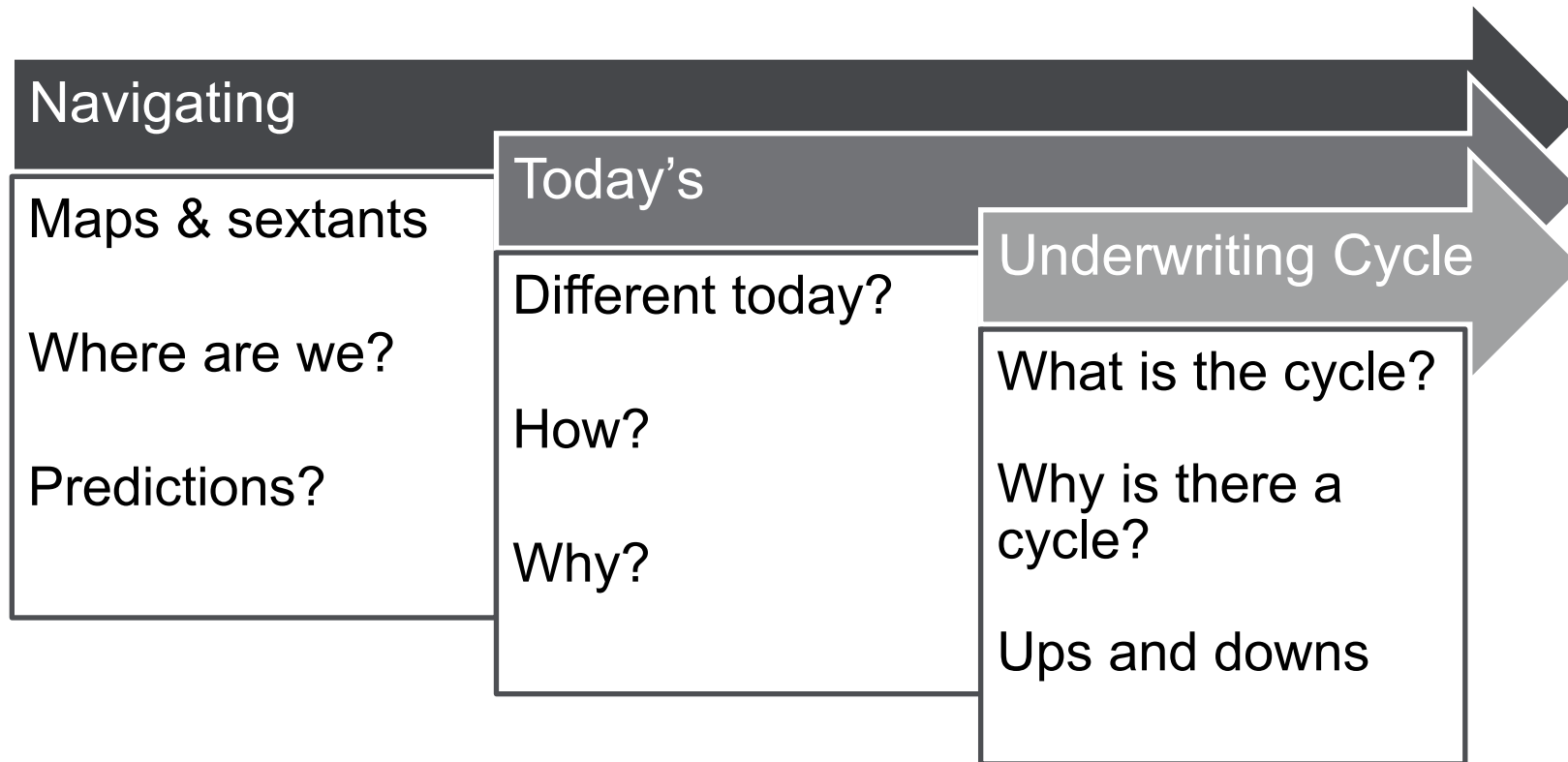


Navigating Today's Underwriting Cycle

Stephen J. Mildenhall
May 11, 2010

