Effects of Loss Reserve Margins on Calendar Year Results - Balcarek Expanded

Commitment Beyond Numbers

PINNACLE
ACTUARIAL RESOURCES, INC.

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Introduction

- The Original
- Questions/issues considered
- Groups/companies reviewed
- Data compiled
- Metrics analyzed
- Findings
- Conclusion

The Original Article

WORKMEN'S COMPENSATION

TABLE I C

RESERVE ADEQUACY CHANGES EXPRESSED AS % OF EARNED PREMIUM

LOSS RATIO EFFECT OF ADEQUACY MARGIN IN CURRENT YEAR RESERVE

COMPANY	1953	1954	1955	1956	1957	1958	1959	1960
A	+3.3	+5.2	+1.5	+0.7	+0.8	-1.3	-7.2	-2.4
B	+16.7	+15.2	+7.4	+0.4	+6.3	+6.4	+1.9	-0.7
C	+4.5	+1.7	-0.8	-4.2	-1.6	-2.9	+0.6	-7.0
D	+11.3	+13.5	+10.8	+9.4	+6.5	+6.6	+5.0	+1.7
E	+9.3	+10.0	+9.0	+1.6	+8.7	+9.6	+8.9	+4.9
F	+2.2	+5.0	-2.9	-4.1	+7.8	+0.4	+0.9	-1.4
G	+8.3	+13.6	+11.4	+9.0	+3.4	+5.0	+4.9	+3.1
H	+6.6	+5.9	+9.6	+1.6	-0.1	+3.9	+3.7	+2.2
I	+6.9	+6.0	+10.5	+8.9	+8.3	+10.2	+9.1	+4.7
J	+5.7	+5.7	+3.1	+2.1	+4.5	+3.0	+0.7	-0.8
AVERAGE	+7.5	+8.1	+6.0	+2.5	+4.1	+4.1	+3.3	+0.4

LOSS RATIO EFFECT OF DEVELOPMENT OF PRIOR YEARS' RESERVE DURING

COMPANY	1953	1954	1955	1956	1957	1958	1959	1960
A	+1.4	-2.1	-5.8	-1.9	-1.4	-1.6	-0.7	+3.9
B	-6.2	-16.2	-12.8	-6.3	-0.7	-6.5	-8.3	-6.1
C	-2.8	-3.9	-2.9	+1.0	+1.6	+3.9	-1.0	-0.2
D	-1.9	-9.2	-12.6	-10.2	-10.2	-8.4	-7.6	-4.1
E	-6.9	-8.7	-6.0	-6.9	-2.9	-11.4	-10.4	-5.6
F	-2.8	-4.3	-2.9	+1.4	-0.6	-9.1	-1.3	-1.7
G	-5.5	-8.7	-13.3	-12.2	-9.3	-5.7	-8.0	-4.9
H	+4.2	-7.2	-5.0	-8.4	-4.4	-0.1	-2.3	-3.7
I	-7.1	-12.1	-9.6	-10.7	-7.8	-8.9	-10.9	-11.8
J	-5.6	-5.9	-5.1	-2.2	-3.2	-5.4	-3.1	+0.1
AVERAGE	-3.3	-7.8	-7.6	-5.6	-3.9	-4.6	-5.9	-3.8

COMBINED LOSS RATIO EFFECT OF CHANGES IN RES. MARGINS DURING

COMPANY	1953	1954	1955	1956	1957	1958	1959	1960
A	+4.7	+3.1	-4.3	-1.2	-0.6	-2.9	-3.9	+1.5
B	+10.5	-1.0	-5.4	-5.9	+5.6	-0.1	-6.4	-6.8
C	+1.7	-2.2	-3.7	-3.2	-0.0	+1.0	-0.4	-7.2
D	+9.4	+4.3	-1.8	-0.8	-3.7	-1.8	-2.6	-2.4
E	+3.4	+1.3	+3.0	-5.3	+5.8	-1.8	-1.5	-4.7
F	-0.6	+0.7	-5.8	-2.7	+3.2	-1.7	-0.4	-3.1
G	+2.8	+4.9	-1.9	-3.2	-5.9	-0.7	-3.1	-1.8
H	+10.8	-2.0	+4.6	-6.8	-4.5	+3.8	+1.4	-1.5
I	-0.2	-6.1	+0.9	-1.8	+0.5	+1.3	-1.8	-7.1
J	+0.1	-0.2	-2.0	-0.1	+1.3	-2.4	-2.4	-0.7
AVERAGE	+4.2	+0.3	-1.6	-3.1	+0.2	-0.5	+2.1	-3.4

Questions/Issues Considered

- What is the impact of initial reserve development on calendar year results on the company and/ or industry level?
- Do lines of insurance move in sympathy at the company and/or industry level?
- Can you compare company CY or AY results?
- At what level do companies/lines exhibit a risk of material adverse deviation (RMAD)?
- At what maturity do accident year loss reserves no longer have an RMAD?

Data Compiled

- Schedule P – Six lines of business
  - Part A – Homeowners/Farmowners (HMP/FMP)
  - Part B – Private Passenger Auto Liability/Medical (PPAL)
  - Part C – Commercial Auto/Truck Liability/Medical (CAL)
  - Part D – Workers' Compensation (WC)
  - Part E – Commercial Multiple Peril (CMP)
  - Part F – Medical Malpractice – Section 1 (Occurrence) and Section 2 (Claims-made) (MM)
- Schedule P – Part 2 – Accident year ultimate loss data
- Accident years 1991 through 2010
- IEE – Part 3 – Calendar year data

Groups / Companies Reviewed (Industry Composite)

