



# Workers Compensation Industry Reserve Analysis

Presented By  
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# Overview of NCCI Analysis

- Computations based on NAIC Annual Statement Schedule P Part 1D Accident Year data evaluated 12/31/2006
- Data used is private carrier\* workers compensation net combined indemnity and medical reported losses and LAE
- Loss development factors are analyzed and selected for paid loss & LAE, paid+case loss & LAE, and incurred loss & LAE
- Analyze and select ultimate incurred loss and LAE ratios
- Redundancy/Deficiency = Reported – NCCI Selected Ultimate

\*Maine and Minnesota state funds are included again this year due to their tax reporting status

# Challenges in Estimating Industry Reserves

- Reserve adequacy estimate for “AY 1996 & prior” period
- The impact of reinsurance usage on reserve estimates

# Improvements and Additions

- Estimated reserve adequacy of “AY 1996 & prior” period
- Made appropriate adjustments to link ratios to reflect reinsurance usage

# Summary of Changes in NCCI AY Loss & LAE Ratio Selections

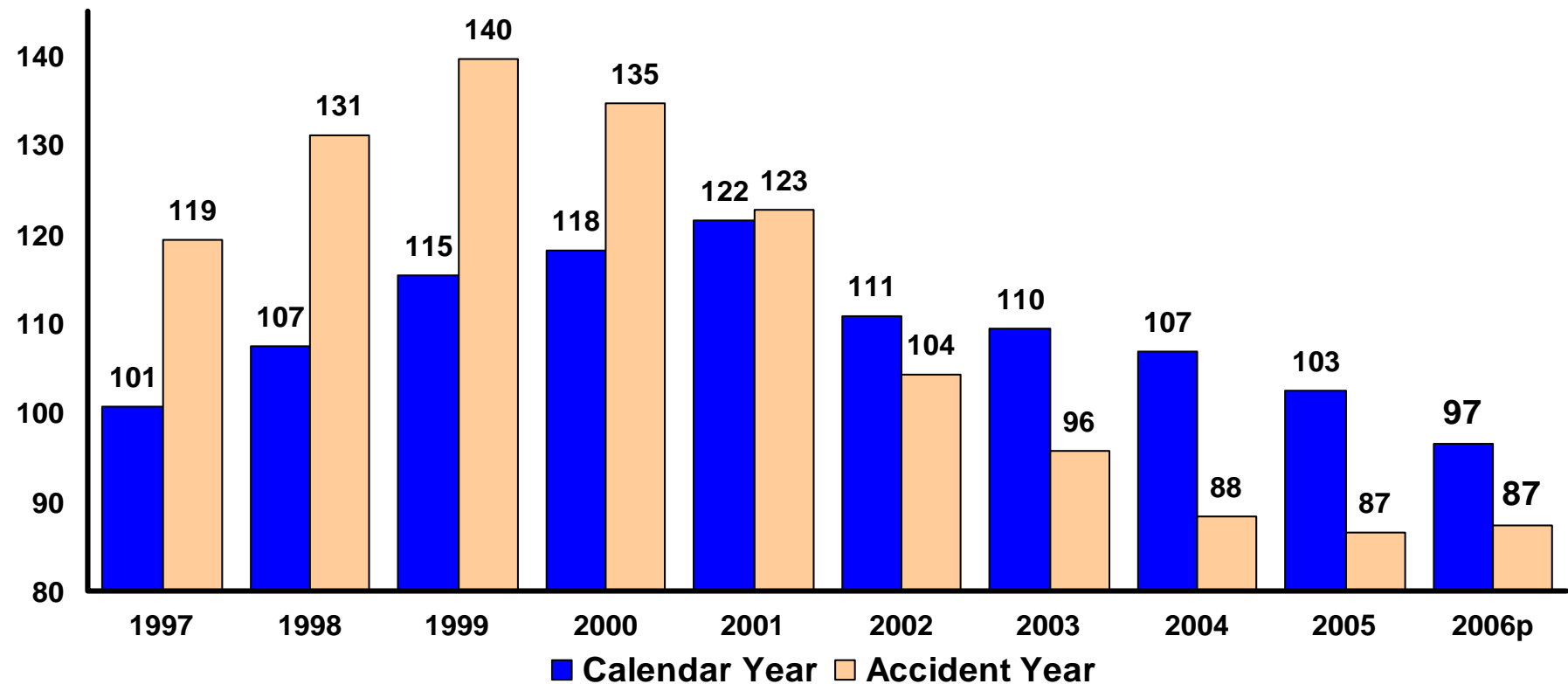
Accident Year	@2005 Loss&LAE Ratio Selections	@2006 Loss&LAE Ratio Selections	Change
1997	88.5%	88.0%	-0.5%
1998	98.5%	99.0%	0.5%
1999	106.0%	106.0%	0.0%
2000	104.0%	103.5%	-0.5%
2001	94.0%	93.0%	-1.0%
2002	79.0%	78.0%	-1.0%
2003	72.0%	72.0%	0.0%
2004	67.0%	65.0%	-2.0%
2005	67.0%	63.0%	-4.0%
2006	n/a	63.0%	n/a

@2005 and @2006 reserve selections include Maine and Minnesota state funds

# Accident Year Combined Ratio Another Underwriting Profit in 2006

Workers Compensation Calendar Year vs.  
Ultimate Accident Year – Private Carriers

Percent



p Preliminary

Accident Year data is evaluated as of 12/31/2006 and developed to ultimate

Source: Calendar Years 1997-2005, A.M. Best Aggregates & Averages;

Calendar Year 2006p and Accident Years 1997-2006p, NCCI analysis based on Annual Statement data

