>
<td>15.2</td>
<td>11.6</td>
<td>10.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10.8</td>
<td>12</td>
</tr>
</tbody>
</table>

### SLIDE 30: WC PRETAX OPERATING GAIN

Pretax operating gains in the following table are shown in percentages. Data for state funds is included for informational purposes.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Carriers</td>
<td>18.5</td>
<td>7.5</td>
<td>3.2</td>
<td>0.1</td>
<td>−10.0</td>
<td>4.1</td>
<td>0.7</td>
<td>3.2</td>
<td>10.3</td>
<td>16.7</td>
<td>11.3</td>
<td>8.1</td>
<td>0.5</td>
<td>−0.2</td>
<td>−0.1</td>
</tr>
<tr>
<td>State Funds</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>−7.9</td>
<td>−1.0</td>
<td>−1.4</td>
<td>6.4</td>
<td>7.6</td>
<td>13.2</td>
<td>10.9</td>
<td>7.5</td>
<td>−1.7</td>
<td>3.5</td>
<td>2.4</td>
<td>−3.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Carriers</td>
<td>5.1</td>
<td>13.5</td>
<td>11.8</td>
<td>17.1</td>
<td>16.9</td>
<td>23</td>
</tr>
<tr>
<td>State Funds</td>
<td>8.1</td>
<td>6.5</td>
<td>5.3</td>
<td>9.4</td>
<td>8.5</td>
<td>3</td>
</tr>
</tbody>
</table>
### Slide 32:  
**WC NET COMBINED RATIOS—CALENDAR YEAR VS. ACCIDENT YEAR AS REPORTED**

Combined ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar Year</td>
<td>101</td>
<td>110</td>
<td>115</td>
<td>115</td>
<td>109</td>
<td>102</td>
<td>100</td>
<td>94</td>
<td>94</td>
<td>89</td>
</tr>
<tr>
<td>Accident Year</td>
<td>104</td>
<td>107</td>
<td>115</td>
<td>111</td>
<td>103</td>
<td>97</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td>99</td>
</tr>
</tbody>
</table>

### Slide 33:  
**WC NET COMBINED RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED**

Combined ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NCCI Selected</td>
<td>105</td>
<td>110</td>
<td>117</td>
<td>113</td>
<td>104</td>
<td>96</td>
<td>93</td>
<td>90</td>
<td>89</td>
<td>91</td>
</tr>
<tr>
<td>As Reported</td>
<td>104</td>
<td>107</td>
<td>115</td>
<td>111</td>
<td>103</td>
<td>97</td>
<td>93</td>
<td>94</td>
<td>95</td>
<td>99</td>
</tr>
</tbody>
</table>

### Slide 34:  
**WC NET LOSS AND LAE RATIOS—NCCI’S ACCIDENT YEAR SELECTIONS VS. AS REPORTED**

Net loss and LAE ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NCCI Selected</td>
<td>79</td>
<td>82</td>
<td>89</td>
<td>85</td>
<td>76</td>
<td>70</td>
<td>67</td>
<td>64</td>
<td>62</td>
<td>63</td>
</tr>
<tr>
<td>As Reported</td>
<td>78</td>
<td>80</td>
<td>86</td>
<td>83</td>
<td>76</td>
<td>71</td>
<td>68</td>
<td>68</td>
<td>69</td>
<td>72</td>
</tr>
</tbody>
</table>
SLIDE 35: WC NET LOSS AND LAE RESERVE DEFICIENCIES

Deficiencies in the following table are shown in dollars.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Deficiency ($ Billions)</td>
<td>10</td>
<td>15</td>
<td>18</td>
<td>20</td>
<td>21</td>
<td>18</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficiency</td>
<td>11</td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

SLIDE 36: EMERGENCE OF REPORTED WC NET LOSS AND LAE RATIOS

Net loss and LAE ratios in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1st Report</td>
<td>76</td>
<td>80</td>
<td>83</td>
<td>83</td>
<td>80</td>
<td>76</td>
<td>73</td>
<td>72</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Current Report</td>
<td>78</td>
<td>80</td>
<td>86</td>
<td>83</td>
<td>76</td>
<td>71</td>
<td>68</td>
<td>68</td>
<td>69</td>
<td>72</td>
</tr>
</tbody>
</table>