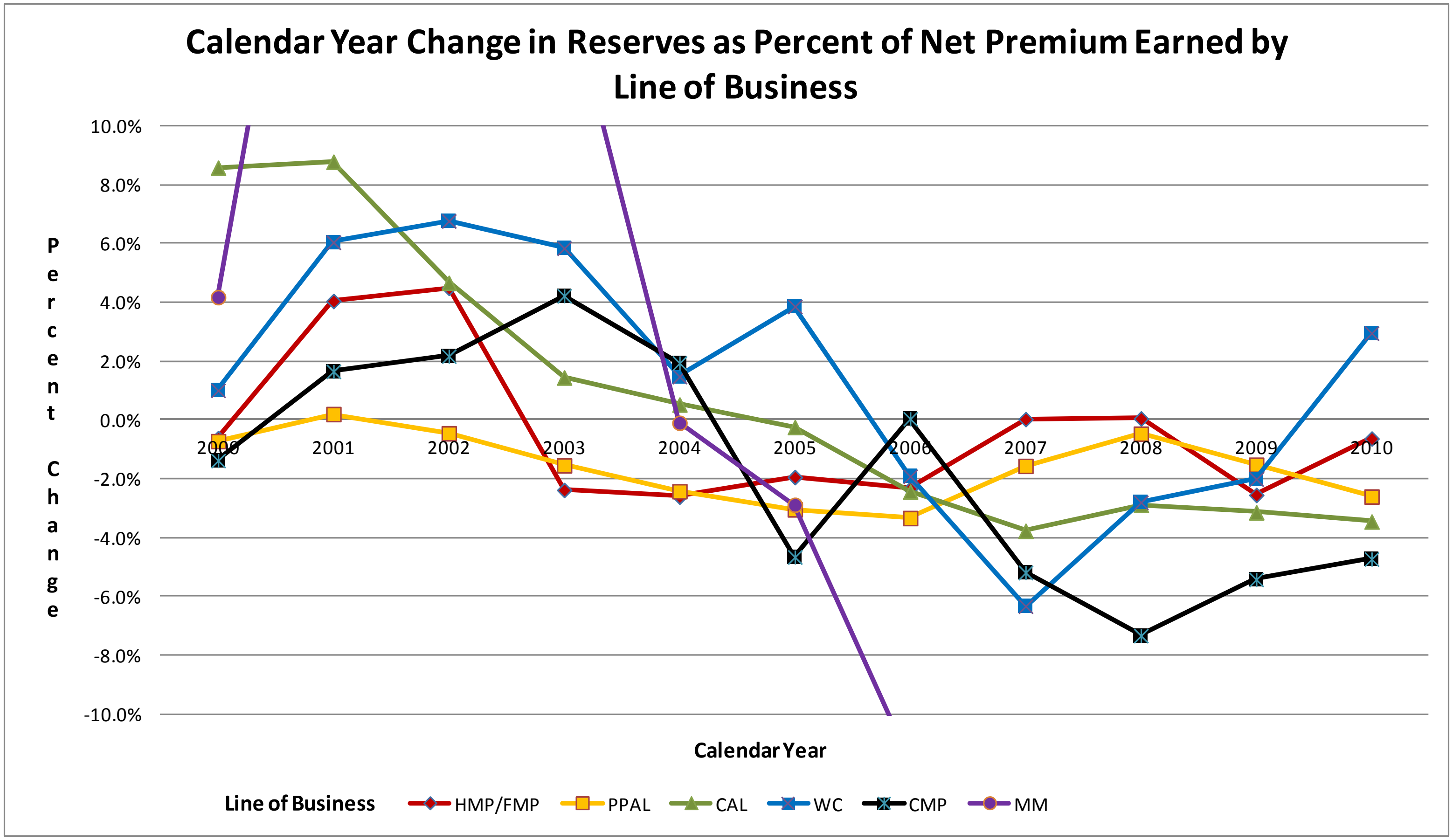
- Market share of the combined groups/companies greater than 60%
  - Accident Fund
  - ACE
  - Allstate
  - AIG
  - Amerisure
  - APCapital
  - Auto-Owners
  - Berkshire Hathaway
  - Canal
  - Chubb
  - Cincinnati
  - CNA
  - The Doctors Company
  - Erie
  - Farmers
  - FPIC
  - Great American
  - Hartford
  - ISMIE
  - Liberty Mutual
  - MAG Mutual
  - Medical Mutual (MD)
  - Medical Mutual (NC)
  - Medical I.C. (AZ)
  - Nationwide
  - New Jersey Manufacturers (NJM)
  - Norcal
  - Old Republic
  - ProAssurance
  - Progressive
  - ProMutual
  - QBE
  - Safeco
  - SAIF
  - SCIF
  - State Farm
  - State Volunteer Mutual
  - Travelers
  - USAA
  - WR Berkley
  - Zenith
  - Zurich

Metrics Analyzed

- Calendar Year Change in Reserves as a Percentage of Net Premiums Earned
  - Industry composite by line of business
  - Line of business by company/group (multiple)
  - Single company/group by line of business
- Initial Net Held Ultimate Loss & LAE Ratios
  - Accident Year & Calendar Year Basis
  - Industry composite by line of business
  - Line of business by company/group
- Calendar Year Change in Accident Year Ultimate Losses Over Time
  - Industry composite by line of business
- Calendar Year Change in Accident Year Ultimate Losses between 12 and 24 Months, 12 and 36 Months, 12 and 120 Months
  - Line of business by company/group

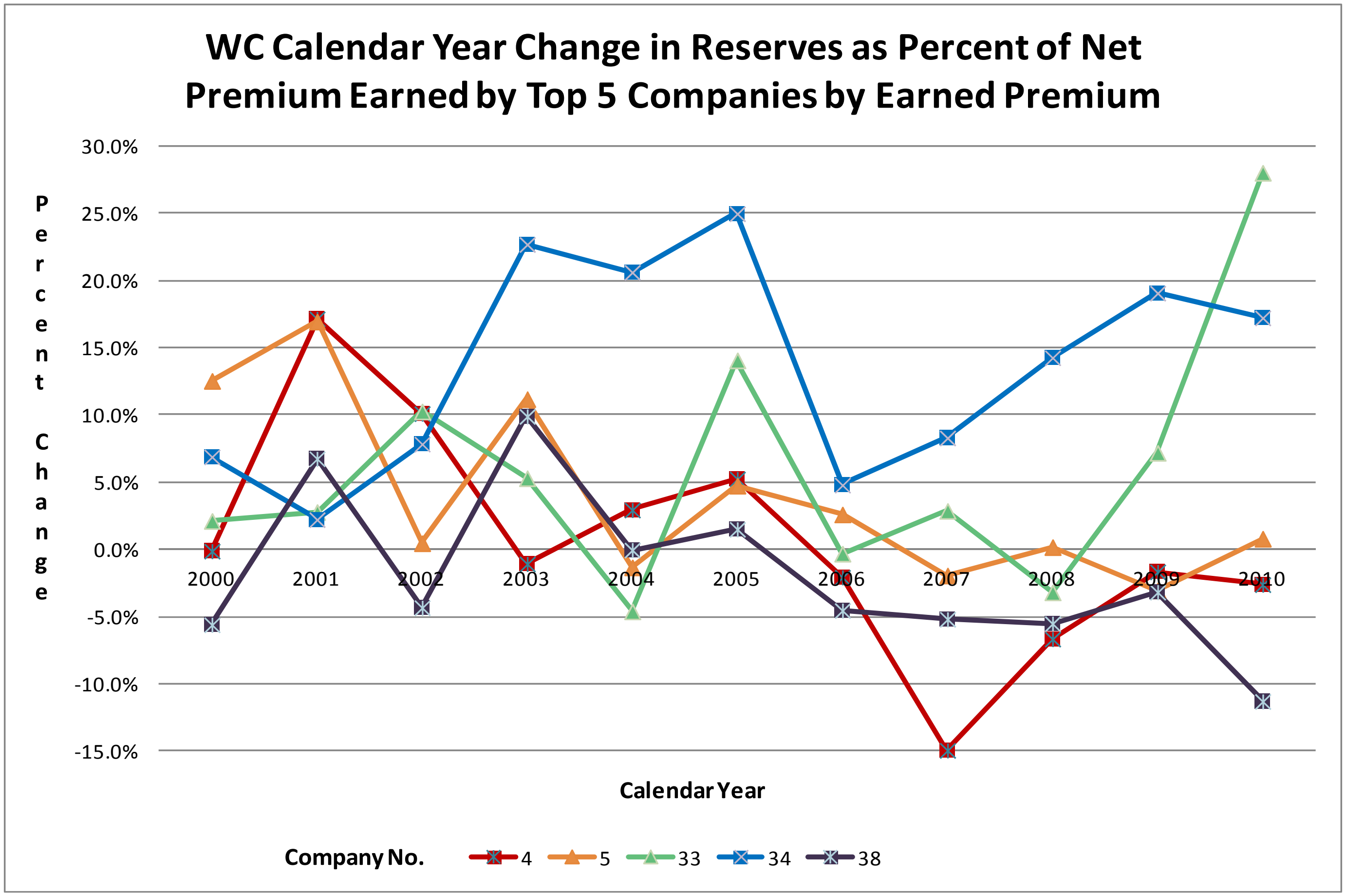
Calendar Year Change in Reserves as Percent of Net Premium Earned by Line of Business