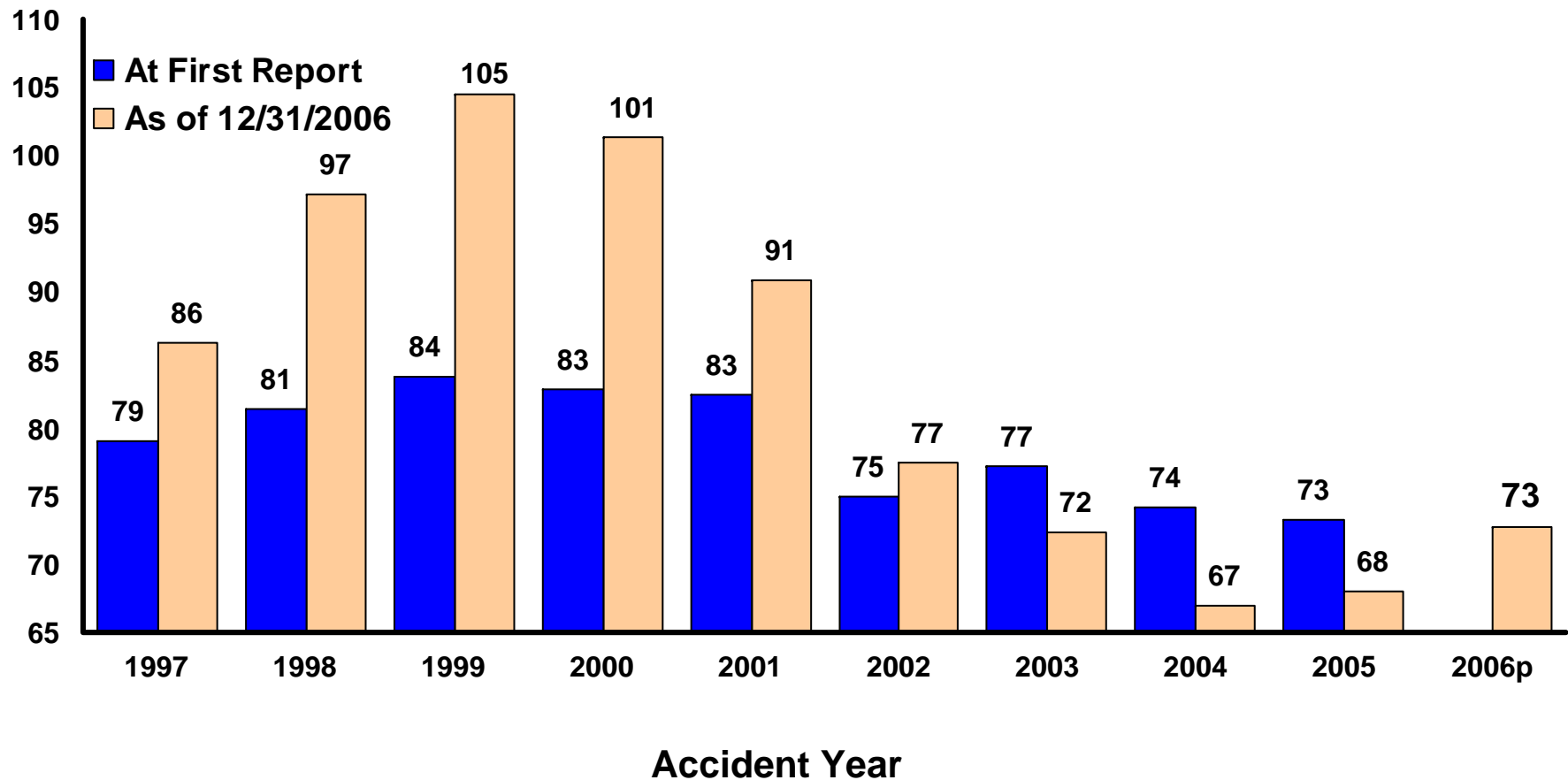
Includes dividends to policyholders

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# Workers Compensation Accident Year Loss & LAE Ratios

Percent

As Reported—Private Carriers



p Preliminary

Reported Loss and LAE ratios from Schedule P

Source: 1997-2006p, NAIC Annual Statement data as reported

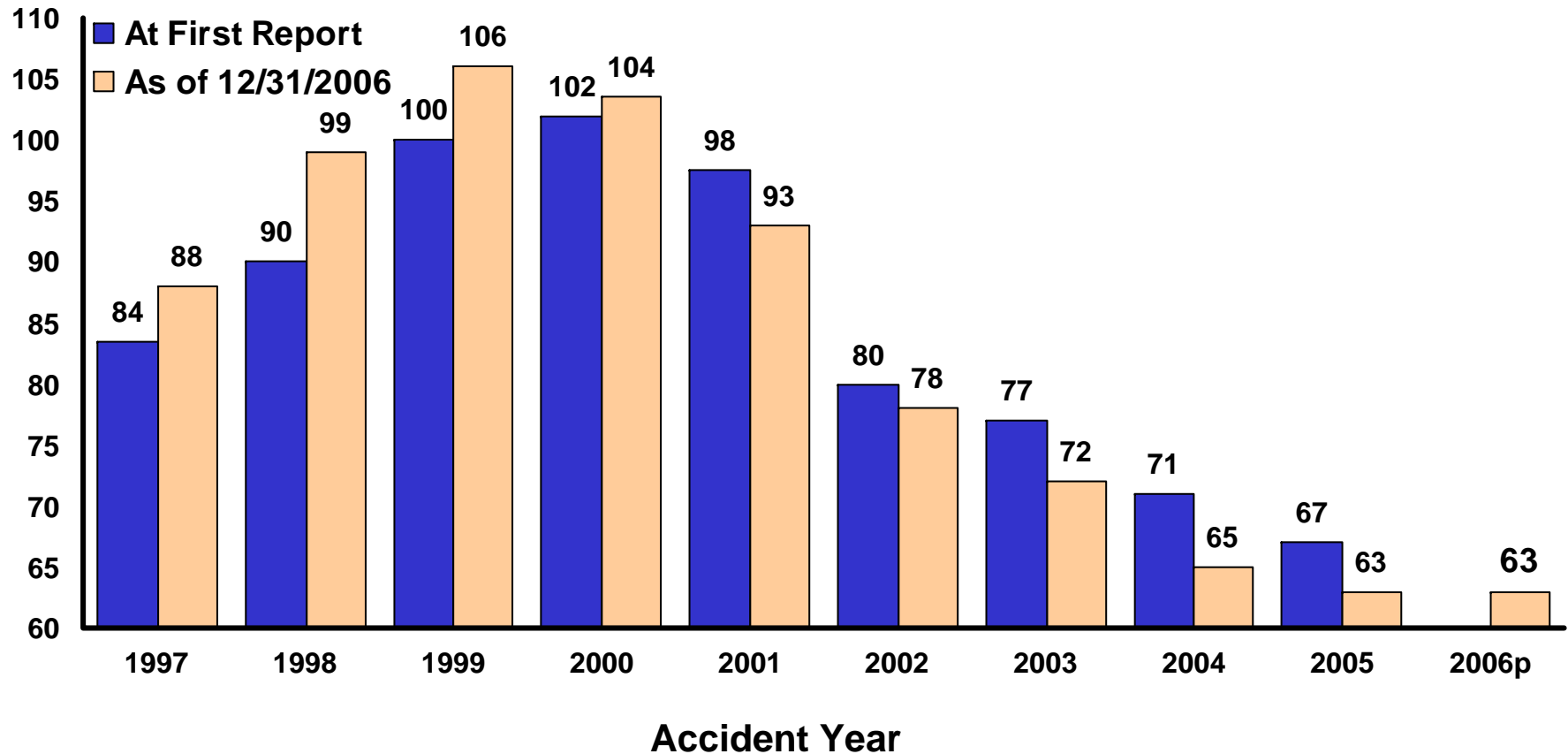
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# Workers Compensation Accident Year Loss & LAE Ratios

