

Market Cycle Analysis UW Results and Trends

Casualty Market:
Workers Compensation
General Liability (Occurrence)
2012 Year-end Data

CARe Reinsurance Seminar 2013
"Is This Really a Hard Market"

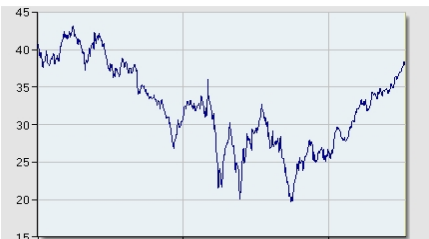
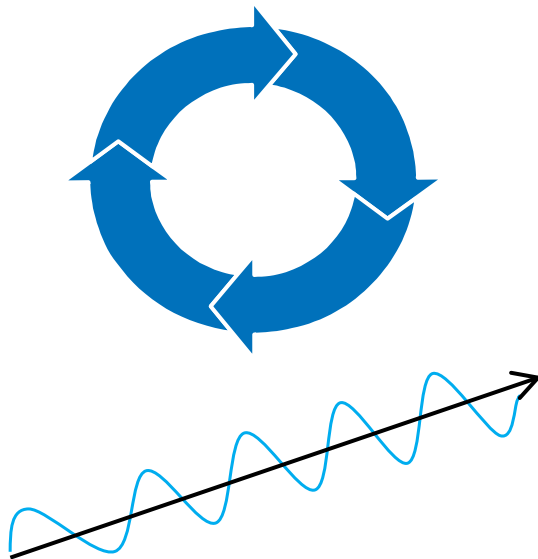
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UW Cycle Analysis

- 2012 industry results countrywide
 - Data includes all NAIC filers
 - For WC excludes State Comp (CA) since only in database for 2011-2012
 - For GL data is for occurrence
- Analysis of trends and relationships
 - Premiums and price
 - AY and Cal Year results
 - Reserves and cash flow
- Mathematical model can be found in working paper by Dave Clark (2010)
 - “How to Create a Market Cycle”
 - <http://www.casact.org/research/wp/>



UW Cycle - Drivers Casualty Market



Pricing Competition

- Pricing responds to Calendar Year results
- Accident Year results ultimately reflect pricing
- Ultimate AY results affect Cal Yr results – cyclical, aka reserve development

Loss Trends

- Loss trends reflects economic, social, and legal issues – frequency / severity
- Pricing response lags loss changes – cyclical
- If losses stable, UW cycle dominated by pricing

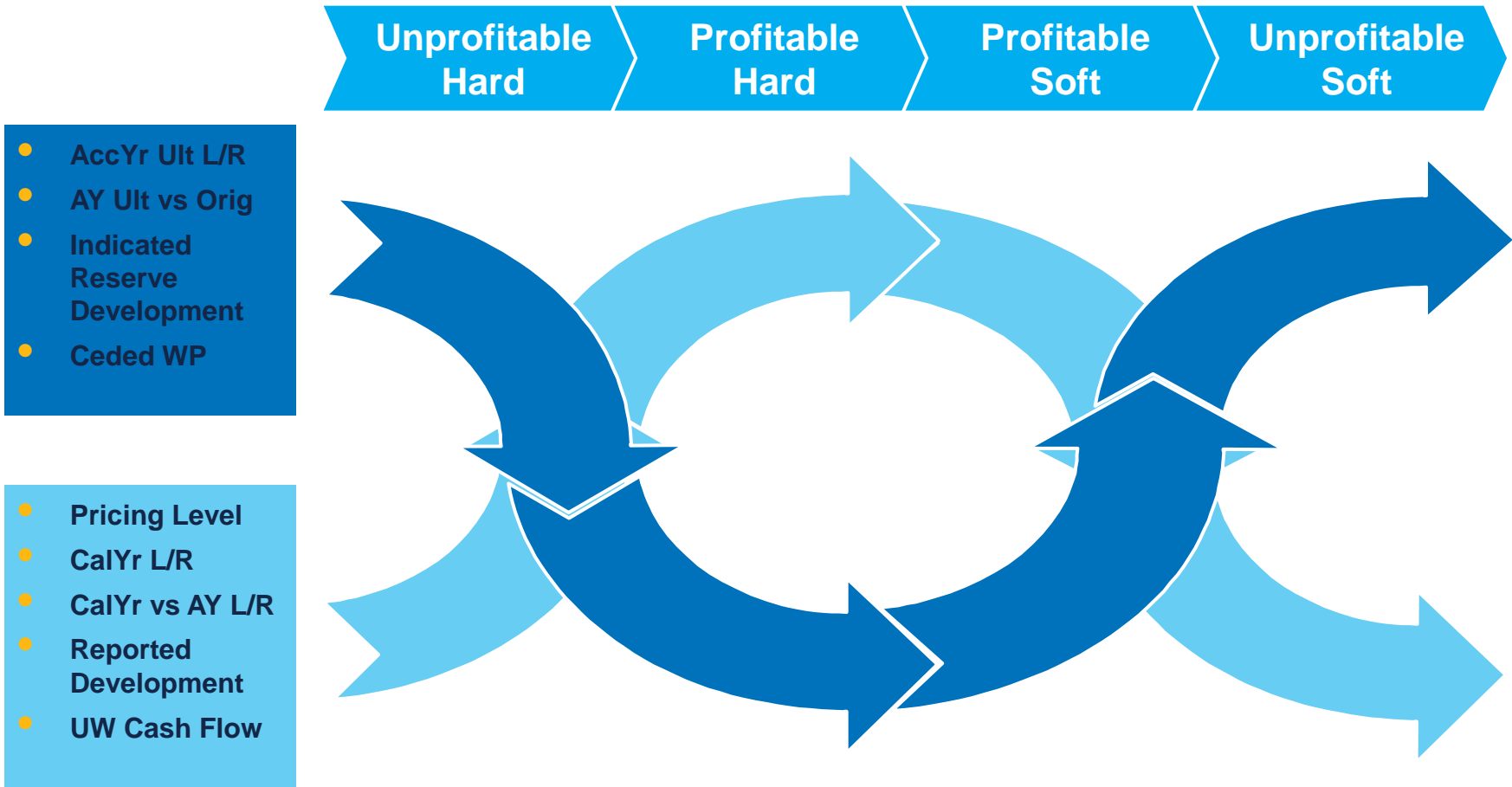
Economic Environment

- Capital, asset, interest, and inflation changes important, but secondary issues
- Recent drop in investment yields significant
- Casualty pricing appears not to be ROE based
- However, watch UW cash flows – cyclical