- All of the lines have calendar year reserve adjustments that are positively correlated



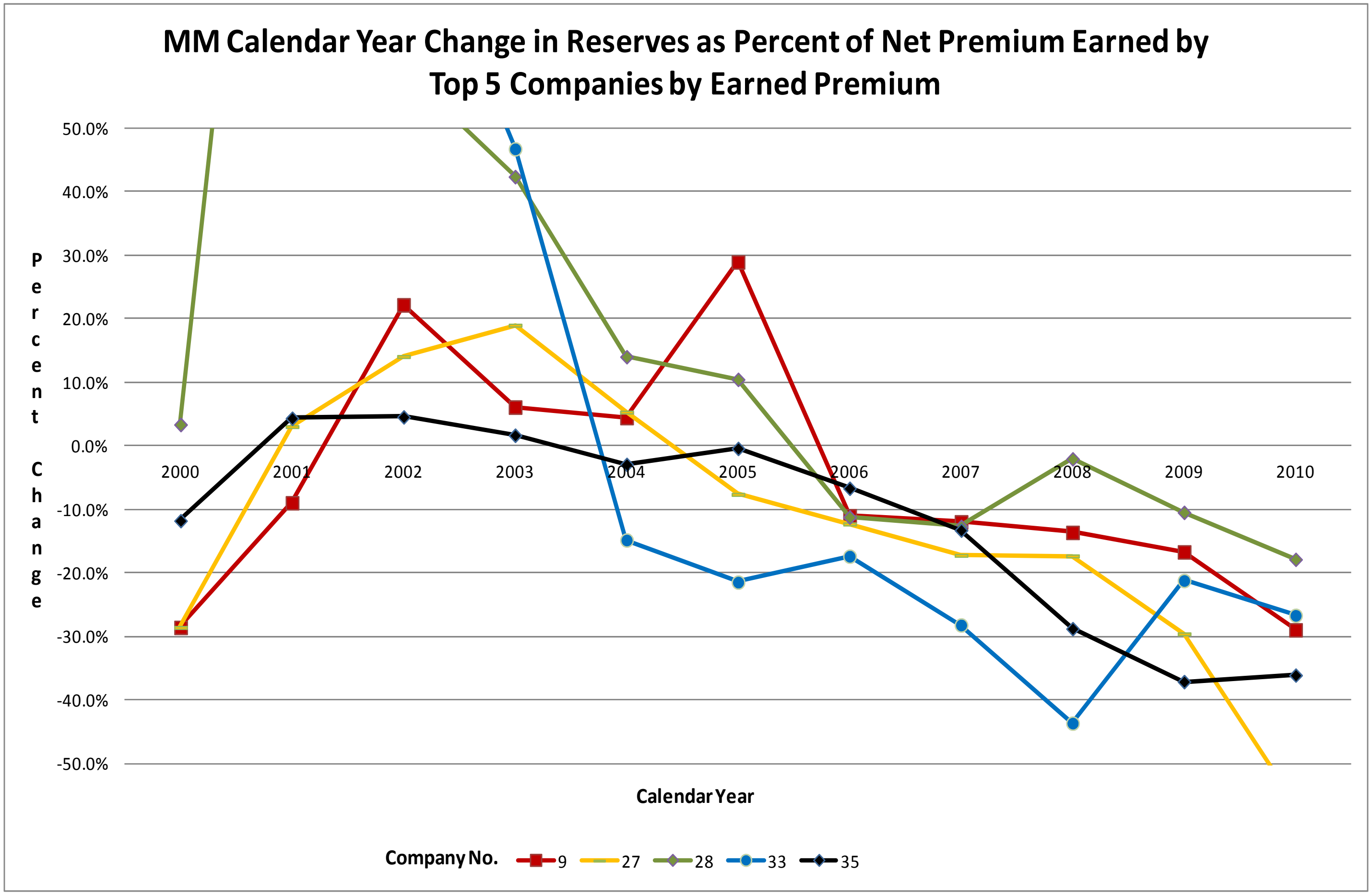
WC Calendar Year Change in Reserves as Percent of Net Premium Earned by Top 5 Companies by Earned Premium

- Positive correlation does seem to exhibit itself with a number of companies showing the same cyclical changes in reserves that was seen at the industry composite level