## NCCI Selections—Private Carriers

Percent



p Preliminary  
Selected Loss and LAE ratios  
Source: NCCI Reserve Analysis



# Reserve Strengthening by Accident Year

WC Loss & LAE Private Carriers\* @12/31/2006

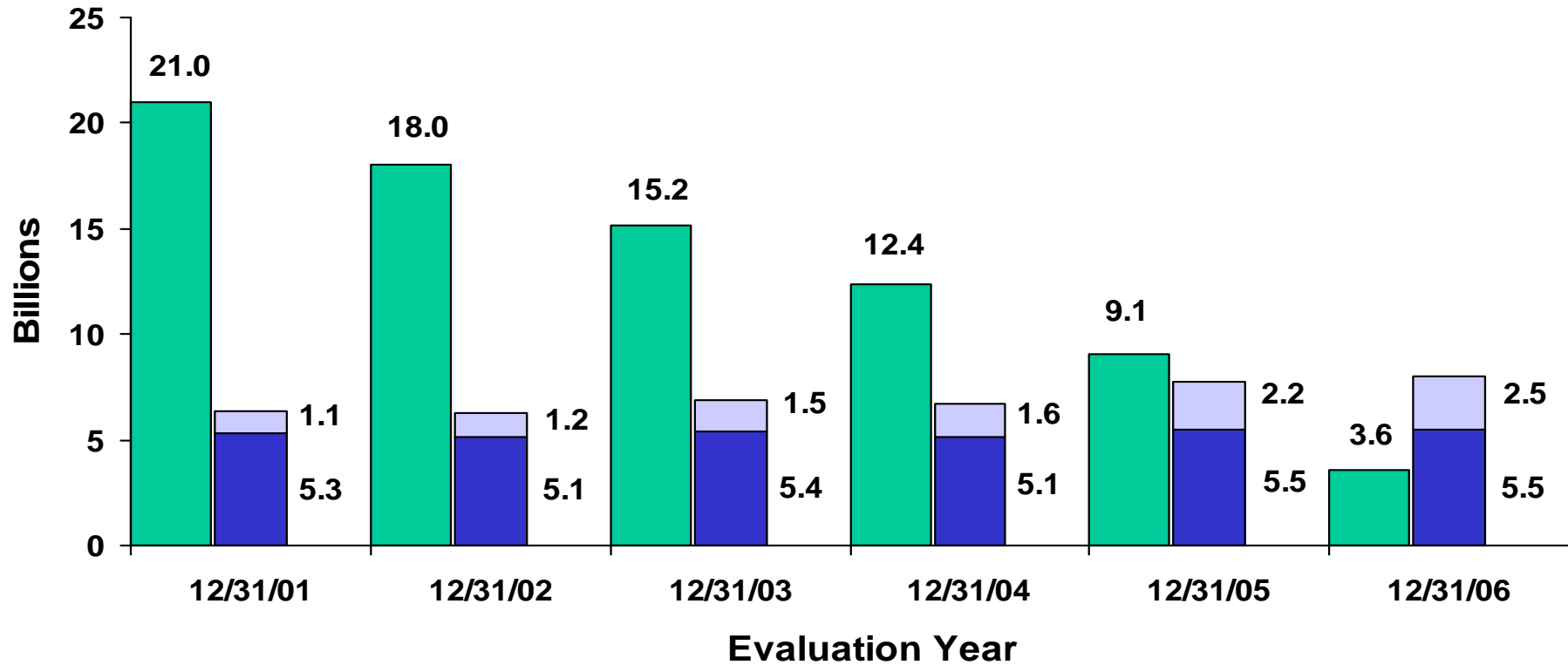
Accident Year	Total Reserve Strengthening (billions)
Prior	1.2
1997	0.1
1998	0.2
1999	0.2
2000	0.3
2001	0.4
2002	0.2
2003	0.1
2004	-0.8
2005	-1.9
2006	N/A
<b>Total</b>	<b>0.0</b>

\*Include Maine and Minnesota state funds

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# Comparison of the Deficiency at Different Evaluation Dates

## WC Loss & LAE Reserves – Private Carriers\*



■ Tabular Reserve Discount ■ Non-Tabular Reserve Discount ■ Deficiency

\*@12/04 through @12/06 include Maine and Minnesota state funds

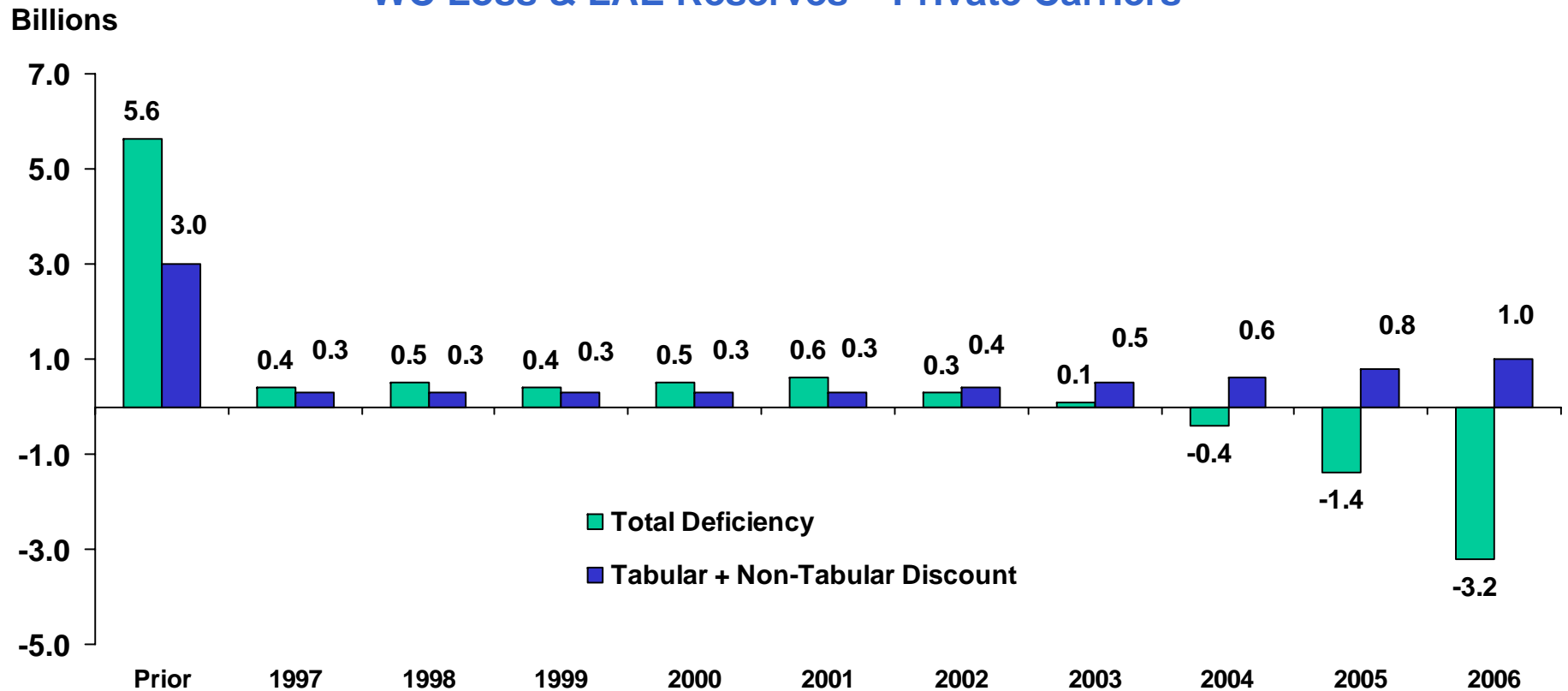
Considers all reserve discounts as deficient

Figures are based on the respective Annual Statement data for each evaluation date and NCCI latest selections

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# Reserve Deficiency and Reserve Discount by Accident Year as of 12/31/2006

## WC Loss & LAE Reserves – Private Carriers\*



Deficiency considers all reserve discounts as deficient  
 \*Include Maine and Minnesota state funds

# Prior Period Reserve Adequacy Overview

- In previous analyses, “prior period” reserve deficiency was equal to the tabular discount
- Similar to last year, prior period adequacy was estimated using open claim counts multiplied by average outstanding (o/s) reserve
- Source of claim count distribution is NCCI Financial Call data @2006, by accident year for NCCI states