IMPORTANCE

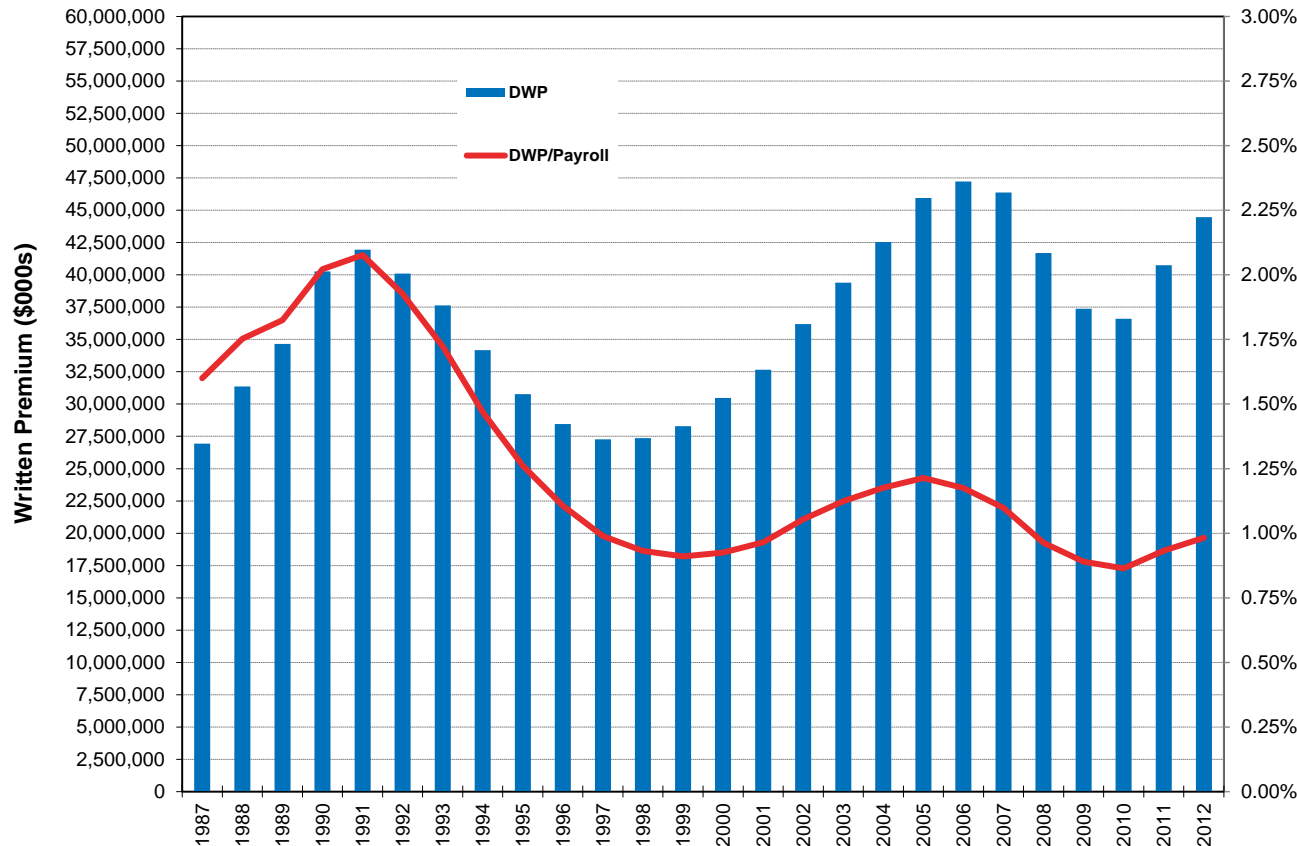
UW Cycle - Phases

Casualty Market



Workers Compensation Premium & Price

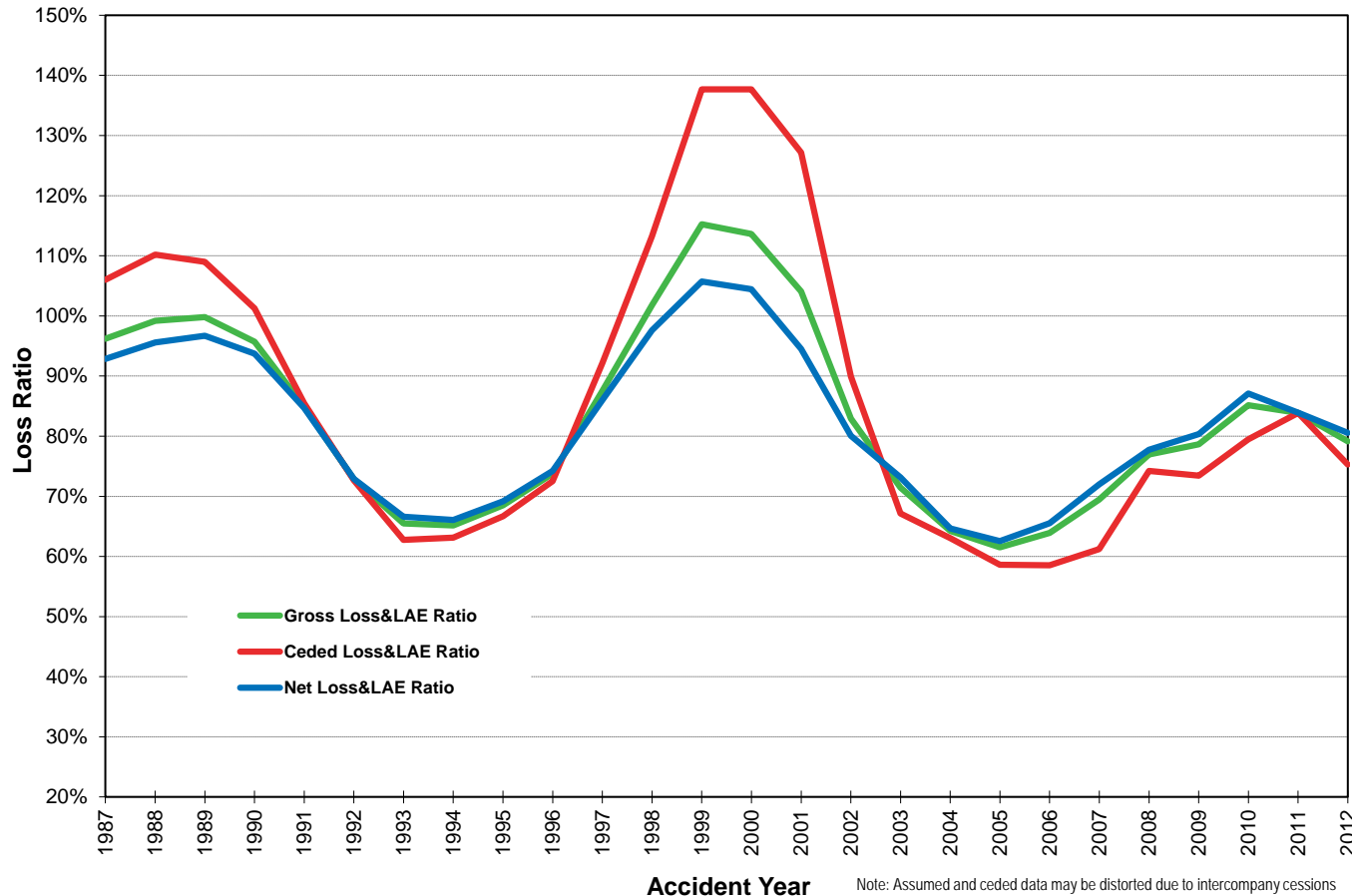
Workers Compensation WP and Price



- Price = WP / Payroll
- Payroll used as exposure (from Bureau of Labor Statistics)
 - 2009 decline, 1st in over 20 years
 - 2010 flat
 - Increased 3.2% and 3.6% in 2011-2012
- Historical cycles
 - Prior peak in 1991
 - Soft cycle to 2000
 - Peak in 2005
 - Soften to 2010
- Hardening market in 2011 and 2012