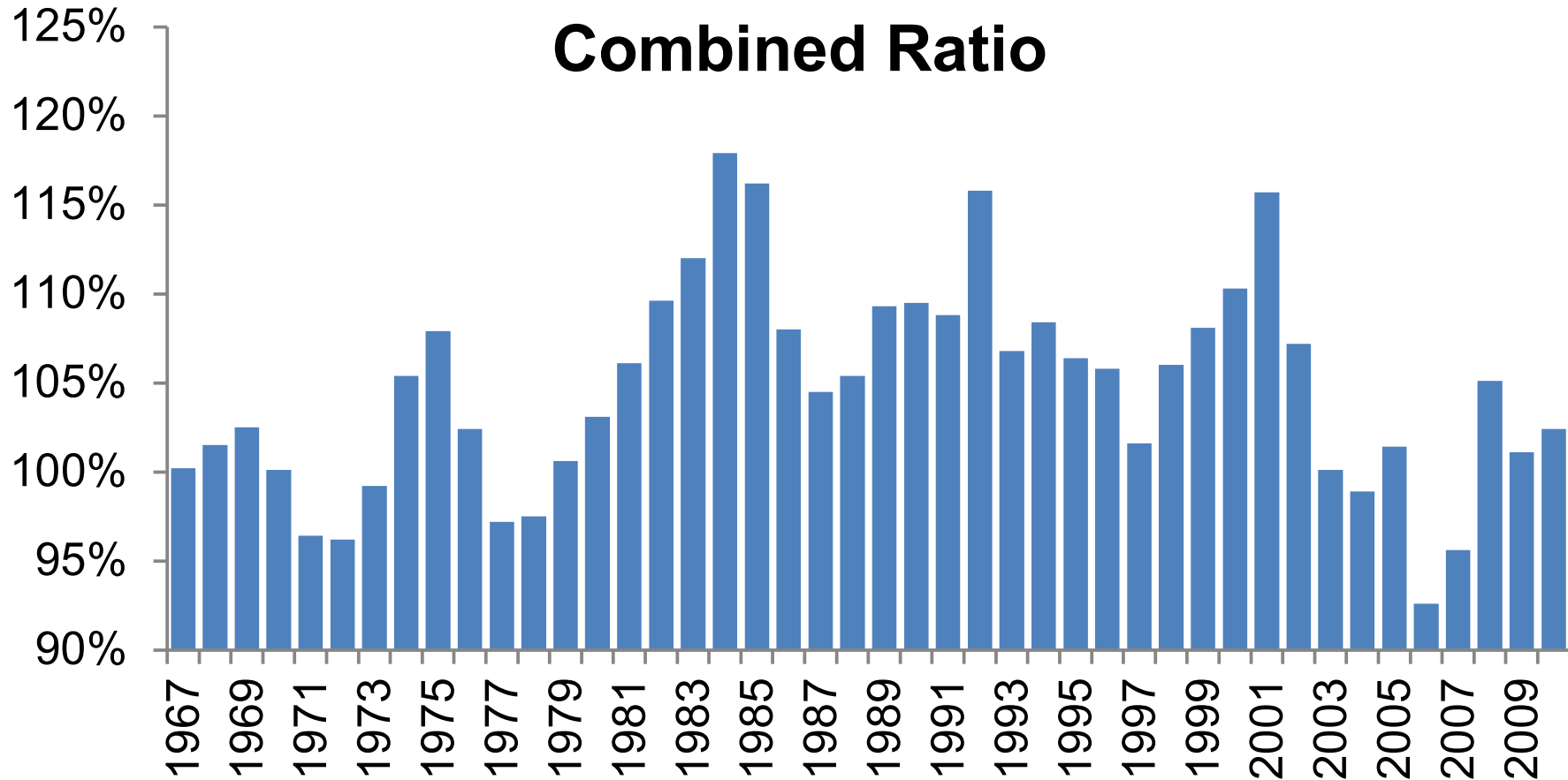


Navigating Today's Underwriting Cycle

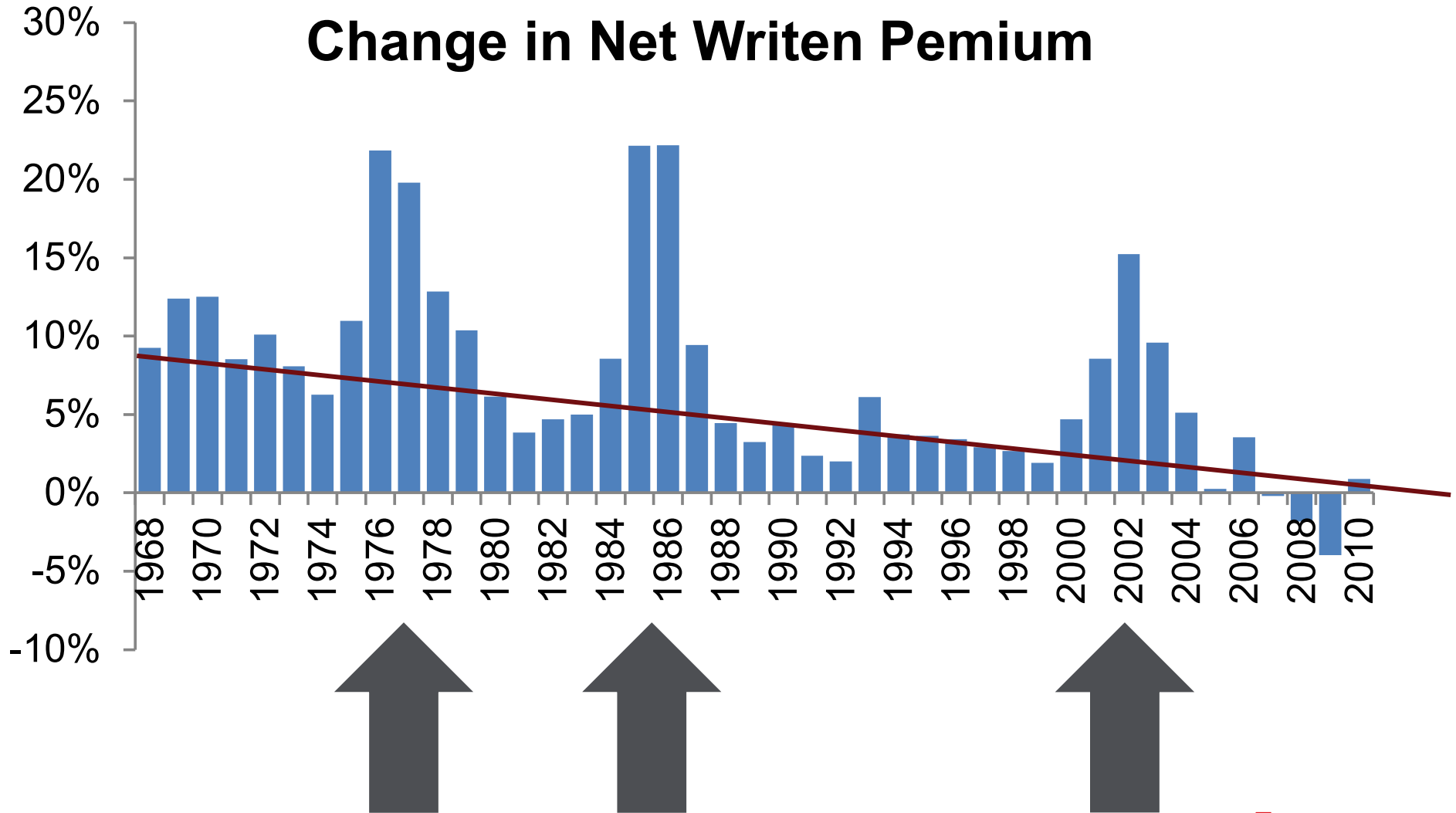


- Q. *What is the right price for underwriting an insurance risk?*
A. *It is where the perfume of the premium overcomes the pong of the peril.*