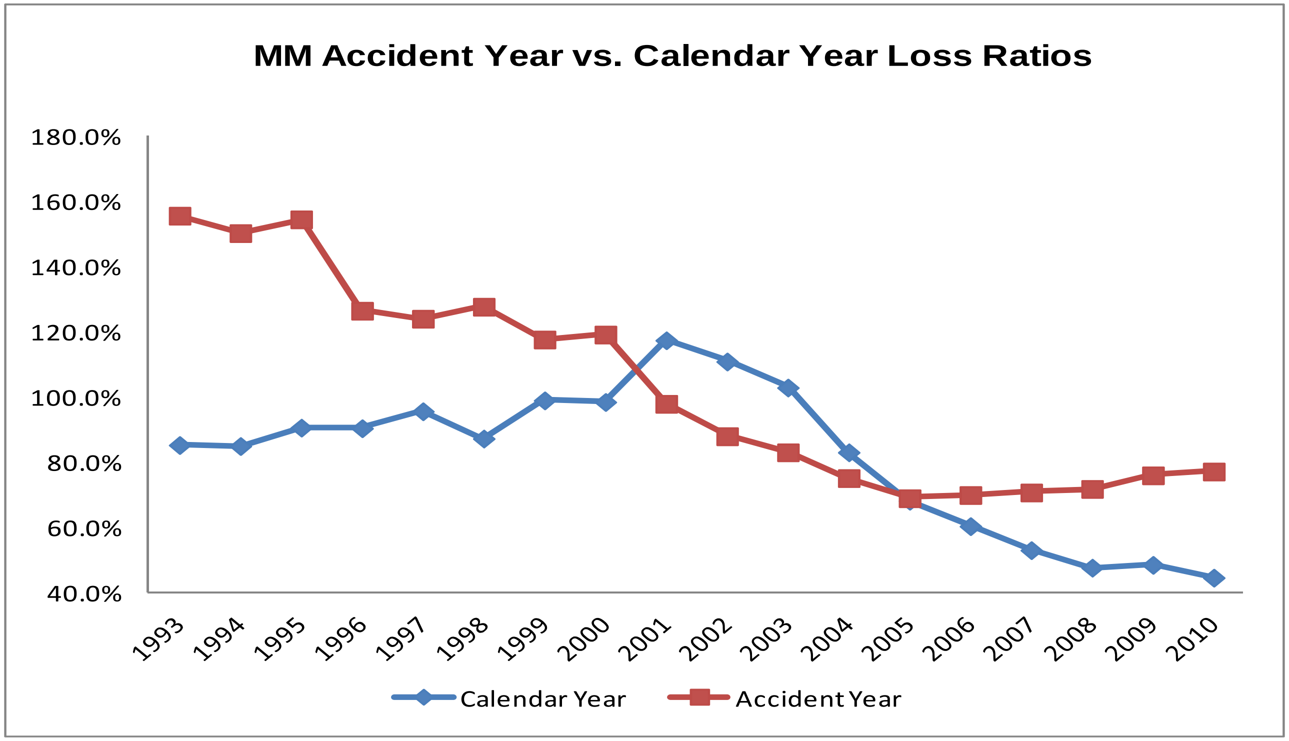
MM Calendar Year Change in Reserves as Percent of Net Premium Earned by Top 5 Companies by Earned Premium

- MM shows the most significant correlation in company reserve development on calendar year results



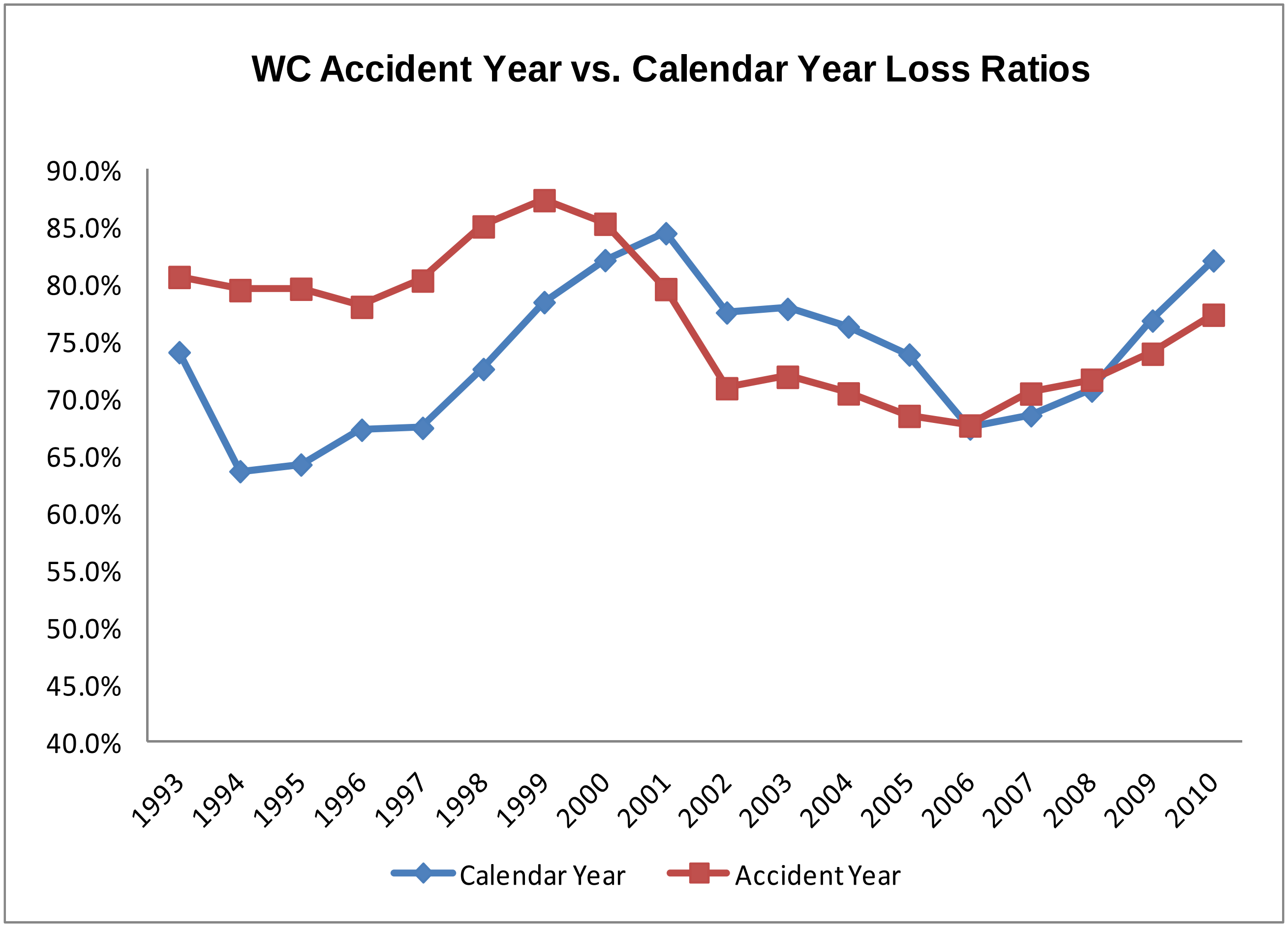
Medical Professional Liability Accident Year and Calendar Year Loss Ratios