# Prior Period Reserve Adequacy Method

- Determine distribution of open claims for 10<sup>th</sup>-20<sup>th</sup> reports from @06 Financial Call data (preliminary)
- Allocate Schedule P prior period open claims to AY, corresponding to 10<sup>th</sup>-20<sup>th</sup> reports
- Estimate average o/s reserve using Schedule P data case and bulk reserves for 7<sup>th</sup>-10<sup>th</sup> reports

# Prior Period Reserve Adequacy Method

- Estimate average outstanding reserve for each year for 11<sup>th</sup>-20<sup>th</sup> reports by trending average o/s for 7<sup>th</sup>-10<sup>th</sup> report
- Trend options used: 2%, 3%, and 4% annual trend, based on trend in average o/s between 7<sup>th</sup>-10<sup>th</sup> reports (also used 0% trend as lower bound)
- Methods used for average o/s for claims > 20<sup>th</sup> report:
  - Assume open claims > 20<sup>th</sup> report have same average o/s as trended 15<sup>th</sup> report
  - Assume open claims > 20<sup>th</sup> report have same average o/s as trended 20<sup>th</sup> report

# Prior Period Reserve Adequacy Method

- Multiply average outstanding reserve by outstanding claim counts for each AY to get total outstanding reserve
- Sum each AY total outstanding reserve for prior period to get “additional prior period reserve excluding tabular discounts”
- Subtract carried prior period reserve excluding tabular discounts
- Selected \$2.6B additional inadequacy, same as last year although the trend selection increased from 2% to 3%

# Prior Period Reserve Adequacy Results of Alternative Methods

Method <sup>1</sup>	Trend	Additional AY 1996 & Prior Period Reserve Deficiency <sup>2</sup>
Avg 11-20	0%	0.0B
Age 15	2%	0.9B
Age 15	3%	2.6B
Avg 11-20	4%	2.9B
Age 20	4%	6.7B

<sup>1</sup>Method for estimating the average o/s for all claims older than 20 years

<sup>2</sup>Excludes Tabular Discounts



# Prior Period Reserve Adequacy Method

- NCCI Estimated Additional Prior Period Deficiency (2.6B)

plus

- Prior Period Reserve Discounts (3.0B)

equals

- AY 1996 & Prior Period Deficiency (5.6B)

# Reinsurance Usage

- Reinsurance usage surveys performed for @2003 analysis
- Reinsurance usage varies by AY; peaked in 2001
- Observed low link ratios for AY 2000 and 2001 latest diagonals (4<sup>th</sup>/5<sup>th</sup> and 5<sup>th</sup>/6<sup>th</sup> link ratios in this year's analysis)

# Reinsurance Usage

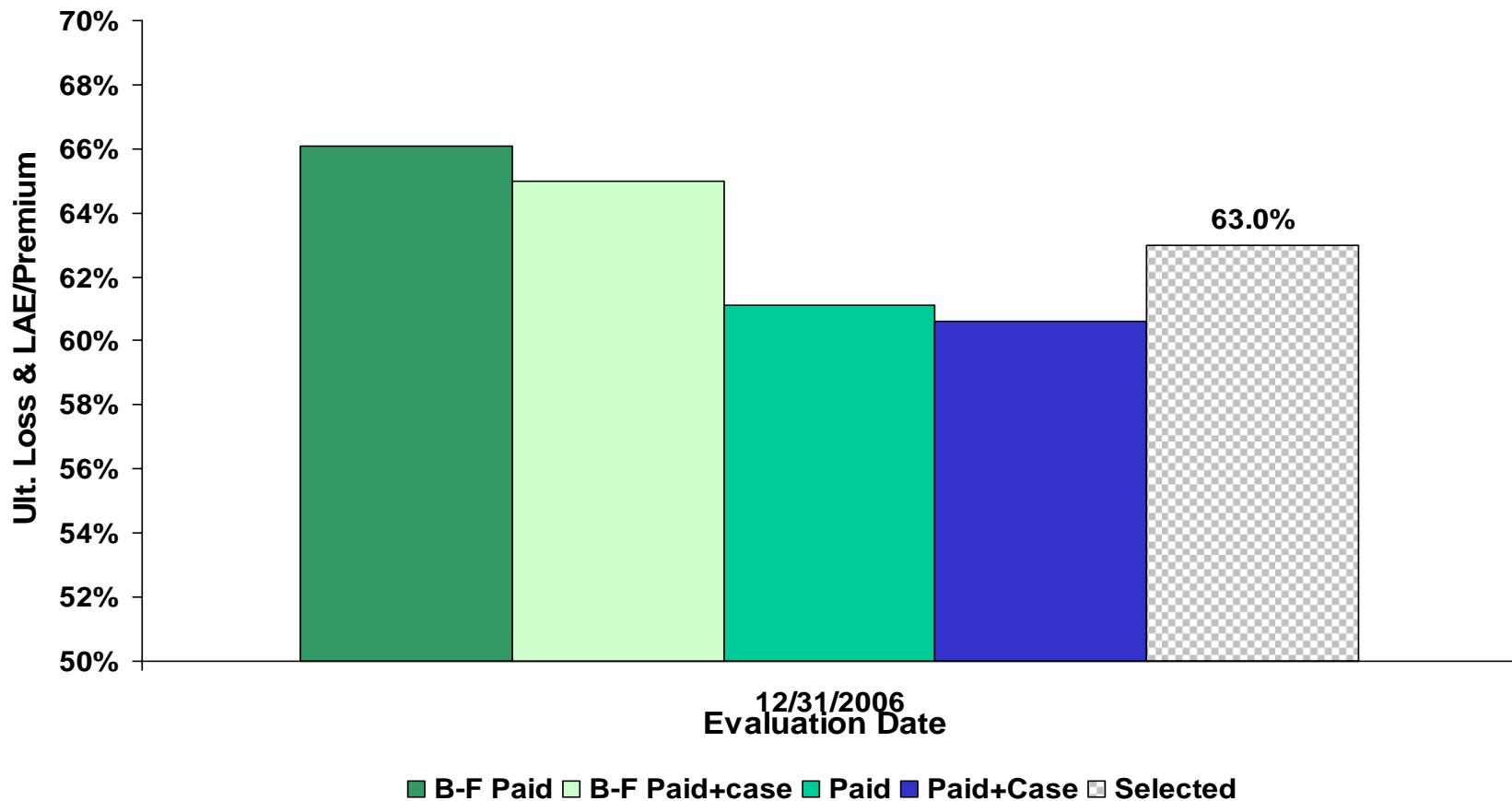
- Follow up surveys confirmed that low link ratios are due to reinsurance usage and are not likely to continue for recent AYs
- NCCI selected @2004 (2 yr) average link ratio for paid and paid+case for 4<sup>th</sup>/5<sup>th</sup> and 5<sup>th</sup>/6<sup>th</sup> to avoid understating future development on recent AYs
- Reserve Analysis impact: increases paid indications 2.3% on recent AYs (compared to 2 year average for 4<sup>th</sup>/5<sup>th</sup> and 5<sup>th</sup>/6<sup>th</sup> link ratios)
- Reserve Analysis impact: increases paid+case indications 3.6% on recent AYs