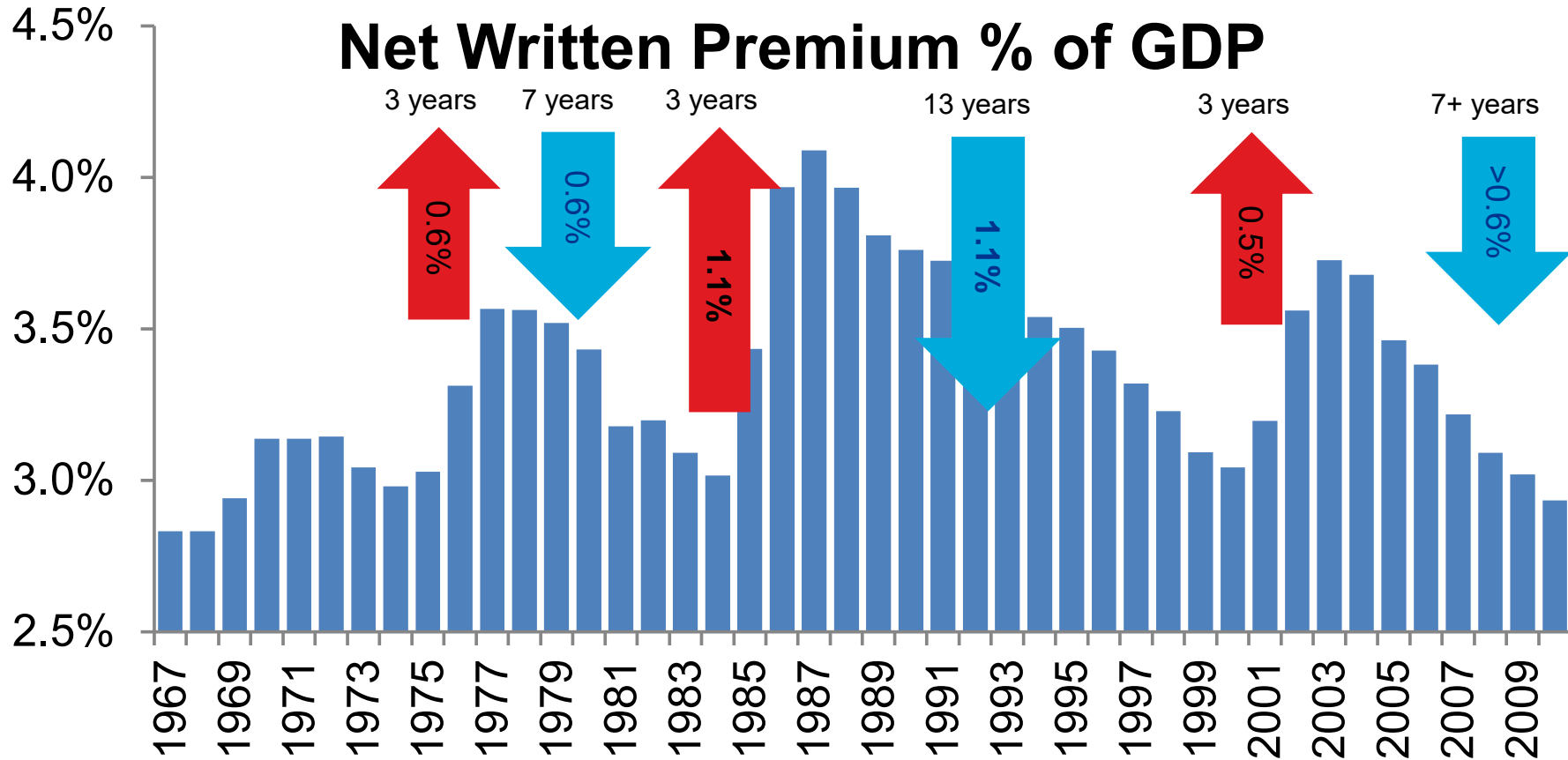
What is the Cycle?