SLIDE 37: WC LOST-TIME CLAIM FREQUENCY

Values in the following table are shown in percentages.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Change</td>
<td>0.5</td>
<td>−3.9</td>
<td>−2.3</td>
<td>−4.5</td>
<td>−6.9</td>
<td>−4.5</td>
<td>−4.1</td>
<td>−3.7</td>
<td>−6.6</td>
<td>−4.5</td>
<td>−2.2</td>
<td>−4.3</td>
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<tr>
<td>Adjusted Frequency Change</td>
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<td>3.6</td>
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</thead>
<tbody>
<tr>
<td>Frequency Change</td>
<td>−3.9</td>
<td>−5.8</td>
<td>−4.0</td>
<td>−3.0</td>
<td>−5.1</td>
<td>−6.2</td>
<td>−6</td>
</tr>
<tr>
<td>Adjusted Frequency Change</td>
<td>−0.9</td>
<td></td>
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</table>
Slide 43:  
WC Average Indemnity Claim Severity

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</thead>
<tbody>
<tr>
<td>Indemnity Severity ($ Thousands)</td>
<td>11.5</td>
<td>12.5</td>
<td>13.6</td>
<td>14.9</td>
<td>16.4</td>
<td>16.9</td>
<td>17.5</td>
<td>17.6</td>
<td>18.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Change (%)</td>
<td>—</td>
<td>9.0</td>
<td>9.1</td>
<td>9.1</td>
<td>10.0</td>
<td>3.3</td>
<td>3.1</td>
<td>1.1</td>
<td>2.8</td>
<td>5.5</td>
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</tr>
</thead>
<tbody>
<tr>
<td>Indemnity Severity Change</td>
<td>20.4</td>
<td>22.1</td>
<td>22.2</td>
<td>21.6</td>
<td>21.8</td>
<td>21.6</td>
<td>22.3</td>
<td>22.6</td>
<td>22.8</td>
<td>23.4</td>
<td>24.4</td>
</tr>
<tr>
<td>US Average Weekly Wage Change</td>
<td>6.8</td>
<td>8.1</td>
<td>0.6</td>
<td>2.8</td>
<td>1.4</td>
<td>1.0</td>
<td>2.7</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
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</table>

Slide 44:  
WC Average Indemnity Claim Severity (and Wage Inflation)

Values in the following table are shown in percentages.

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</thead>
<tbody>
<tr>
<td>Indemnity Severity Change</td>
<td>—</td>
<td>9.0</td>
<td>9.1</td>
<td>9.1</td>
<td>10.0</td>
<td>3.3</td>
<td>3.1</td>
<td>1.1</td>
<td>2.8</td>
<td>5.5</td>
<td>6.8</td>
<td>8.1</td>
<td>0.6</td>
</tr>
<tr>
<td>US Average Weekly Wage Change</td>
<td>—</td>
<td>5.6</td>
<td>4.7</td>
<td>6.3</td>
<td>2.3</td>
<td>1.1</td>
<td>2.7</td>
<td>4.3</td>
<td>3.5</td>
<td>4.7</td>
<td>4.6</td>
<td>2.7</td>
<td>1.1</td>
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</thead>
<tbody>
<tr>
<td>Indemnity Severity Change</td>
<td>2.8</td>
<td>0.7</td>
<td>0.6</td>
<td>2.8</td>
<td>1.4</td>
<td>1.0</td>
<td>2.7</td>
<td>4.0</td>
</tr>
<tr>
<td>US Average Weekly Wage Change</td>
<td>2.3</td>
<td>2.9</td>
<td>2.8</td>
<td>1.1</td>
<td>3.1</td>
<td>3.1</td>
<td>1.2</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Slide 45:  
Relative Growth Rates—Indemnity Severity vs. Wage Inflation

See the data table underlying Slide 44 (above) for the underlying annual percentage changes.
SLIDE 47:  
**WC Average Medical Lost-Time Claim Severity**

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</thead>
<tbody>
<tr>
<td>Medical Severity ($ Thousands)</td>
<td>10.9</td>
<td>11.8</td>
<td>13.0</td>
<td>13.9</td>
<td>15.7</td>
<td>17.0</td>
<td>18.3</td>
<td>19.2</td>
<td>20.5</td>
<td>21.7</td>
</tr>
<tr>
<td>Change (%)</td>
<td>—</td>
<td>8.3</td>
<td>10.2</td>
<td>6.7</td>
<td>13.6</td>
<td>7.9</td>
<td>8.1</td>
<td>4.7</td>
<td>7.0</td>
<td>5.5</td>
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<tbody>
<tr>
<td>22.9</td>
<td>24.2</td>
<td>25.2</td>
<td>25.2</td>
<td>25.8</td>
<td>26.0</td>
<td>26.5</td>
<td>27.4</td>
<td>27.2</td>
<td>28.8</td>
<td>29.9</td>
<td></td>
</tr>
<tr>
<td>5.8</td>
<td>5.6</td>
<td>4.2</td>
<td>—0.2</td>
<td>2.4</td>
<td>0.8</td>
<td>1.9</td>
<td>3.7</td>
<td>—1.0</td>
<td>6.0</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

SLIDE 48:  
**WC Average Medical Lost-Time Claim Severity (and Price Inflation)**

Values in the following table are shown in percentages.