# NCCI Uses a Variety of Methods to Estimate Ultimate Losses

- Paid losses and LAE
- Paid losses, case reserves, and LAE
- Incurred losses (including company IBNR estimates)
- Bornhuetter-Ferguson

# Comparison of Methods Accident Year 2006

## WC Loss & LAE Reserves – Private Carriers\*

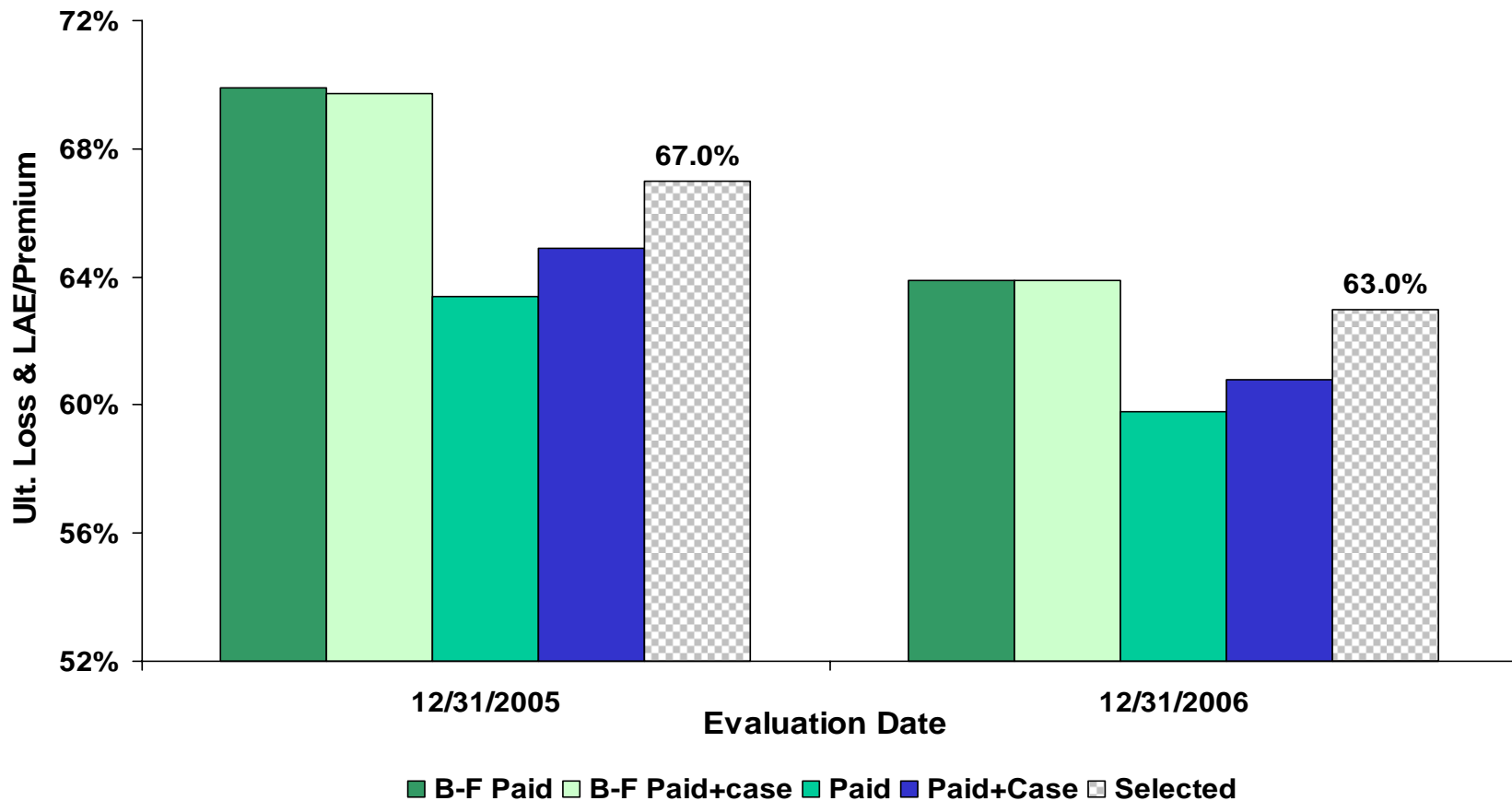


All methods include LAE

\*Includes Maine and Minnesota state funds

# Comparison of Methods Accident Year 2005

## WC Loss & LAE Reserves – Private Carriers\*

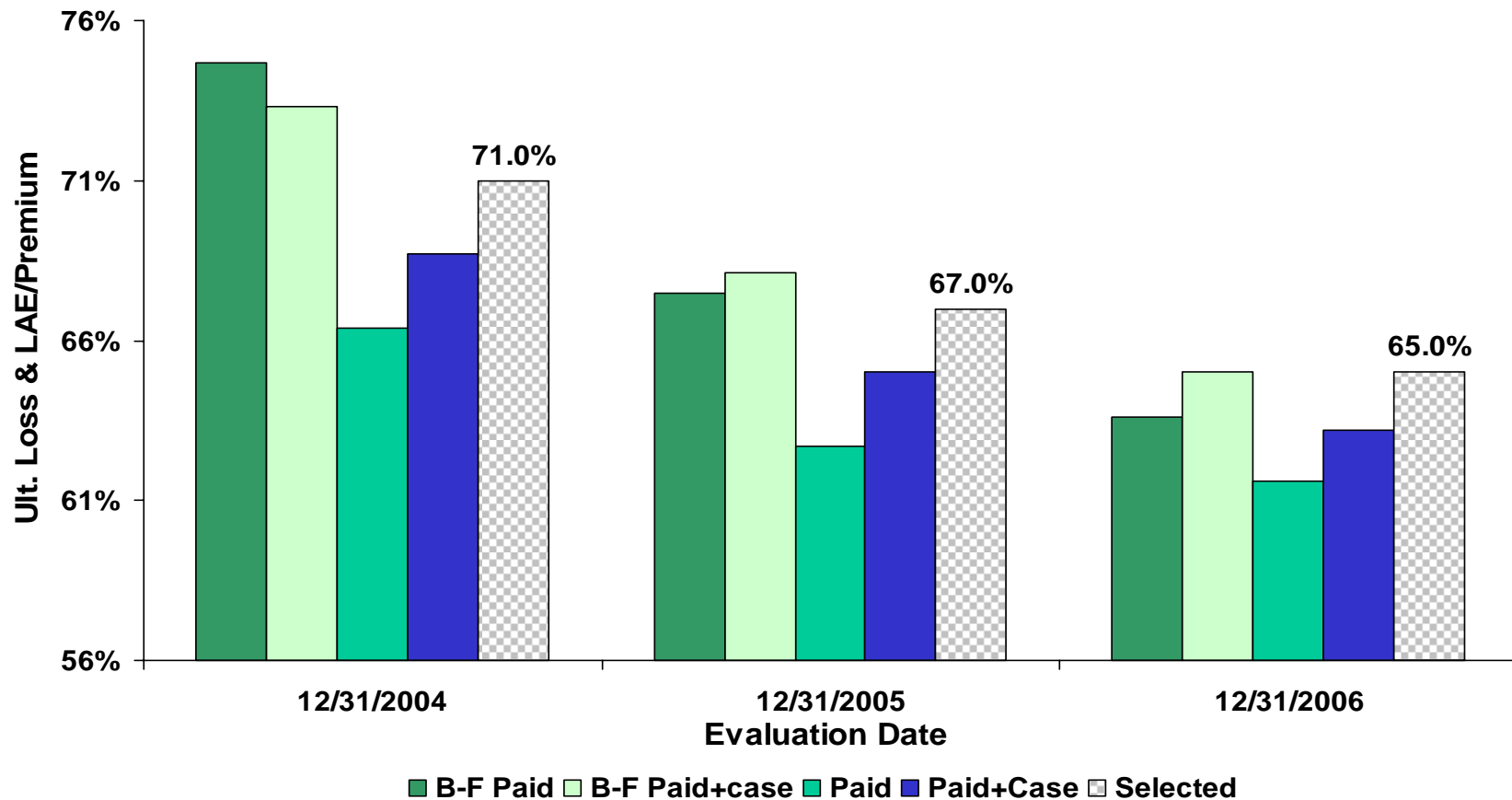