What is the Cycle?



What is the Cycle?

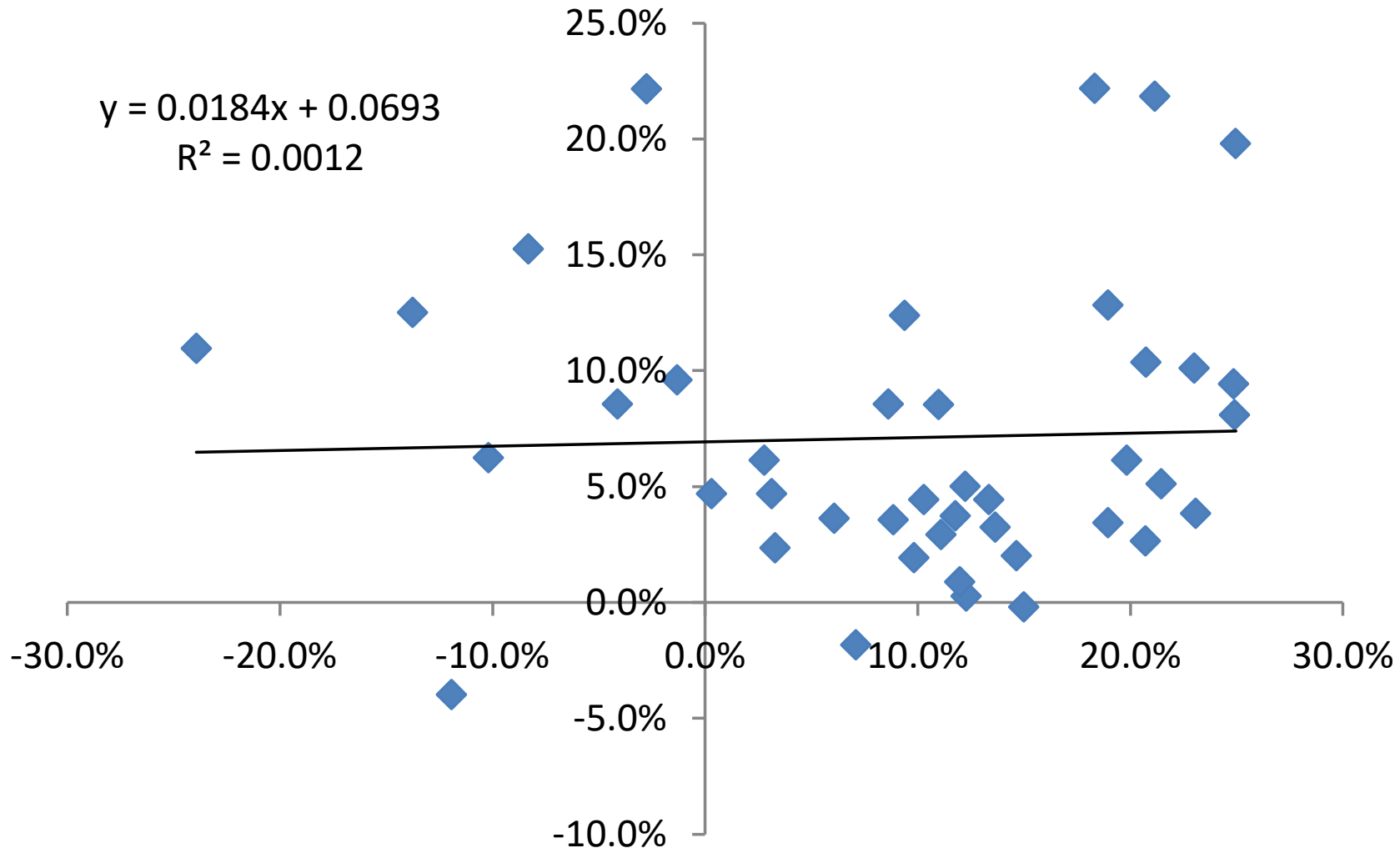


Why is there a Cycle?