- If companies were adjusting calendar year reserve levels to stabilize results, we would expect less variability (and therefore smaller standard deviations) in calendar year loss ratios than accident year loss ratios
- For MM, calendar year adjustments appear to limit the highest of the highs and the lowest of the lows



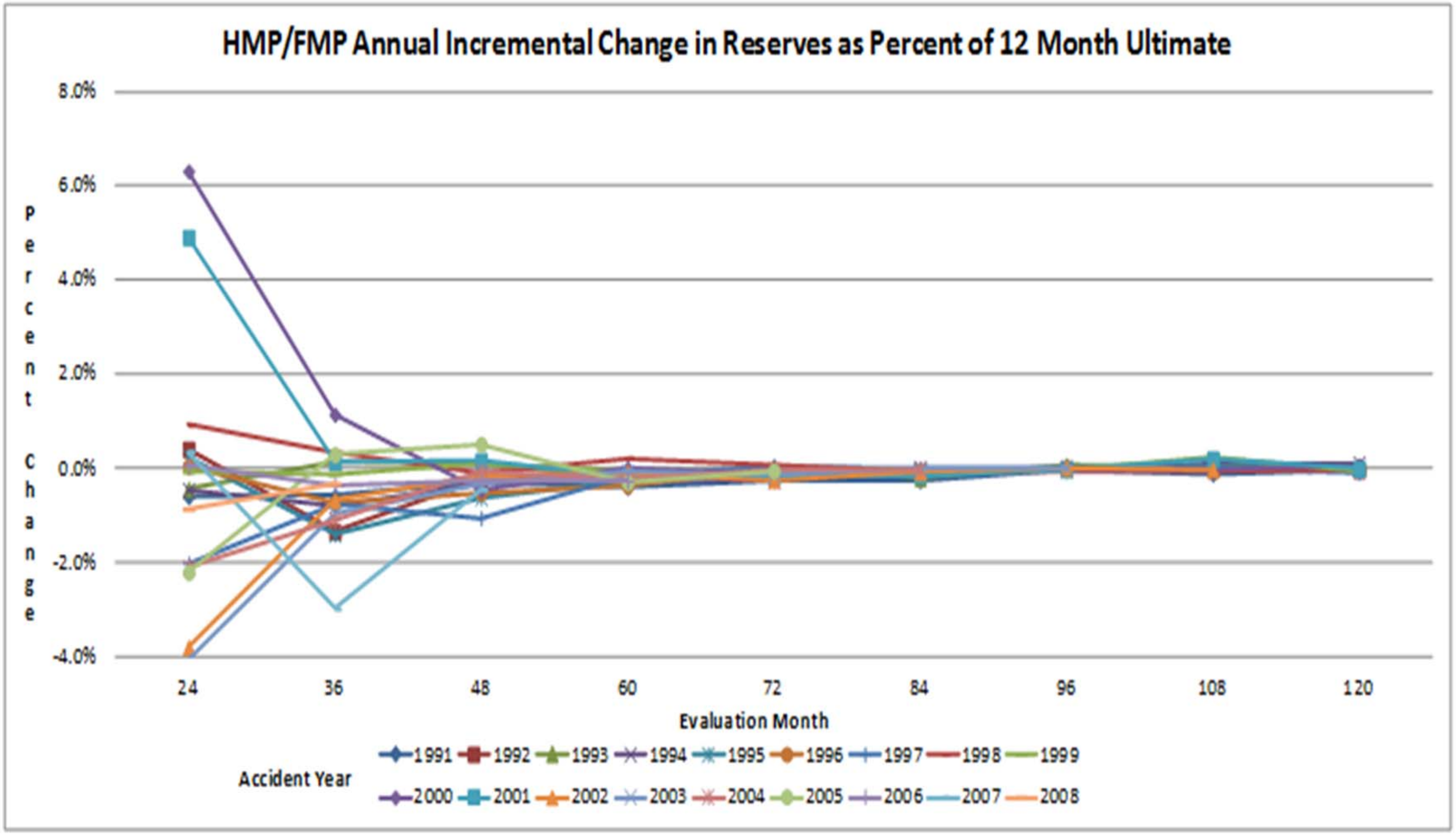
Workers Compensation Accident Year and Calendar Year Loss Ratios

- Lags in the loss ratio cycles between the accident year and calendar year suggesting a delay in recognition of U/W results



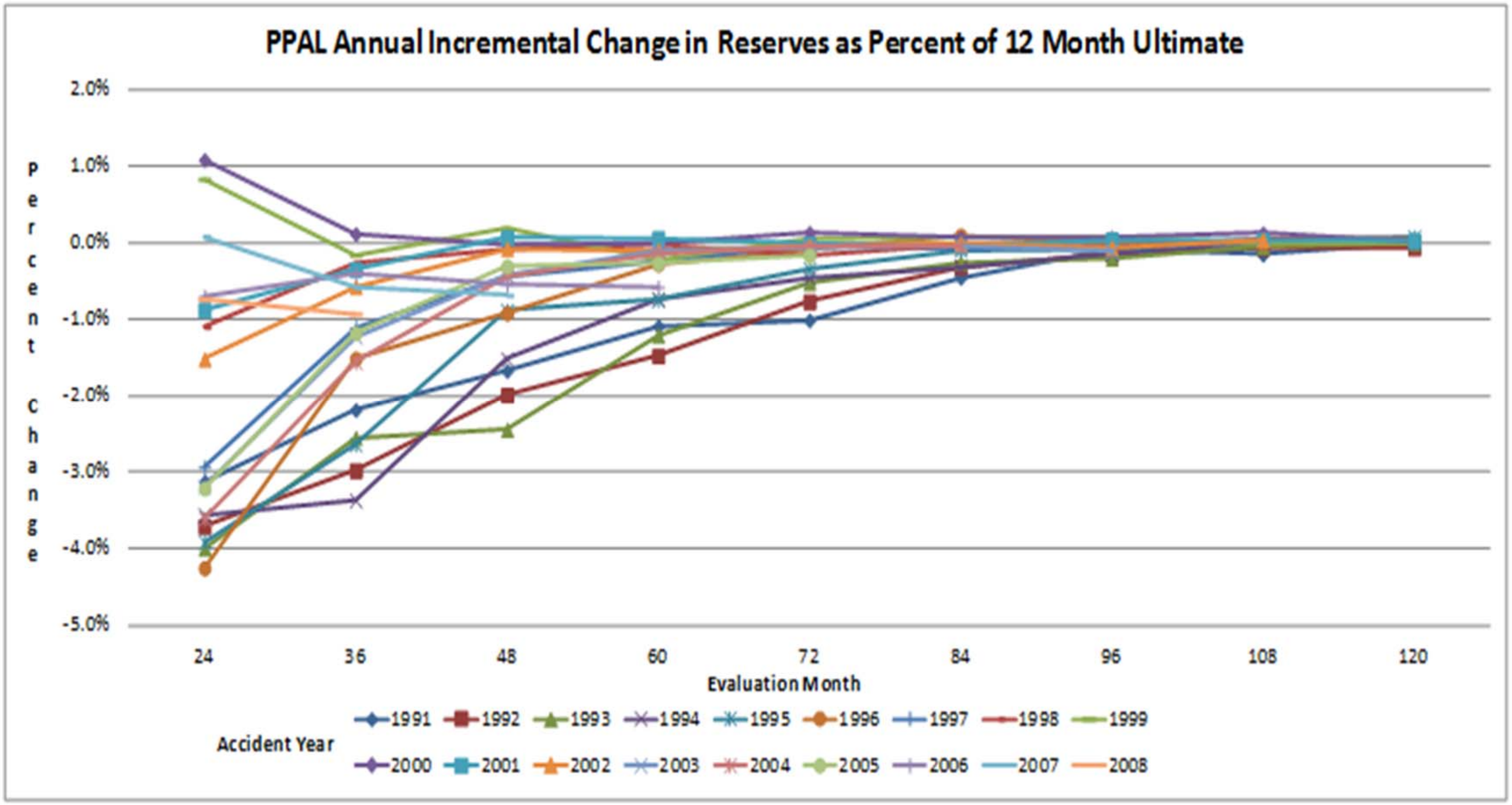
Homeowners Accident Year Development by Maturity