All methods include LAE

\*Includes Maine and Minnesota state funds

# Comparison of Methods Accident Year 2004

WC Loss & LAE Reserves – Private Carriers\*

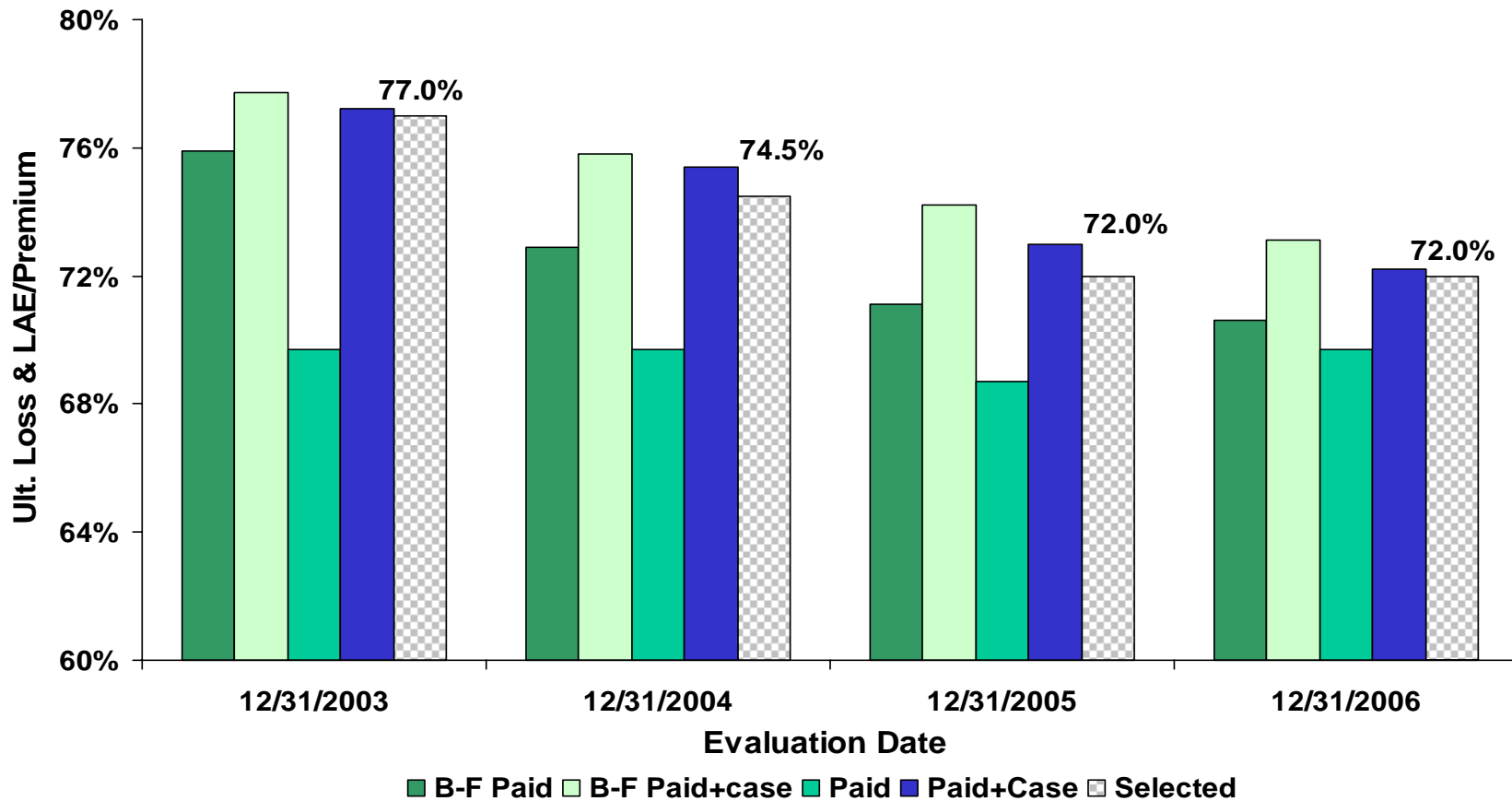


All methods include LAE

\*Includes Maine and Minnesota state funds

# Comparison of Methods Accident Year 2003

## WC Loss & LAE Reserves – Private Carriers\*



All methods include LAE

\*@12/31/2003 excludes Maine and Minnesota state funds, @2004 through @2006 include Maine and Minnesota state funds