Workers Compensation Acc Yr Gross, Ceded, Net Results

Workers Compensation Gross Ceded Net 1

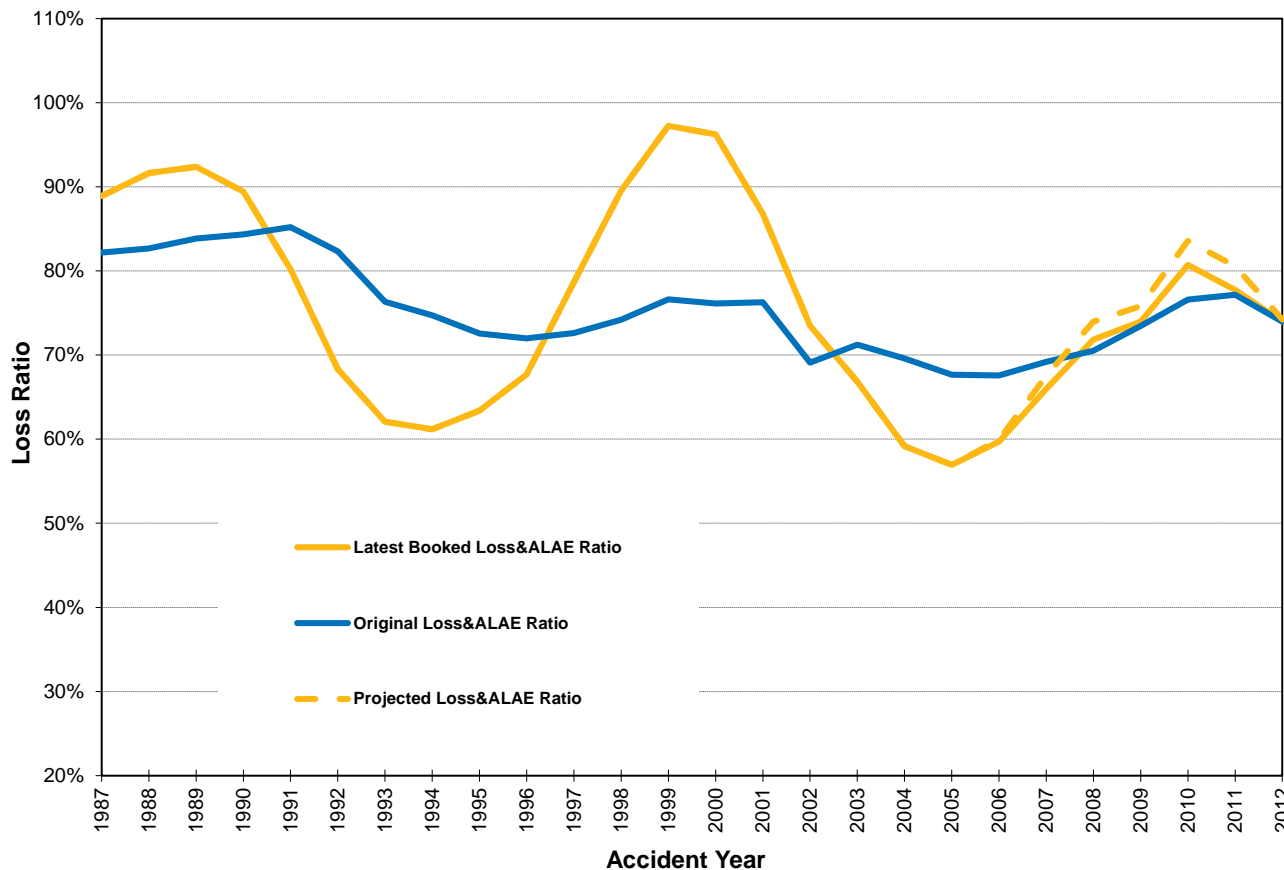


Note: Assumed and ceded data may be distorted due to intercompany cessions

- Ceded L/R's follow same cycle as gross L/R
 - More volatile
- During unprofitable AYs, ceded business fares significantly worse
 - Recent ceded outperforming direct but depends on booked ceded reserves
- During other parts of cycle ceded slightly better

Workers Compensation Accident Year Loss Development

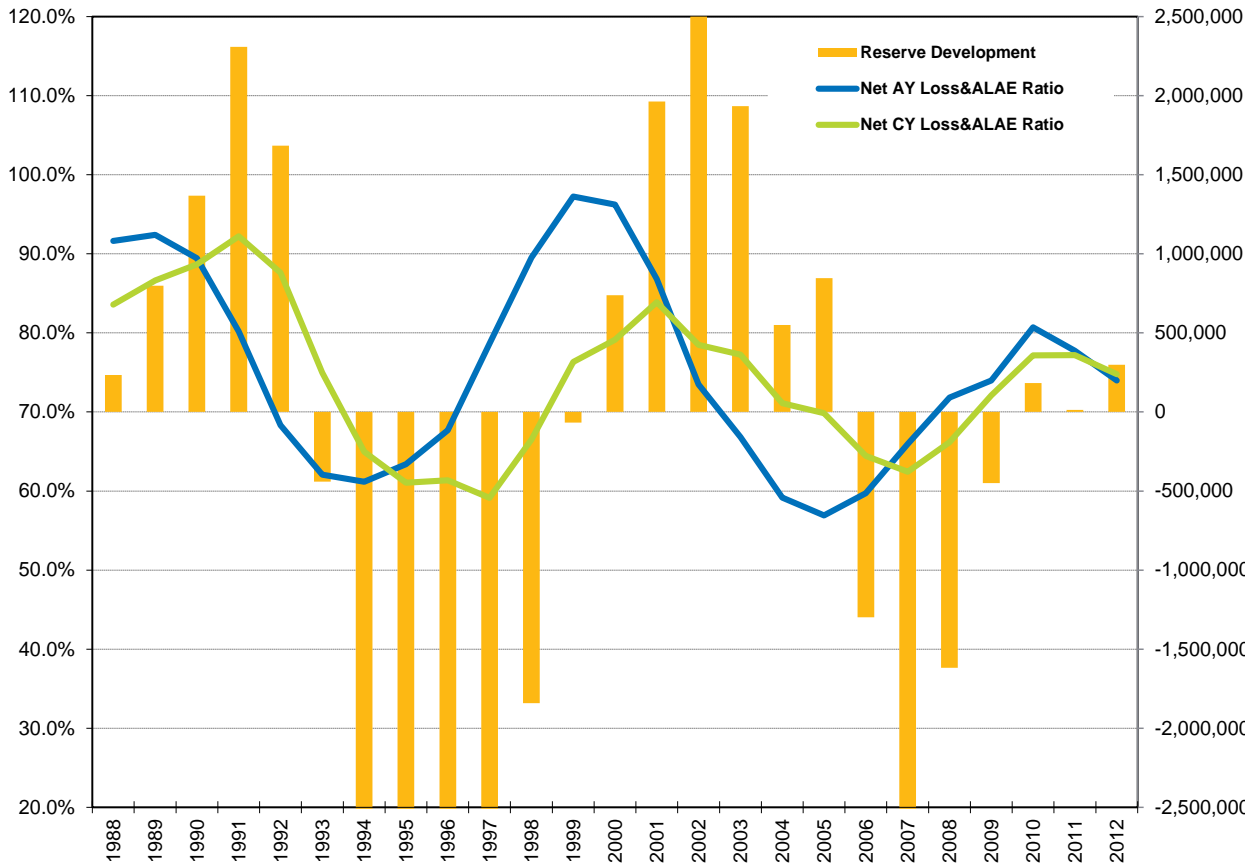
Workers Compensation Ultimate vs Original 2



- Original L/R's stable over adjacent time periods
- Cyclical Ultimate L/R's develop up to +/- 20pts
- AYs 2007-2011 loss ratios deteriorating
- Recent AYs 2011-2012 showing improvement
 - Reflects pricing
- Est. \$6.3B deficiency
 - \$4.6B deficiency in core 2003-2012 AYs (significant increase from 2011 analysis)
 - \$1.7B deficiency in 2002 and priors AYs (decrease from 2011)