- Only AY2000 shows adverse development of more than 1% of initial ultimate losses after 24 months of maturity
- Graph shows how fast loss reserves stabilize for HMP/FMP



Private Passenger Auto Liability Accident Year Development by Maturity

- Only AY1999 and AY2000 show around 1% adverse development on initial ultimate loss estimates after only 12 months
- Graph implies a tendency for PPAL reserves to be inherently redundant on an industry-wide basis across early maturities



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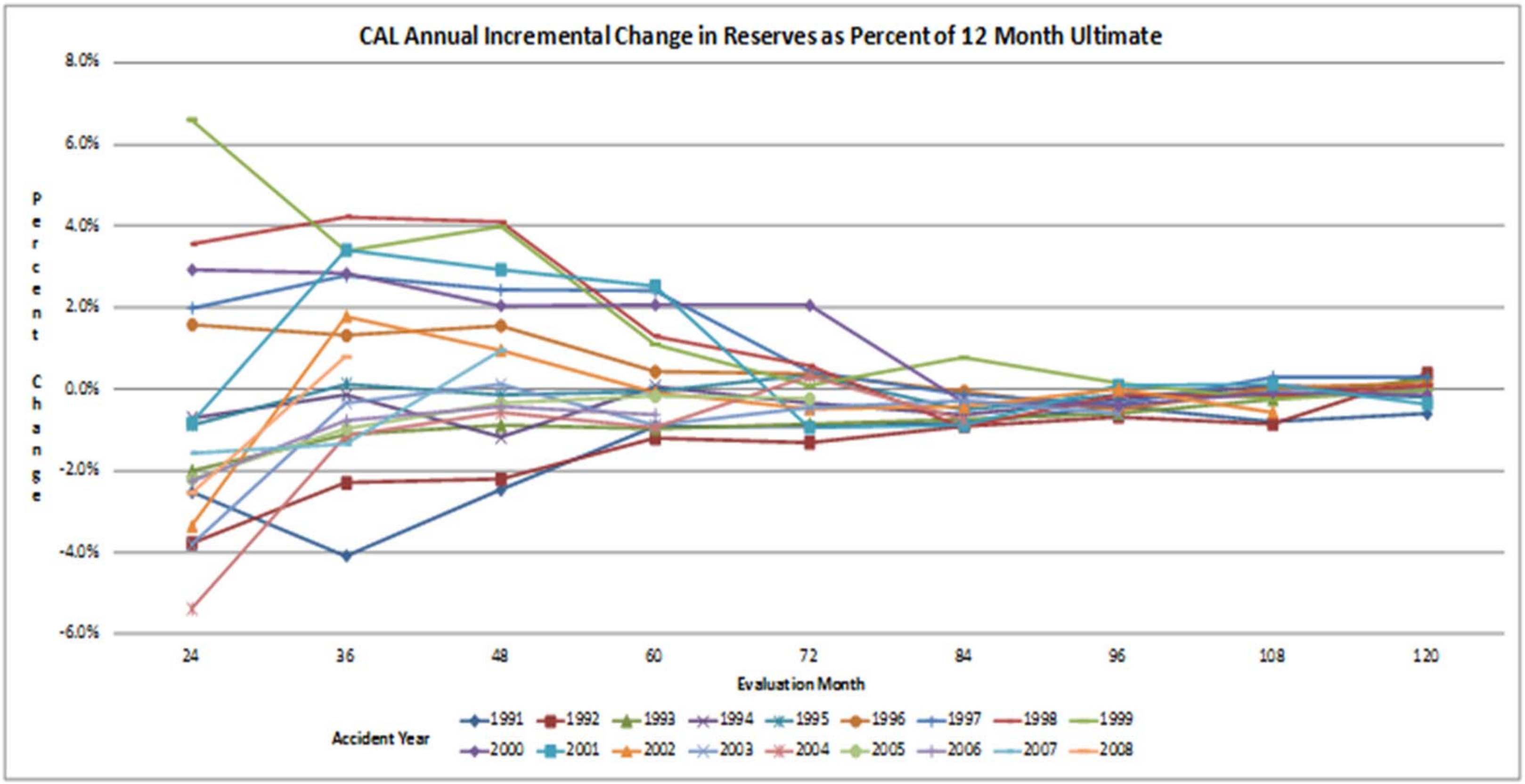
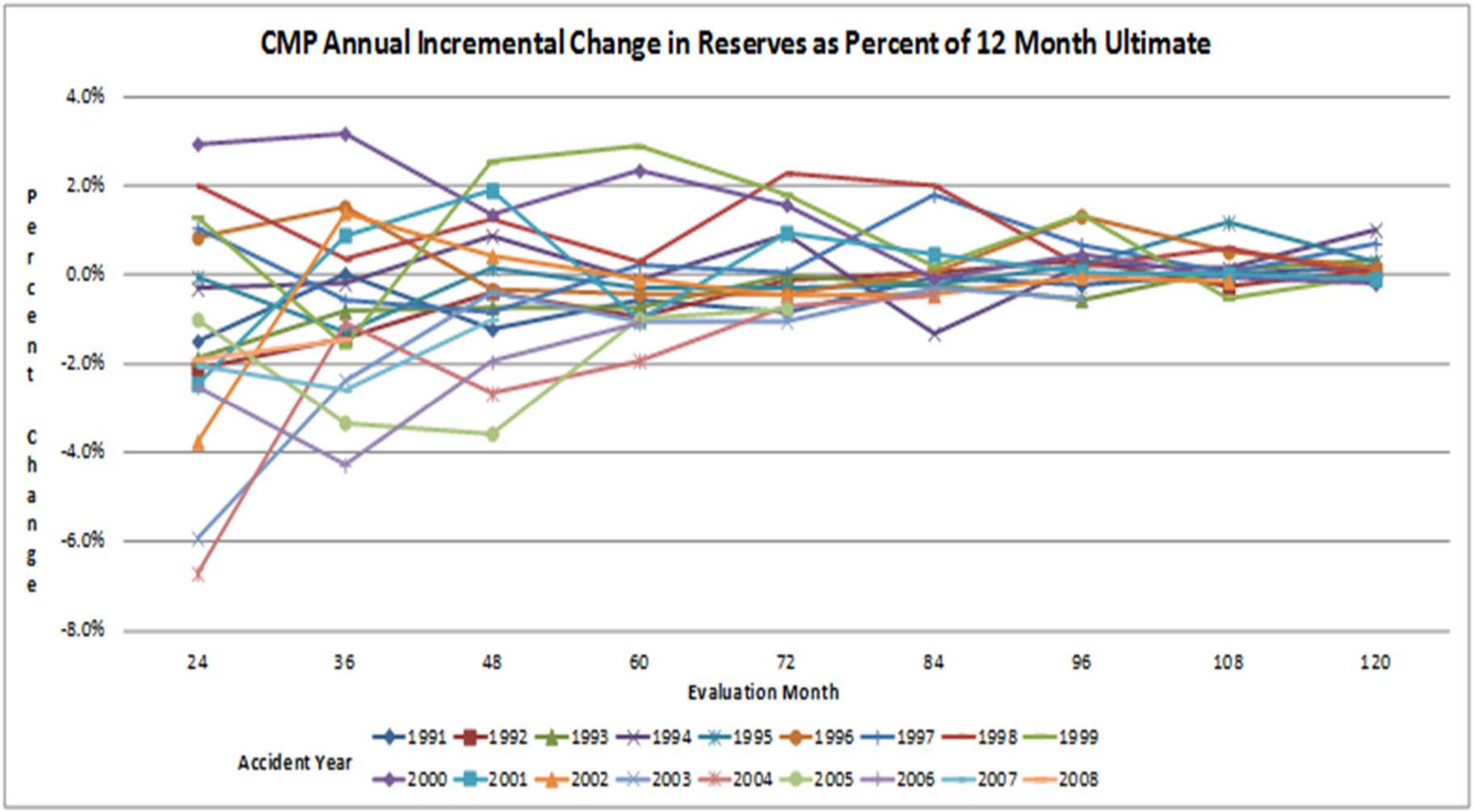
Commercial Auto Liability Accident Year Development by Maturity