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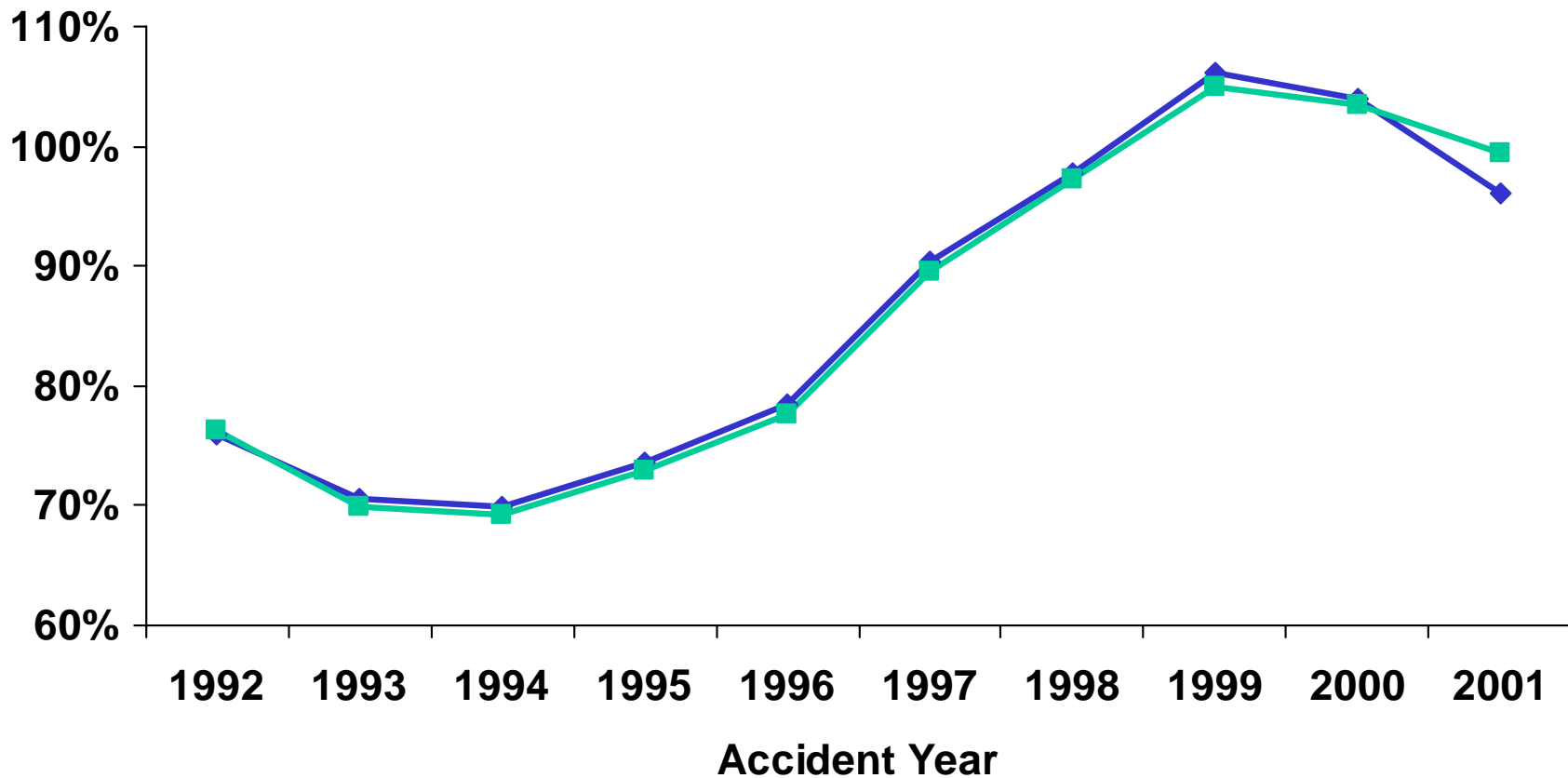
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# Paid vs. Paid+Case Loss and LAE Ratios Valued as of 12/01 (1992-2001)