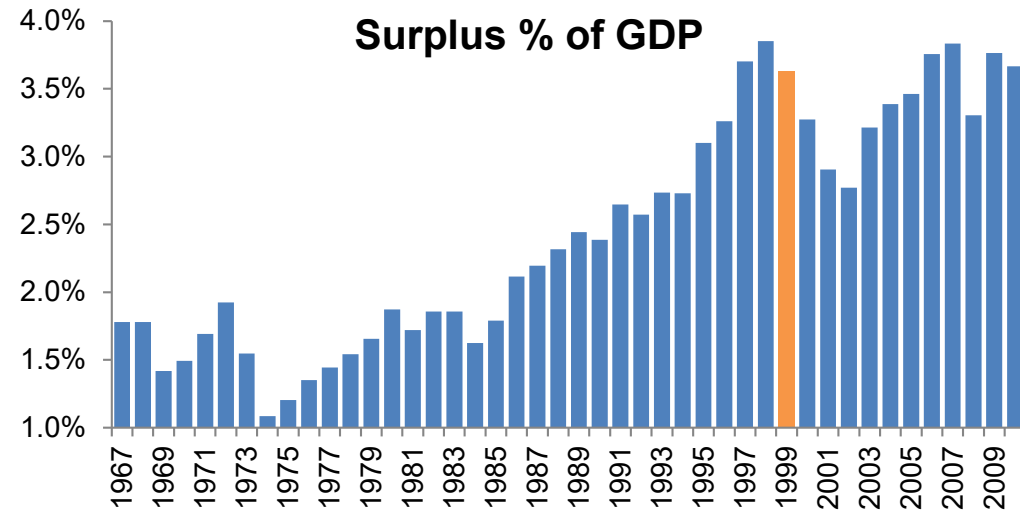
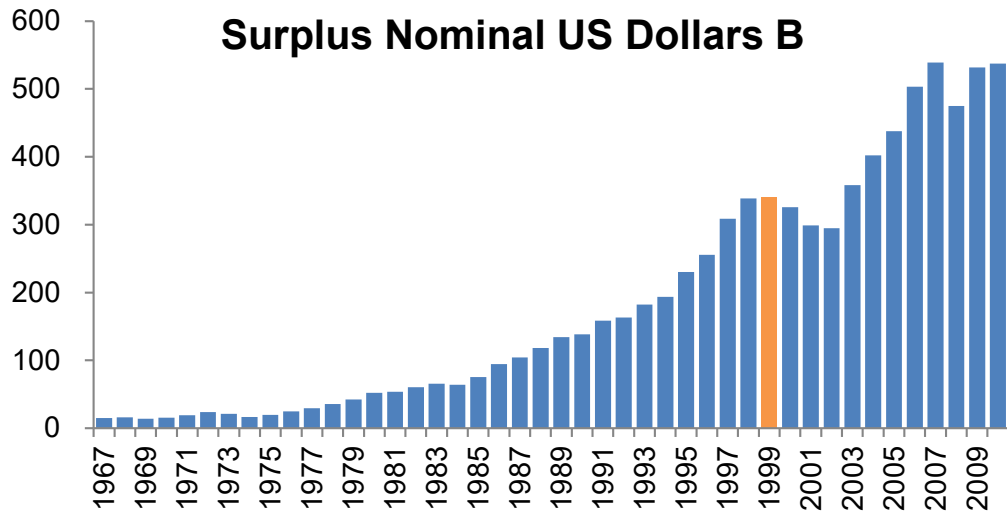
- Capital
 - Supply and demand driven
 - Capital markets inefficiencies (in) and regulatory constraints (out)
- Inability to manage capital: surplus grows more quickly than premium
- Operating Cash Flow or Investment Income
 - Market will not turn while there are funds to invest
- Past losses or past premium
 - Underwriting results drive market turn
- Inadequacies in actuarial methods, reserving cycle

Why is there a Cycle: Capital Driven?