- Potential for development of more than 2% of the initial ultimate loss estimate exists certainly until 60 months and actually was seen once between 60 and 72 months



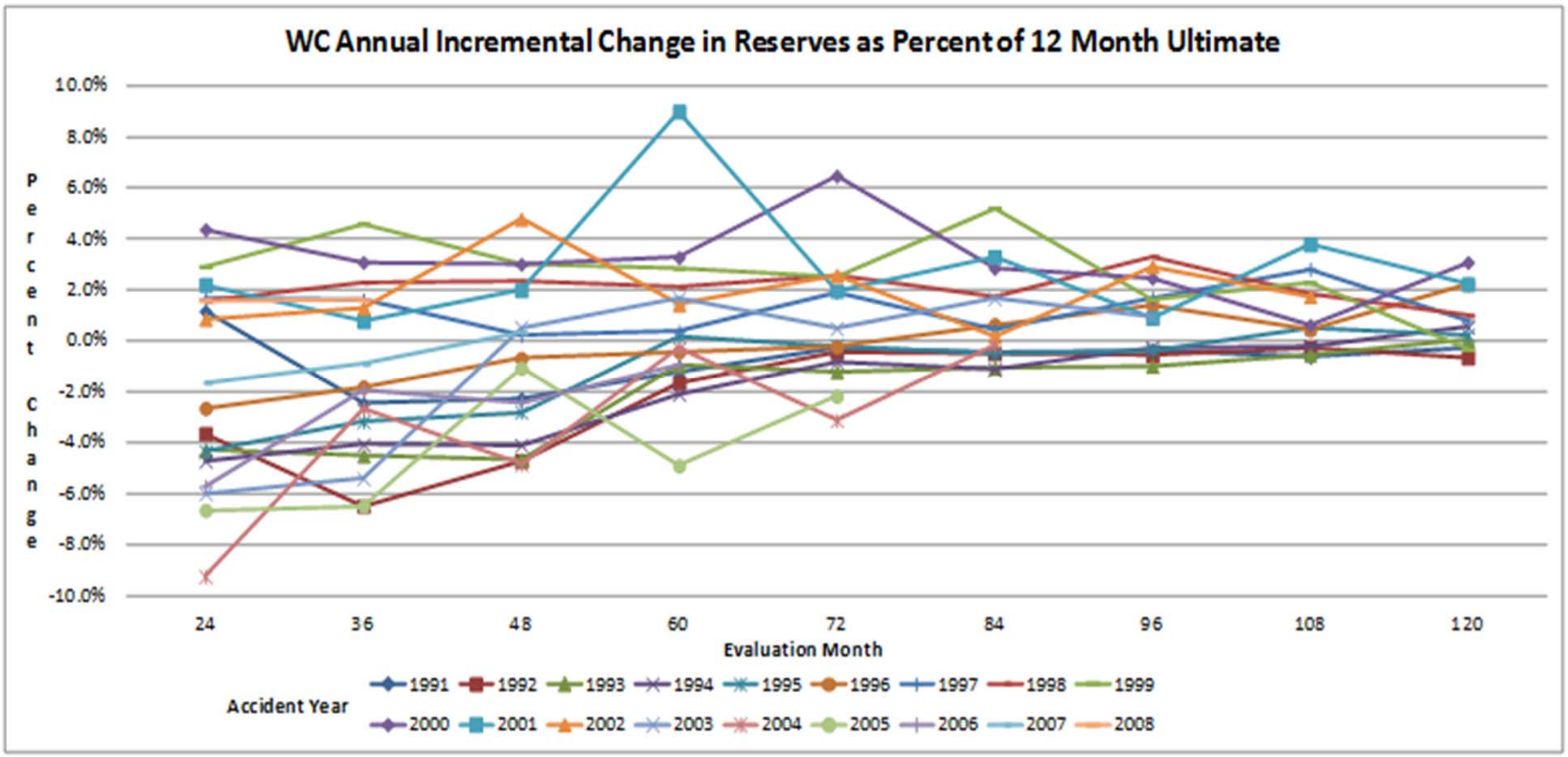
Commercial Multiple Peril Accident Year Development by Maturity