WC- Private Carriers

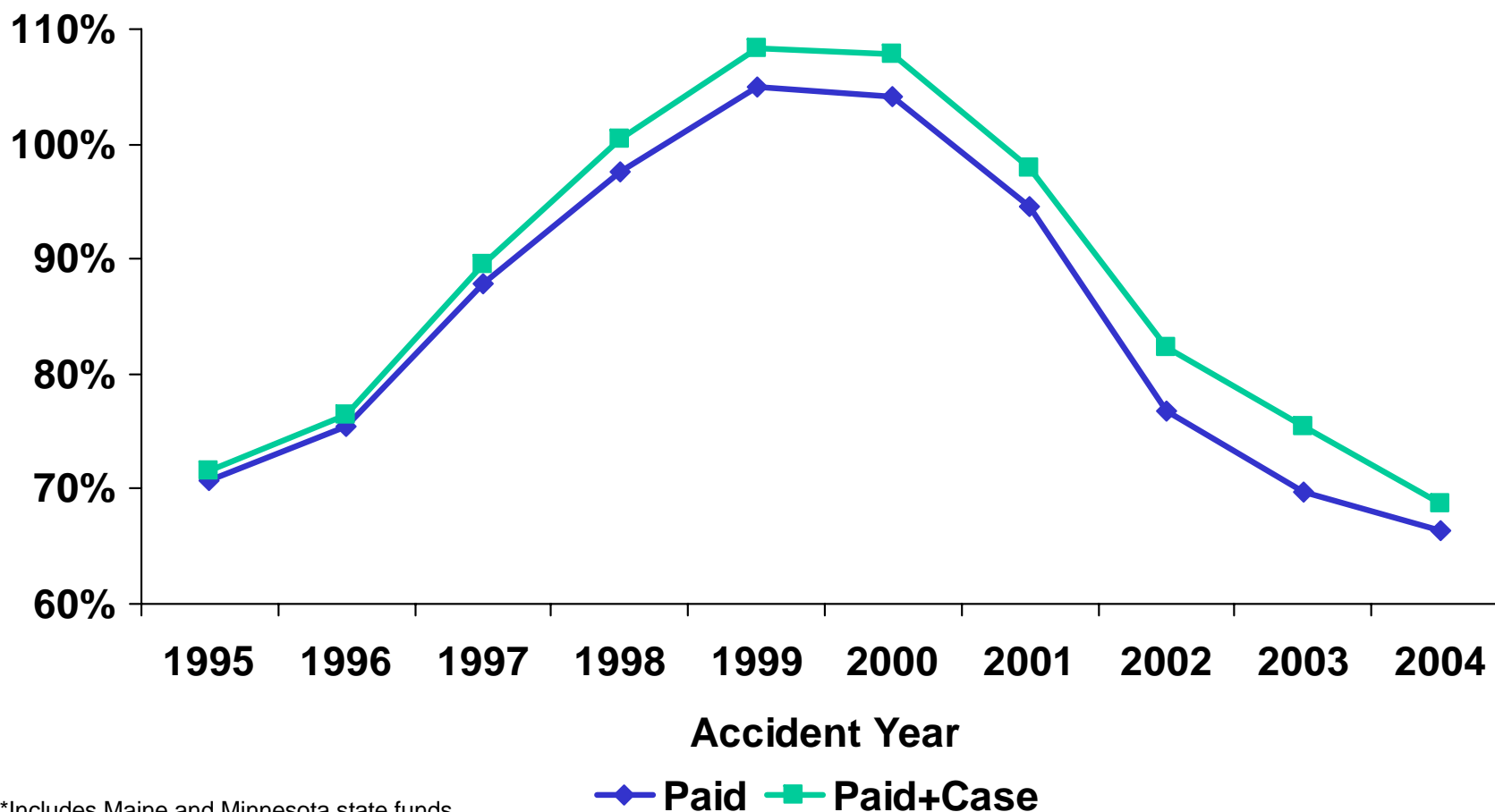


Based on NCCI Private Carrier reserve analysis

◆ Paid ■ Paid+Case

# Paid vs. Paid+Case Loss and LAE Ratios Valued as of 12/04 (1995-2004)

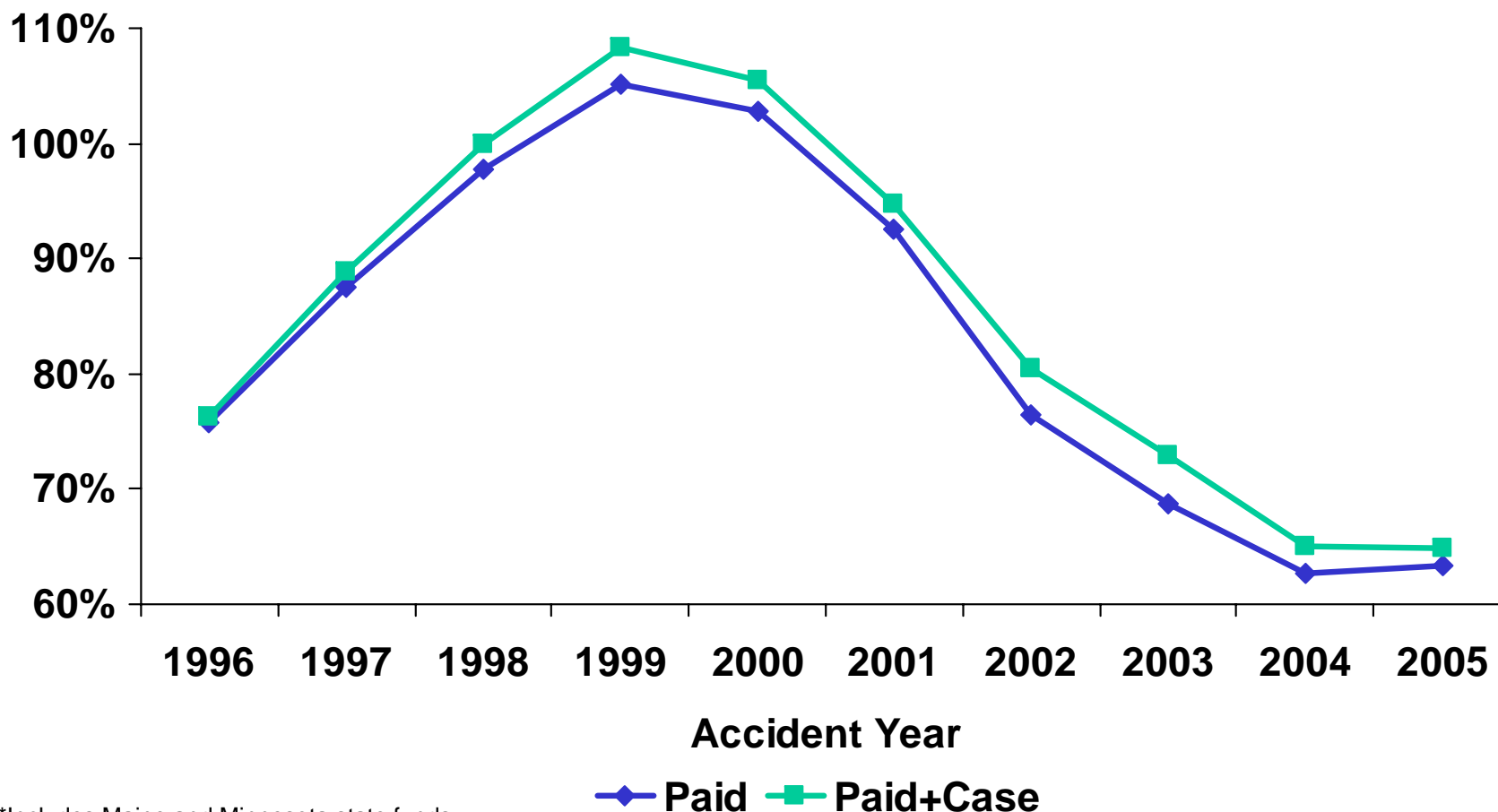
WC- Private Carriers\*



\*Includes Maine and Minnesota state funds

# Paid vs. Paid+Case Loss and LAE Ratios Valued as of 12/05 (1996-2005)

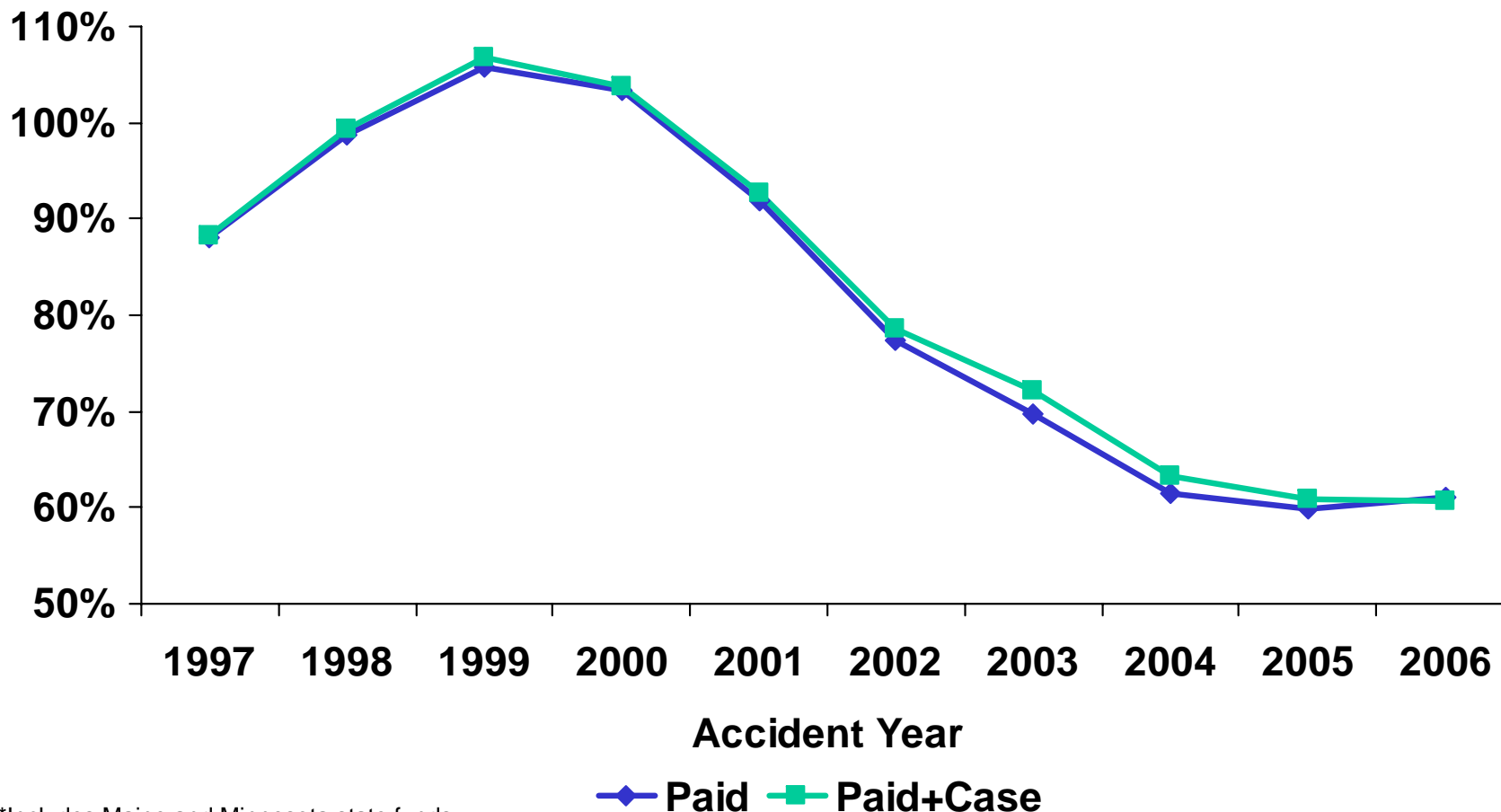
WC- Private Carriers\*



\*Includes Maine and Minnesota state funds

# Paid vs. Paid+Case Loss and LAE Ratios Valued as of 12/06 (1997-2006)

WC- Private Carriers\*



\*Includes Maine and Minnesota state funds



# Questions and Answers?