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</tr>
</thead>
<tbody>
<tr>
<td>Medical Severity Change</td>
<td>—</td>
<td>8.3</td>
<td>10.2</td>
<td>6.7</td>
<td>13.6</td>
<td>7.9</td>
<td>8.1</td>
<td>4.7</td>
<td>7.0</td>
<td>5.5</td>
</tr>
<tr>
<td>PHC Chain-Weighted Price Index Percentage Change</td>
<td>—</td>
<td>2.1</td>
<td>2.5</td>
<td>2.9</td>
<td>3.7</td>
<td>3.0</td>
<td>3.3</td>
<td>3.5</td>
<td>3.1</td>
<td>3.0</td>
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</thead>
<tbody>
<tr>
<td>5.8</td>
<td>5.6</td>
<td>4.2</td>
<td>—0.2</td>
<td>2.4</td>
<td>0.8</td>
<td>1.9</td>
<td>3.7</td>
<td>—1.0</td>
<td>6.0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>2.6</td>
<td>2.7</td>
<td>2.1</td>
<td>1.8</td>
<td>1.5</td>
<td>1.4</td>
<td>0.7</td>
<td>1.2</td>
<td>1.4</td>
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</tr>
</tbody>
</table>

SLIDE 49:  
**Relative Growth Rates—Medical Severity vs. Price Inflation**

See data table underlying Slide 48 (above) for the underlying annual percentage changes.
APPENDIX A—DEFINITIONS

Accident Year (AY)—A loss accounting definition in which experience is summarized by the calendar year in which an accident occurred.

Adjusting and Other Expenses (AOE) Incurred—Loss adjustment expenses, other than those categorized as Defense and Cost Containment Expense. Examples:
- Fees of adjusters and settling agents (but not if engaged in a contentious defense)
- Attorney fees incurred in the determination of coverage, including litigation between the insurer and the policyholder

Assigned Carrier—The insurer assigned to provide coverage to an eligible employer that has applied for workers compensation insurance under NCCI’s Workers Compensation Insurance Plan. An assigned carrier can be either a servicing carrier or direct assignment carrier.

Calendar Year (CY)—A method of accounting that includes all financial transactions occurring during a 12-month period, beginning January 1.

Carrier Discounting—Combined impact on premium due to rate/loss cost departures, schedule rating, and dividends.

Commissions and Brokerage Expenses Incurred—Fees paid to producers.

Defense and Cost Containment Expense (DCCE) Incurred—Expenses for defense by the insurer in contentious situations (whether a first-party or third-party claim) for litigation involving a claim and for cost containment expense. Examples:
- Surveillance expenses
- Fixed amounts for cost containment expenses
- Case management expenses for managing the overall cost of a claim
- Litigation management expenses
- Fees or salaries for appraisers, private investigators, hearing representatives, reinspectors, and fraud investigators, if working in defense of a claim
- Attorney fees incurred owing to a duty to defend
- Cost of engaging experts

Direct Assignment—Assigned risk business written and serviced directly by an insurance company that has been authorized by the Insurance Department to write such business. These insureds are written without reinsurance through the National Workers Compensation Reinsurance Pooling Mechanism or other reinsurance pool.

Dividends to Policyholders—When actual costs and expenses are less than anticipated costs and expenses, carriers may opt to return the difference to policyholders in the form of a dividend.

Earned Premium—Proportional share of each policy’s written premium applicable to the expired part of the policy. Derived by subtracting the change in the unearned premium reserve from the written premium.
APPENDIX A—DEFINITIONS

Estimated Annual Premium—Premium charged by an insurance company, at the time the policy is issued, for coverage provided by an insurance contract for a period of time. Estimated premium is reported before endorsements or audits.

Experience Mod—A factor calculated from actual case loss experience used to adjust an insured’s manual premiums (up or down) based on the insured’s loss experience relative to the average underlying the manual premiums. It compares the insured’s experience to the average class experience.

Exposure Accident Year (EAY):
- Claims/Losses—Are on an accident year basis
- Earned Premium—Final audited premium for each policy is allocated to the appropriate calendar year based on the period of exposure

General Expenses Incurred—Overhead expenses incurred in the insurer’s operations, other than those included in the other expense categories. Examples:
- Salaries
- Rent and rent items
- Equipment

Net Written Premium—The gross premium income adjusted for additional or return premiums, including any additions for reinsurance assumed and deductions for reinsurance ceded.