Workers Compensation Calendar Year Development

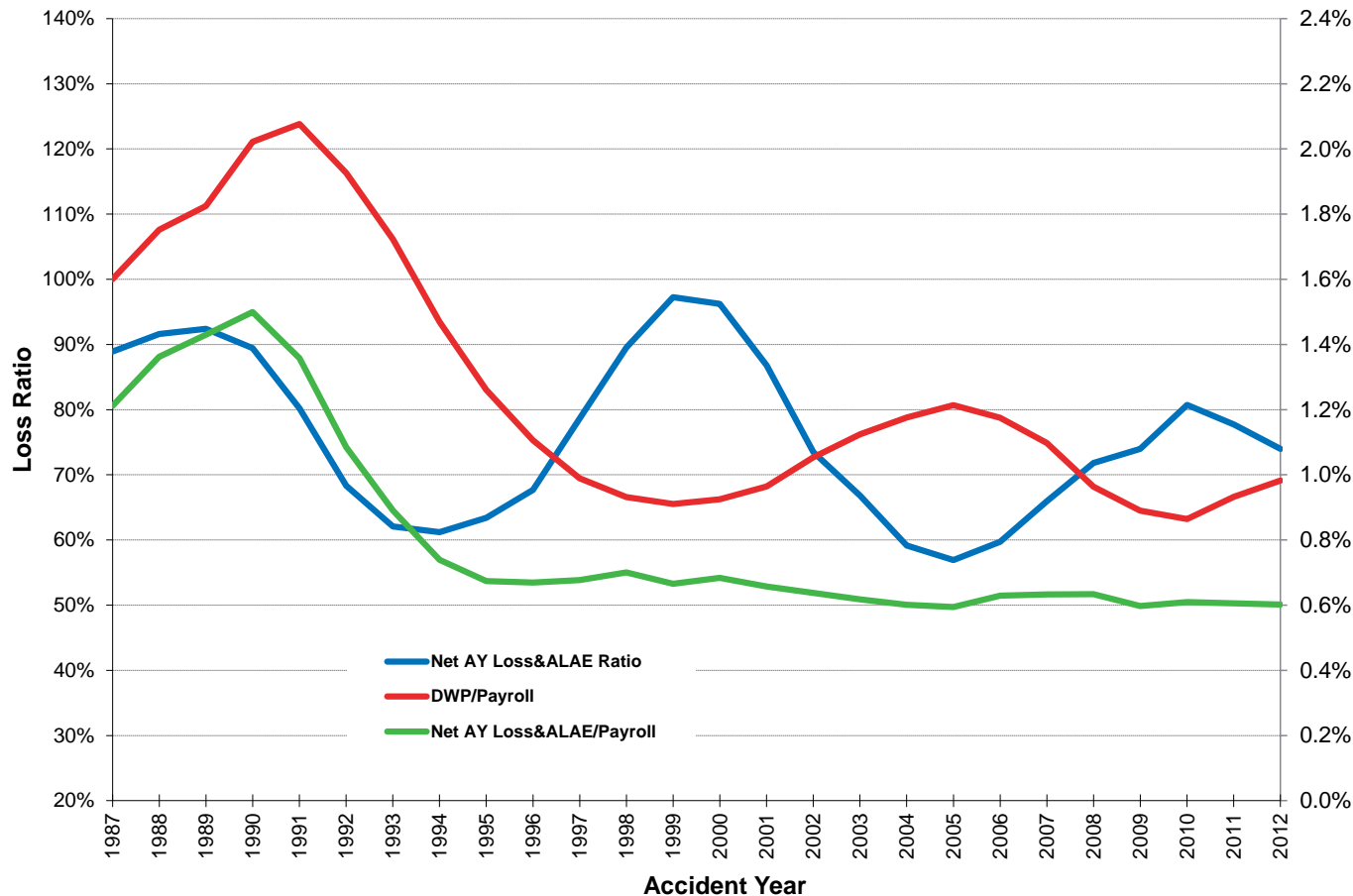
Workers Compensation AY vs CY w Dev



- Calendar Year results follow lagged Accident Year results
- Cal Year results tend to be less volatile than Acc Year results
 - Price increase between 2000-05 lead to profitability
 - Deterioration to 2010
 - 2011-12 continued unprofitability
- Adverse development booked in 2012
 - Increased from 2011
 - Deficiency increased significantly as well
- Implies continued deterioration in future calendar years

Workers Compensation Acc Yr Premium & Loss Trends

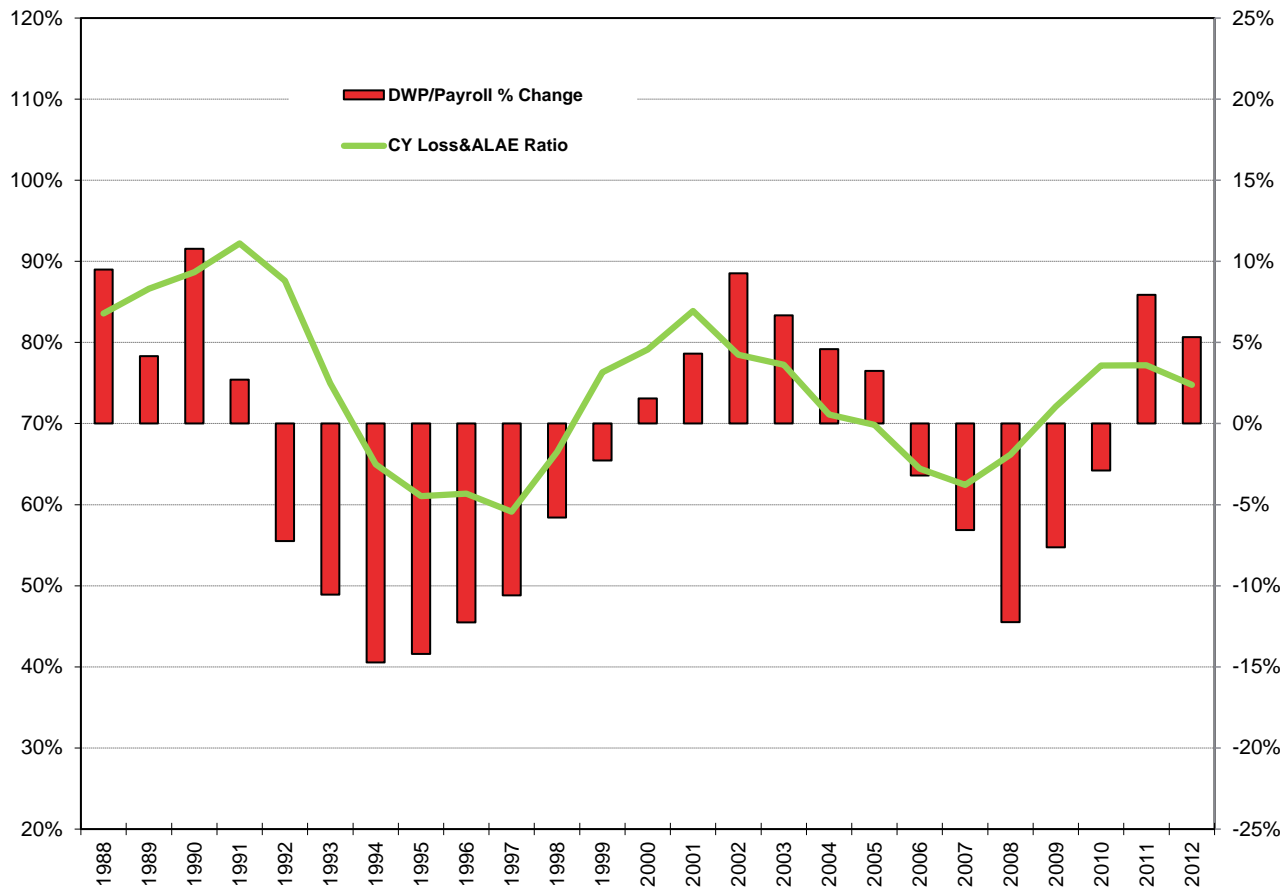
Workers Compensation AY vs Prem & Loss 1



- Acc Year results move inversely with pricing
 - Pricing changes cause AY results not vice versa
- Since 1995 cycle driven by price competition with recent hardening market
- 2011-2012 AYs trending favorable but still unprofitable
- Recent loss trends flat
 - Investigate freq / severity trends
 - Classes, states
- Potential threats
 - Neg freq dissipates
 - Reform roll-back