- Graph shows development of more than 2% of initial ultimate losses as late as 84 months of development



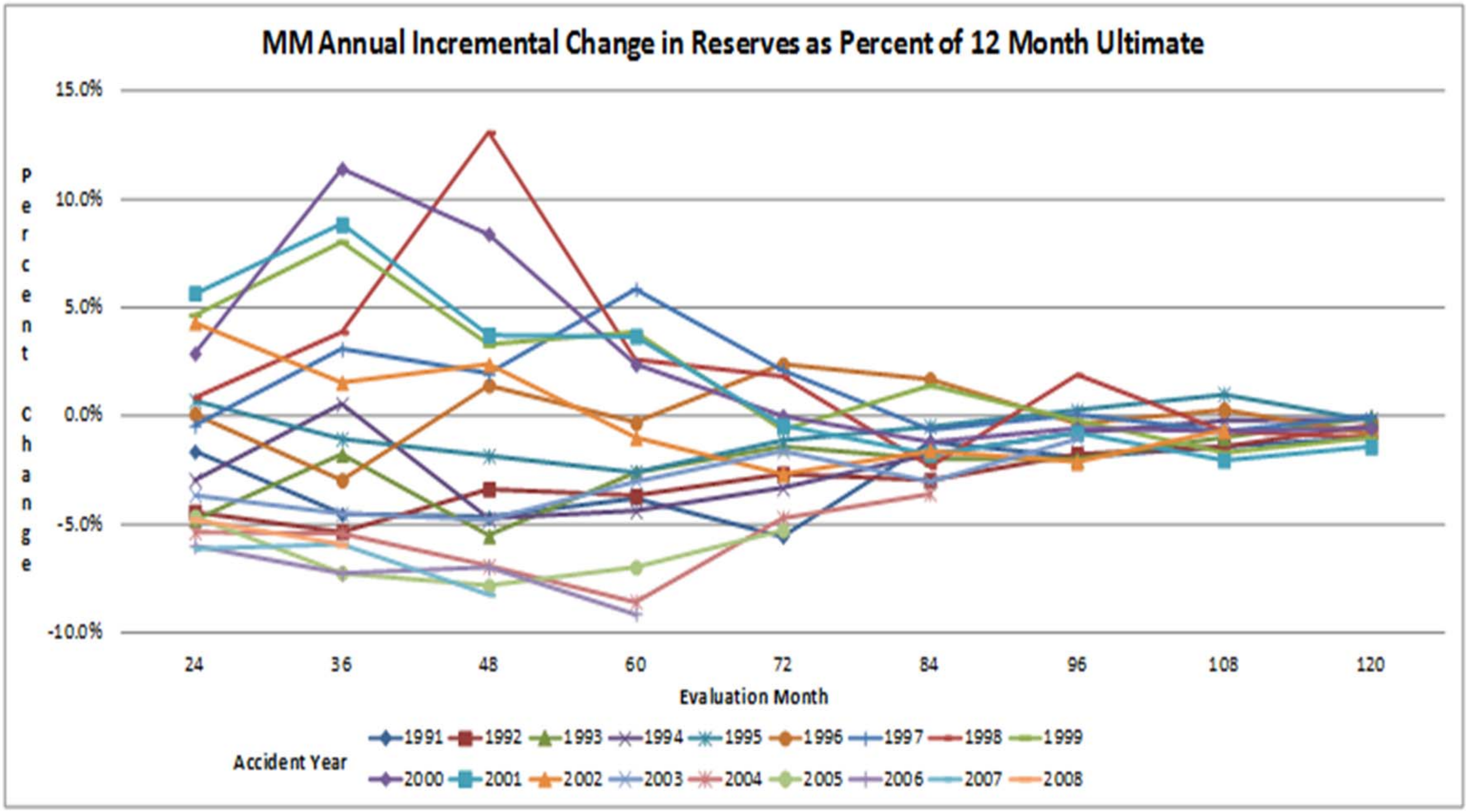
Workers Compensation Accident Year Development by Maturity

- Numerous accident years show adverse development of more than 2% of initial ultimate loss estimates at the last valuation (between 108 and 120 months)



Medical Professional Liability Accident Year Development by Maturity

- MM shows the largest potential for adverse development in the first 60 months of maturity with the 1997 year having development of 5.8% of initial held ultimates during calendar 2001



Conclusion

- For personal lines, industry loss development from initial reserve estimates has generally been favorable
- The three main commercial lines, CMP, CAL, and WC all show significant cyclicality between years of material adverse development and material favorable development
- Each of the lines reviewed have calendar year reserve adjustments that are positively correlated to the others. Particularly strong correlations were seen between:
  - Homeowners (HMP/FMP) and personal auto liability (PPAL)
  - Personal auto and commercial auto liability (CAL)
  - The three predominant commercial lines, CMP, CAL and WC
  - Medical professional liability and the other three commercial lines.
- At a company level, the commercial lines, especially WC and MM have greater potential for significant calendar year loss ratios changes due to development from prior years

Conclusion (continued)

- The commercial lines show cyclical behaviors in unexpected loss reserve development both at the industry composite and insurance company/group level
- Calendar year loss ratios do not appear to be more stable than accident year results, but do appear to delay the recognition of underwriting losses and profits, particularly for commercial lines
- For Personal lines, adverse development for the industry as a whole is realized by 36 months of maturity.
- For CMP and CAL, adverse development for the industry as a whole is generally under 1% at 72 months of maturity and beyond
- WC and MM both experience the widest fluctuations in AY loss reserves in more mature observations.

Thank You for Your Attention

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