Other Acquisitions, Field Supervision, and Collection Expenses Incurred—Expenses incurred in obtaining insurance business. Examples:
- Salaries
- Equipment
- Advertising
- Employee relations and welfare
- Allowance to managers and agents
- Postage, telephone, and express
- Rent and rent items

Policy Year (PY)—The year of the effective date of the policy. Policy year financial results summarize experience for all policies with effective dates in a given calendar year period.

Pure Premium—Portion of bureau level premium that provides for indemnity and medical loss payments.

Residual Market Pool—A financial agreement among participating insurers to share in the experience of certain assigned risks. This reduces both administrative costs and annual fluctuations in the liability of participating insurers resulting from the operation of state insurance plans.
APPENDIX A—DEFINITIONS

Servicing Carrier—An insurer, other than a direct assignment carrier, authorized to receive Plan assignments and provide coverage to eligible employers on behalf of insurance company members of the National Workers Compensation Reinsurance Association NFP (NWCRA)—or participants in other reinsurance pooling mechanisms—incorporated as a part of the Plan in a state.

Servicing Carrier Allowance—The ceding commission retained by a servicing carrier as compensation for the expenses of servicing an employer under a Workers Compensation Insurance Plan or similar program.

Taxes, Licenses, and Fees Incurred—State taxes, assessments, and miscellaneous fees. Examples:
- Premium taxes
- Second Injury Fund assessments
- General administration funds
- Guaranty funds

Unearned Premium Reserve—Proportional share of each policy’s written premium applicable to the unexpired part of the policy.

Workers Compensation Insurance Plan (WCIP or Plan)—A program established and maintained by NCCI and approved by state insurance regulatory authorities whereby workers compensation insurance may be secured by eligible employers unable to secure such coverage in the voluntary market.
**APPENDIX B — FORMULAS**

After-Tax Return on Surplus = \( \frac{\text{Net Income}}{\text{Average Surplus}} \)

Average Surplus = 0.5 x (Surplus as regards policyholders, December 31 current year + Surplus as regards policyholders, December 31 prior year)

Combined Ratio = Loss Ratio + LAE Ratio + Dividend Ratio + Underwriting Expense Ratio

Combined Ratio (Residual Market Slides) = \( \frac{\text{Losses}}{\text{Earned Premium}} + \frac{\text{Expenses and Allowances}}{\text{Written Premium}} \)

Dividend Ratio = \( \frac{\text{Dividends to Policyholders}}{\text{Earned Premium}} \)

Indicated Net Loss & LAE Reserves = Ultimate Net Loss & LAE - Net Loss & LAE Payments

Investment Gain on Insurance Transactions Ratio = \( \frac{\text{Investment Gain on Funds Attributable to Insurance Transactions} + \text{Other Income Less Other Expenses}}{\text{Earned Premium}} \)

Investment Gain Ratio = \( \frac{\text{Net Investment Gain (Loss)}}{\text{Earned Premium}} \)

Loss Adjustment Expense (LAE) Ratio = \( \frac{\text{DCCE Incurred} + \text{AOE Incurred}}{\text{Earned Premium}} \)

Loss & LAE Ratio = \( \frac{\text{Incurred Loss} + \text{DCCE Incurred} + \text{AOE Incurred}}{\text{Earned Premium}} \)

Loss Ratio = \( \frac{\text{Incurred Loss}}{\text{Earned Premium}} \)

Net Earned Premium = Net Written Premium + Change in Unearned Premium Reserve

Net Reserve Deficiency = NCCI Indicated Net Loss & LAE Reserves – Private Carrier Net Loss & LAE Reserves As Reported
APPENDIX B—FORMULAS

**Premium-to-Surplus Ratio**

\[
\text{Premium-to-Surplus Ratio} = \frac{\text{Net Written Premium}}{\text{Surplus as regards policyholders}}
\]

**Pretax Operating Gain**

\[
\text{Pretax Operating Gain} = 1 - (\text{Combined Ratio} - \text{Investment Gain on Insurance Transactions Ratio})
\]

**Underwriting Expense Ratio**

\[
\text{Underwriting Expense Ratio} = \frac{\text{Commissions and Brokerage Expenses Incurred} + \text{Taxes, Licenses, and Fees Incurred} + \text{Other Acquisitions, Field Supervision and Collection Expenses Incurred} + \text{General Expenses Incurred}}{\text{Written Premium}}
\]