Workers Compensation Pricing vs. Calendar Year Results

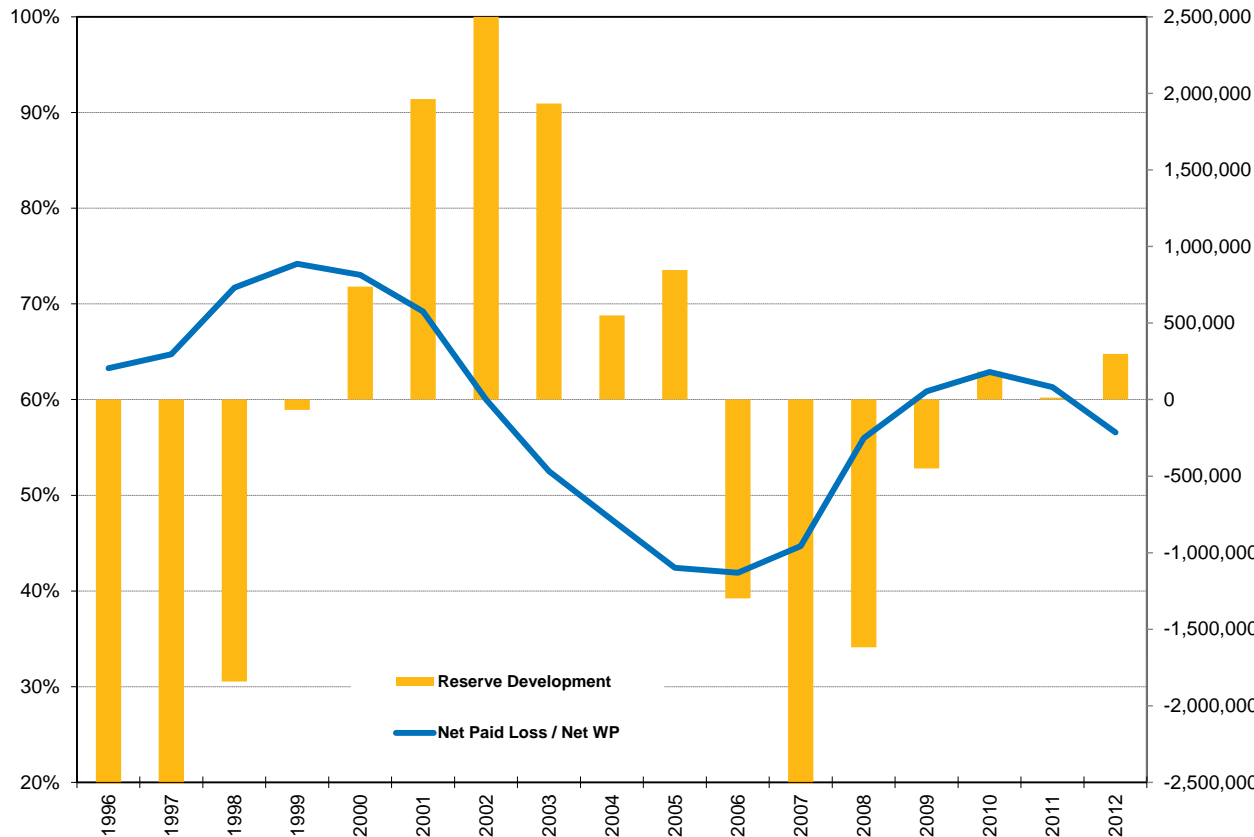
Workers Compensation CY vs Pricing



- Pricing tends to follow Calendar Year results
- Pricing up in 2011-12
- Hard market will continue as growing reserve deficiencies will pressure calendar year loss ratios
- Forecasting pricing depends of Calendar Year projections
 - *Indicated reserve position is key*
 - *Projected Cal Year results will be adversely impacted*
 - *Increased price increase pressure*

Workers Compensation Reserve Position & UW Cash Flow

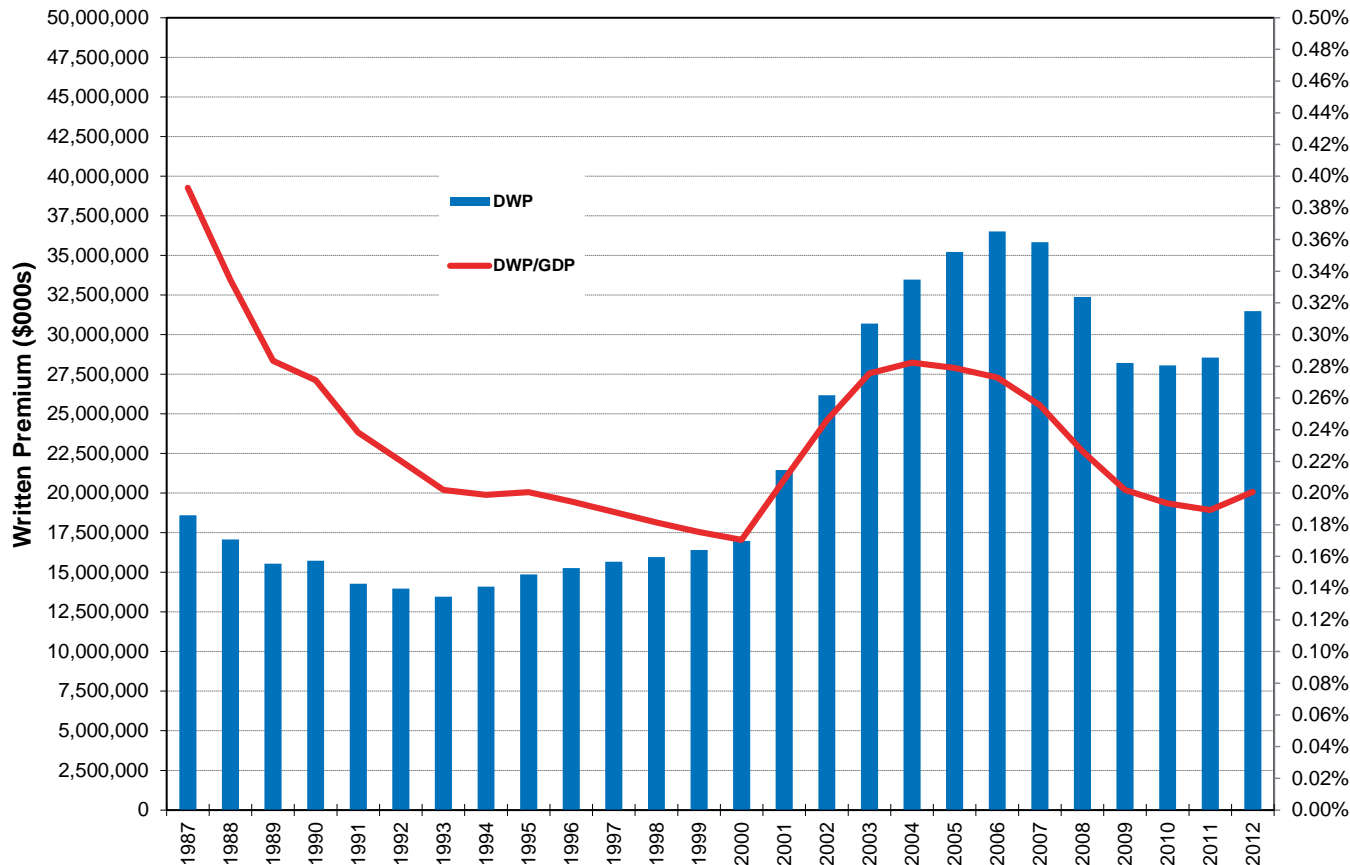
Workers Compensation Dev vs Cash Flow



- UW Cash Flow appears to be an early indicator of future reserve development
 - If pricing is weak, reserves generally inadequate *paid losses rise relative to WP*
 - Reverse is true as well
- Cash flow improvement may imply reserve deficiencies have peaked
- Cycle determined by:
 - Cash precedes reserve changes
 - Reserve changes cause cal year results
 - Cal year results impact pricing

Other Liability – Occurrence Premium & Price

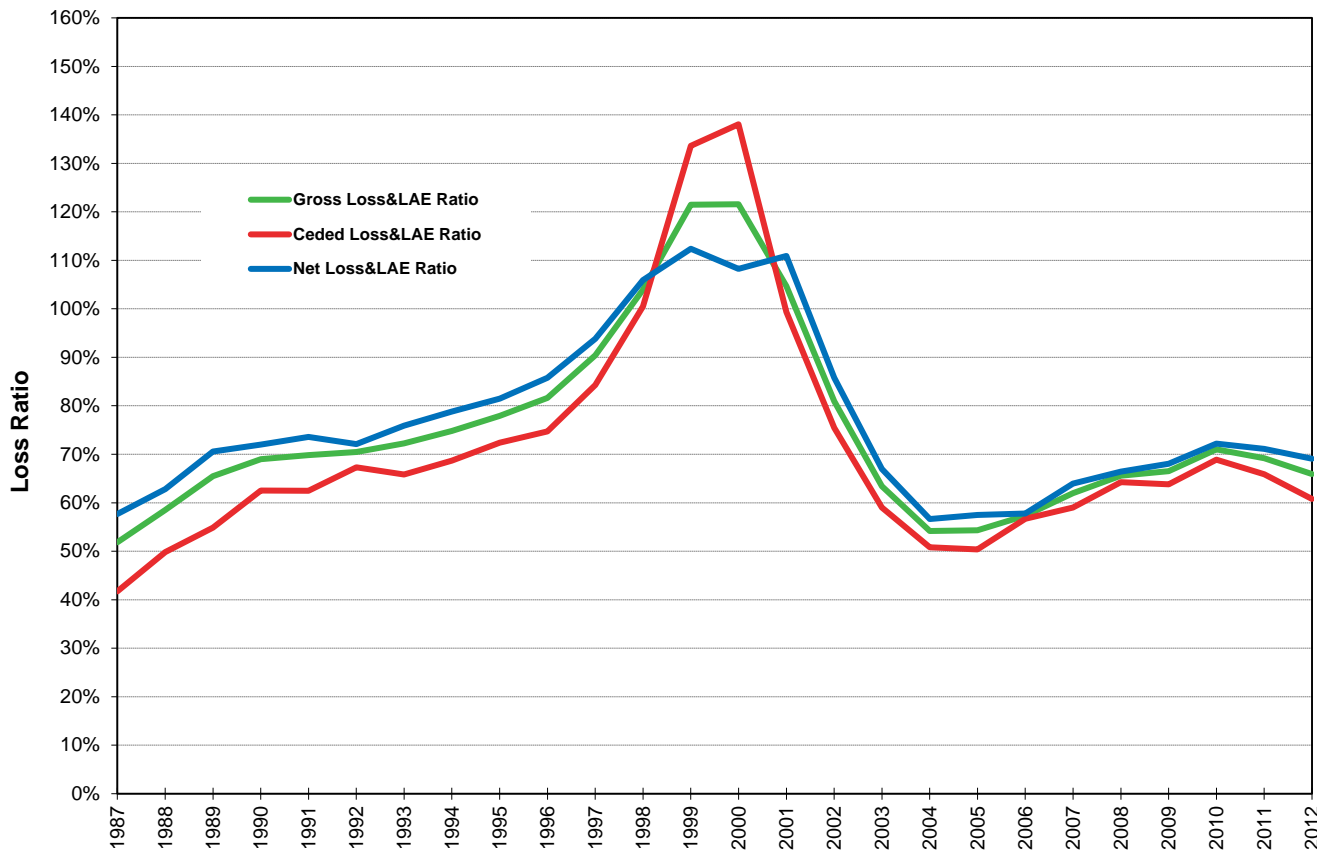
Other Liability (Occ.) WP and Price



- Price = WP / GDP
 - GDP measures industry exposure
 - GDP up 4% in 2012 (nominal)
- Historical cycles
 - Prior spike 1987
 - Soft cycle to 2000
 - Peak in 2004
 - Soften to 2010
- Pricing slightly increasing in 2012

Other Liability – Occurrence Acc Yr Gross, Ceded, Net Results

Other Liability (Occ.) Gross Ceded Net 1

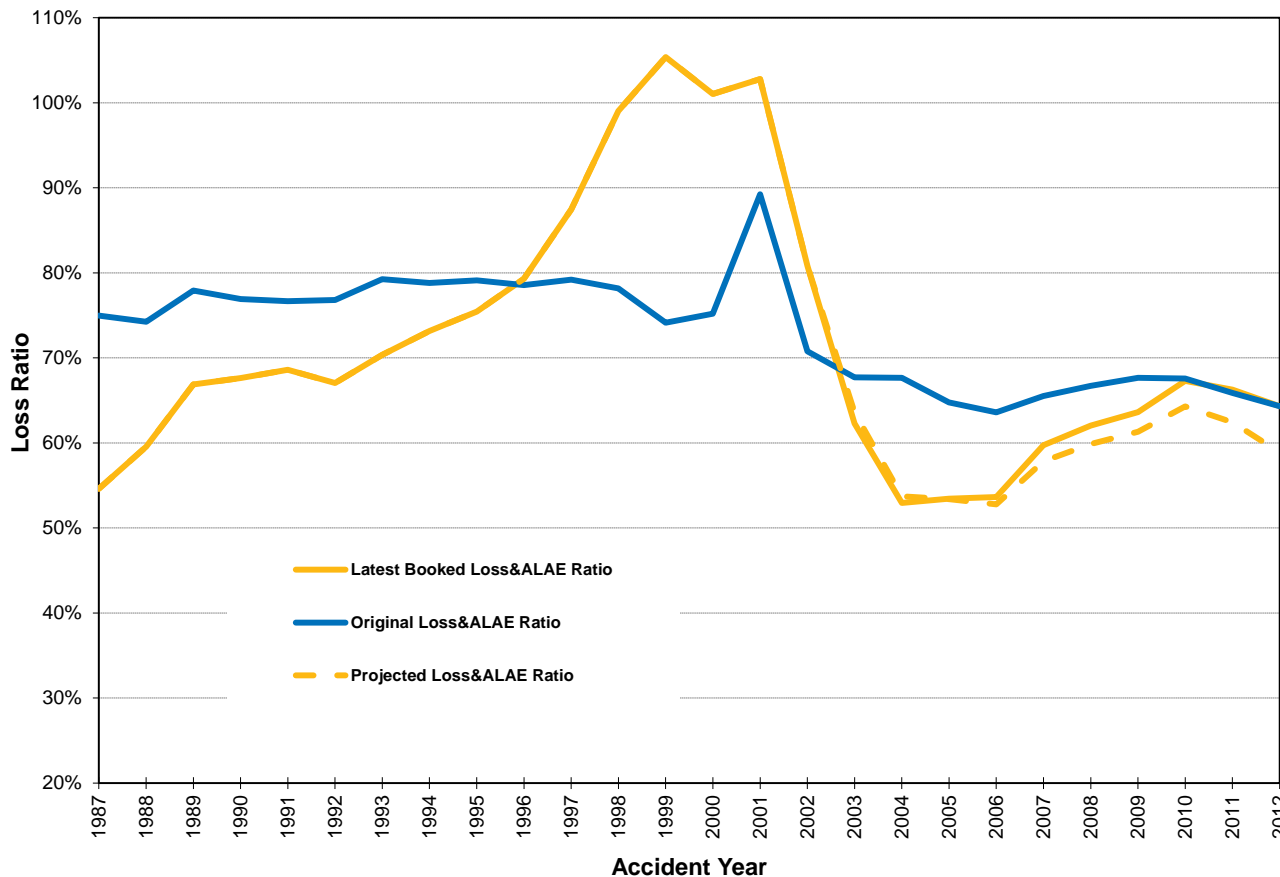


Note: Assumed and ceded data may be distorted due to intercompany cessions

- Ceded L/R's follow same cycle as gross L/R
 - More volatile
- During inadequate soft cycles, ceded business fares significantly worse
- During other parts of cycle slightly better
 - Excess ceded business generally has low expenses
- Current cycle showing ceded results performing better than gross

Other Liability – Occurrence Accident Year Loss Development

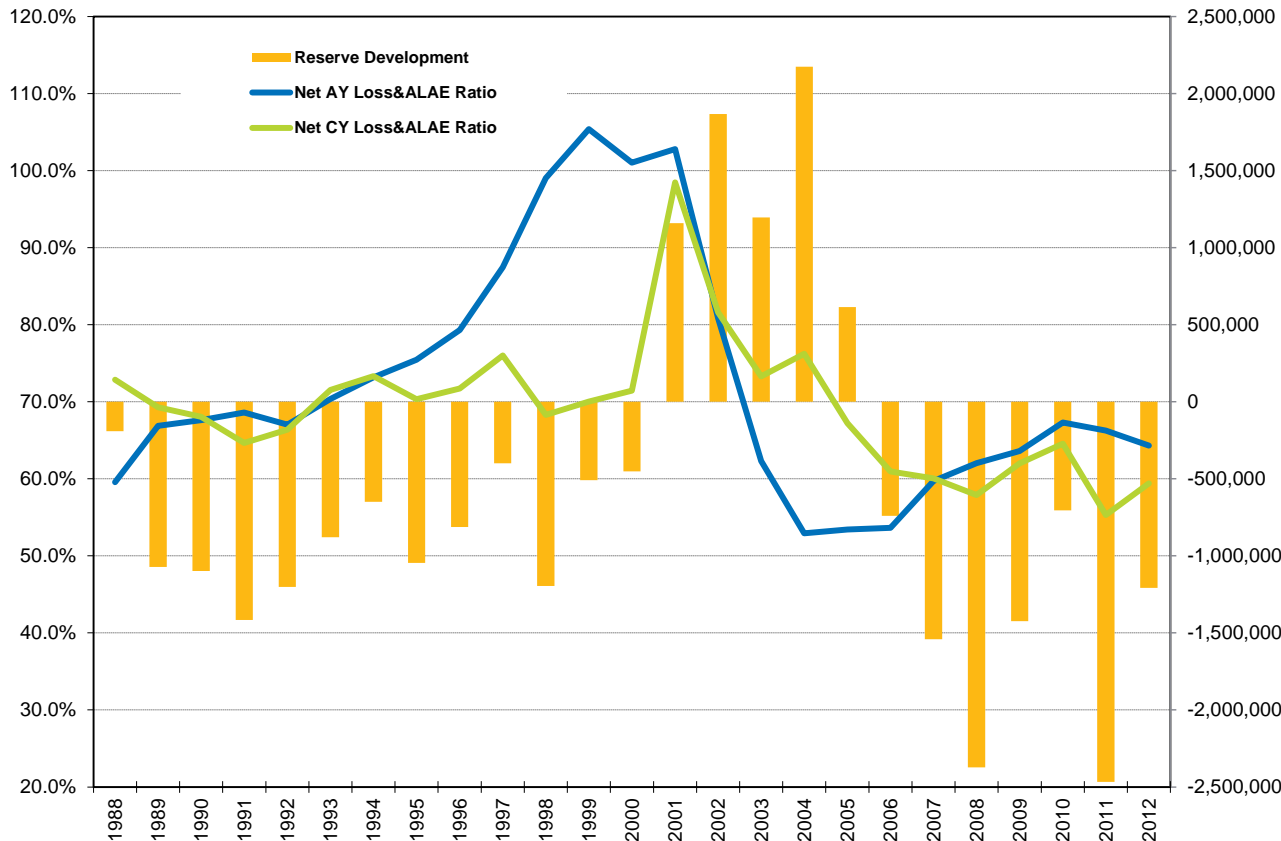
Other Liability (Occ.) Ultimate vs Original 2



- Original L/R's stable over adjacent time periods
- Cyclical Ultimate L/R's develop up to +/- 20pts
- Recent AY loss ratios profitable
- Implied industry reserve position as of 2011 is redundant based on Willis Re analysis
 - Cushion *increasing* from 2011
- Est. \$4.4B redundancy
 - Increasing margin in recent AY's

Other Liability – Occurrence Calendar Year Development

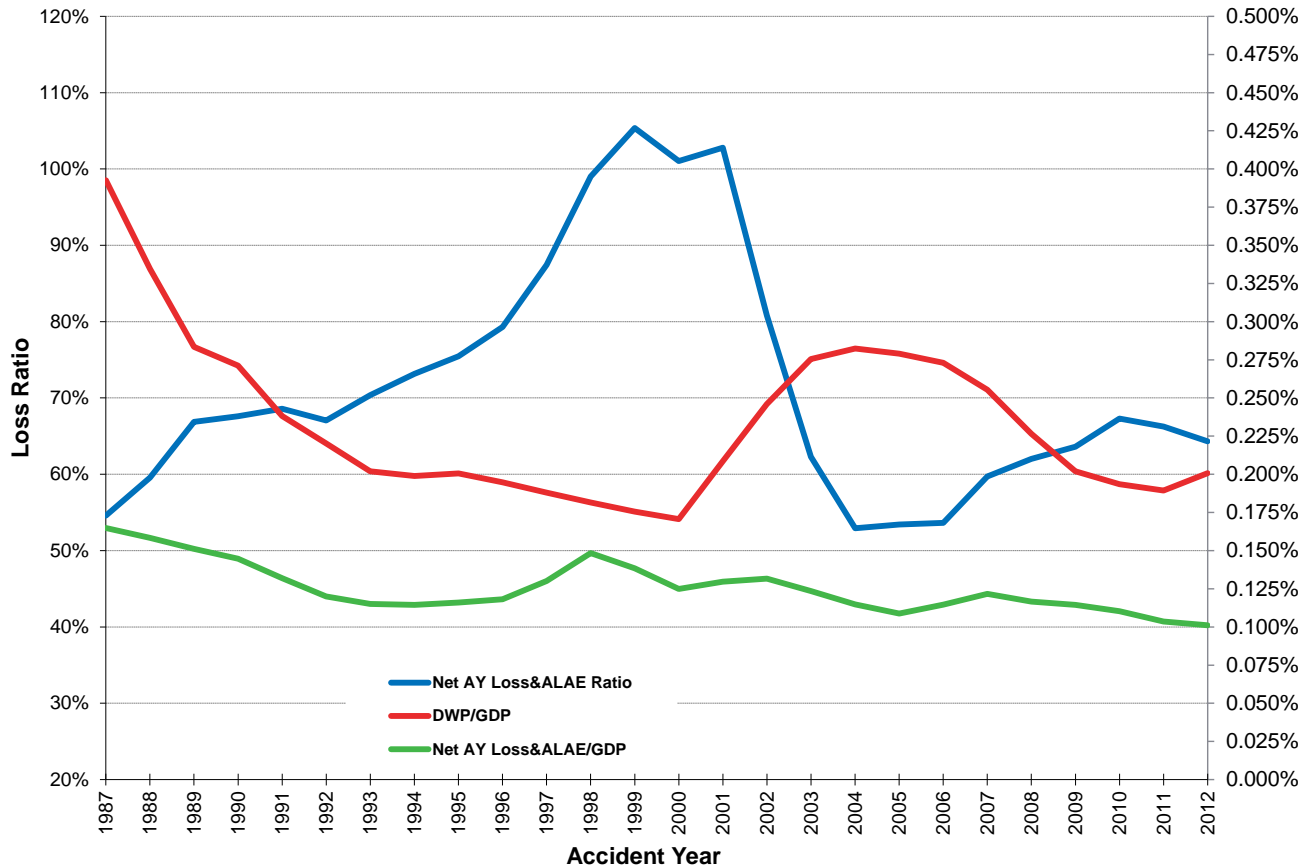
Other Liability (Occ.) AY vs CY w Dev



- Calendar Year results follow lagged Accident Year results
- Cal Year results slightly less volatile
 - Timely pricing change in 2000
 - 2011 profitable
- Favorable development booked in 2012
- Redundant reserves will benefit future calendar years

Other Liability – Occurrence Acc Yr Premium & Loss Trends

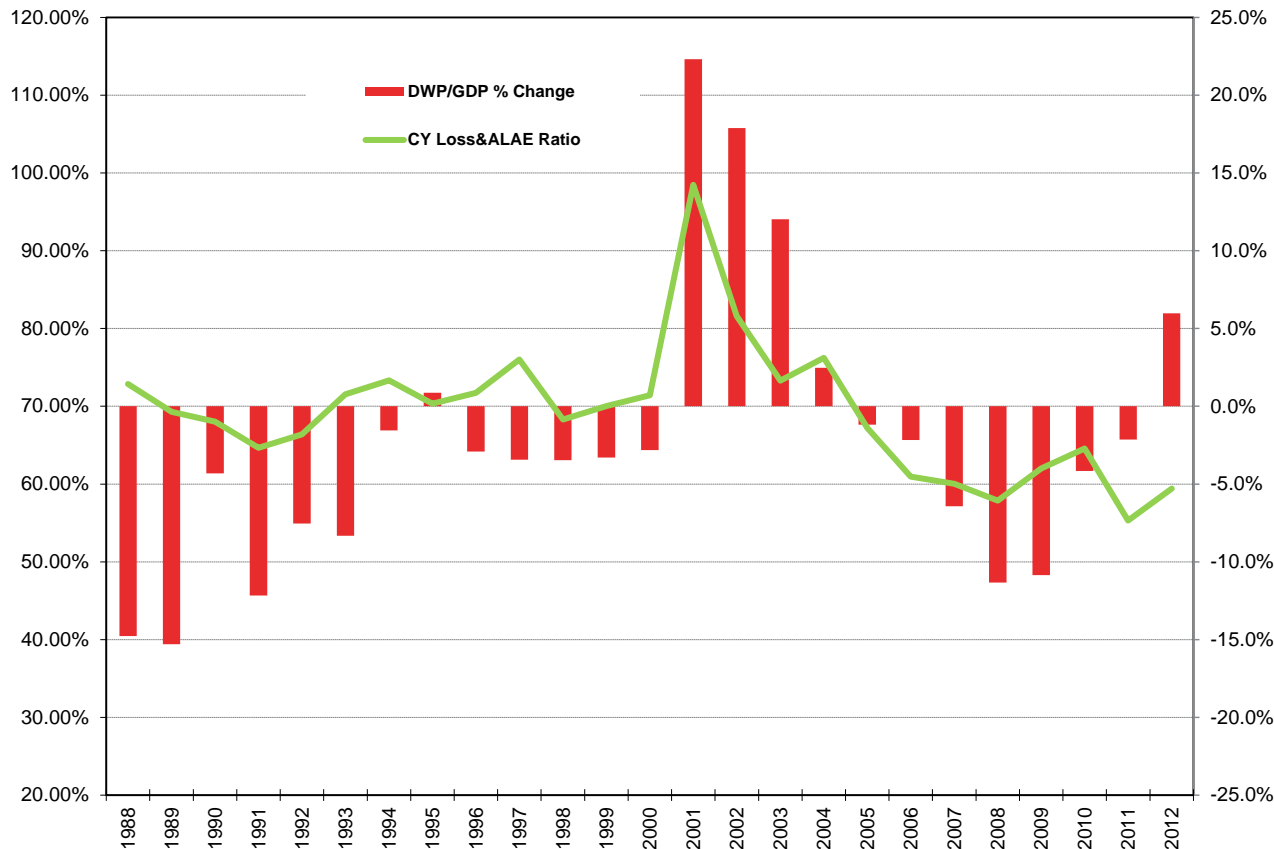
Other Liability (Occ.) AY vs Prem & Loss 1



- Acc Year results move inversely with pricing
 - Pricing changes cause AY results not vice versa
- While loss trends have varied somewhat, most of LR variation driven by pricing movements
- Current loss trends flat
- Past trends declining
 - Investigate freq / severity trends
 - Classes, states
 - Investigate better exposure metrics
- Potential threats
 - Neg freq dissipates
 - Reform roll-back

Other Liability – Occurrence Pricing vs. Calendar Year Results

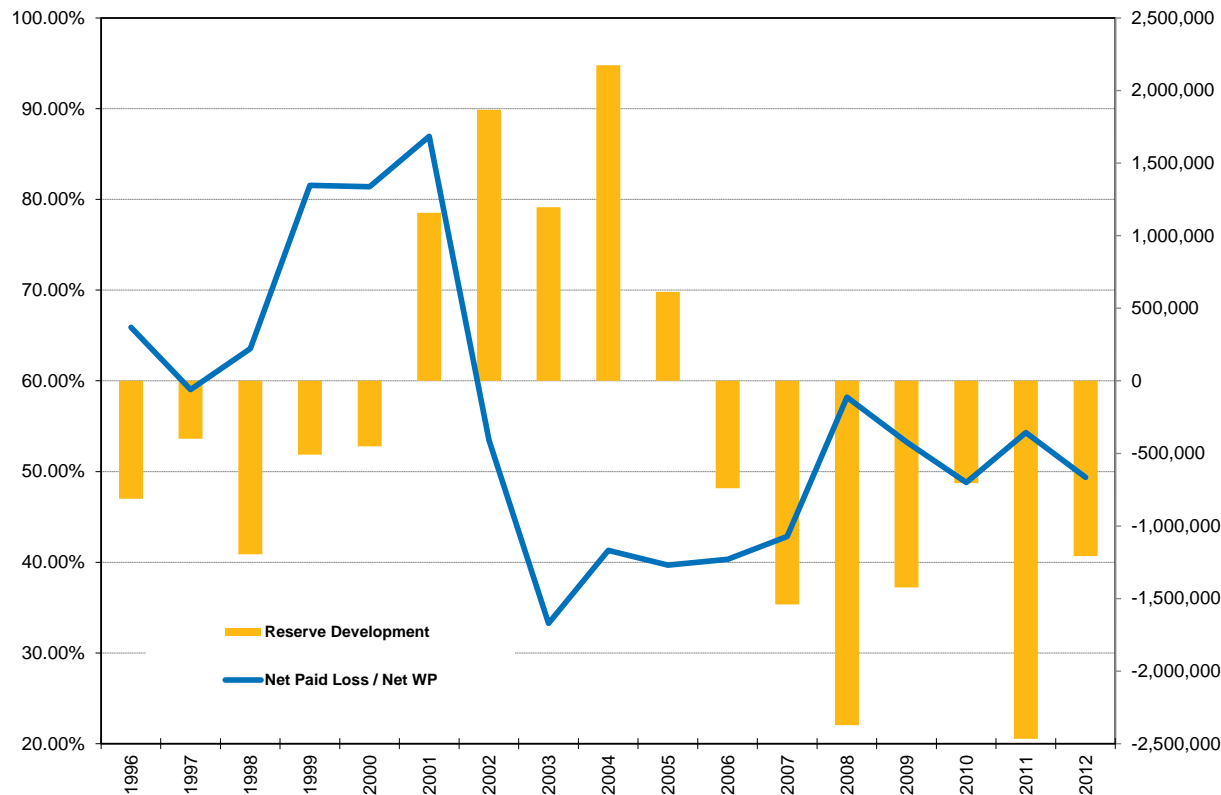
Other Liability (Occ.) CY vs Pricing



- Pricing tends to follow Calendar Year results
- Pricing materially increased in 2012
- Continued favorable calendar year results may cause difficulty in sustaining price increases
- Forecasting pricing depends of Calendar Year projections
 - *Indicated reserve position is key*
 - *Projected Cal Year profitably will be supported*
 - *Less pressure for price increases*

Other Liability – Occurrence Reserve Position & UW Cash Flow

Other Liability (Occ.) Dev vs Cash Flow



- UW Cash Flow appears to be an early indicator of future reserve development
 - If pricing is weak, reserves generally inadequate *paid losses rise relative to WP*
 - Reverse is true as well
- Cycle determined by:
 - Cash precedes reserve changes
 - Reserve changes cause cal year results
 - Results impact pricing
- No dramatic deterioration in cash flow
 - Supports indication of reserve redundancy

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