Prior Year Change in Surplus vs. Change in Premium



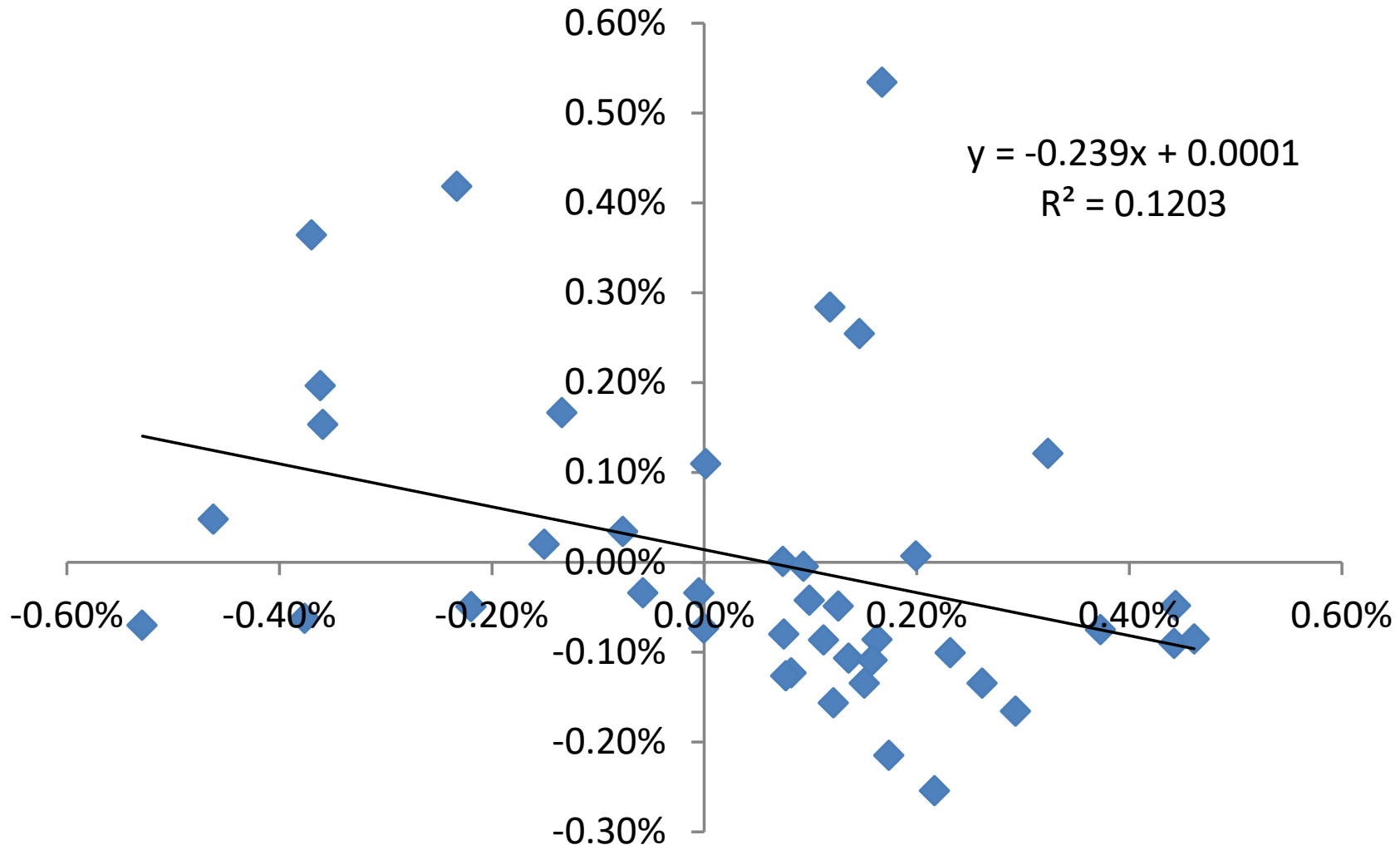
Change in Surplus vs. Change in Surplus/GDP



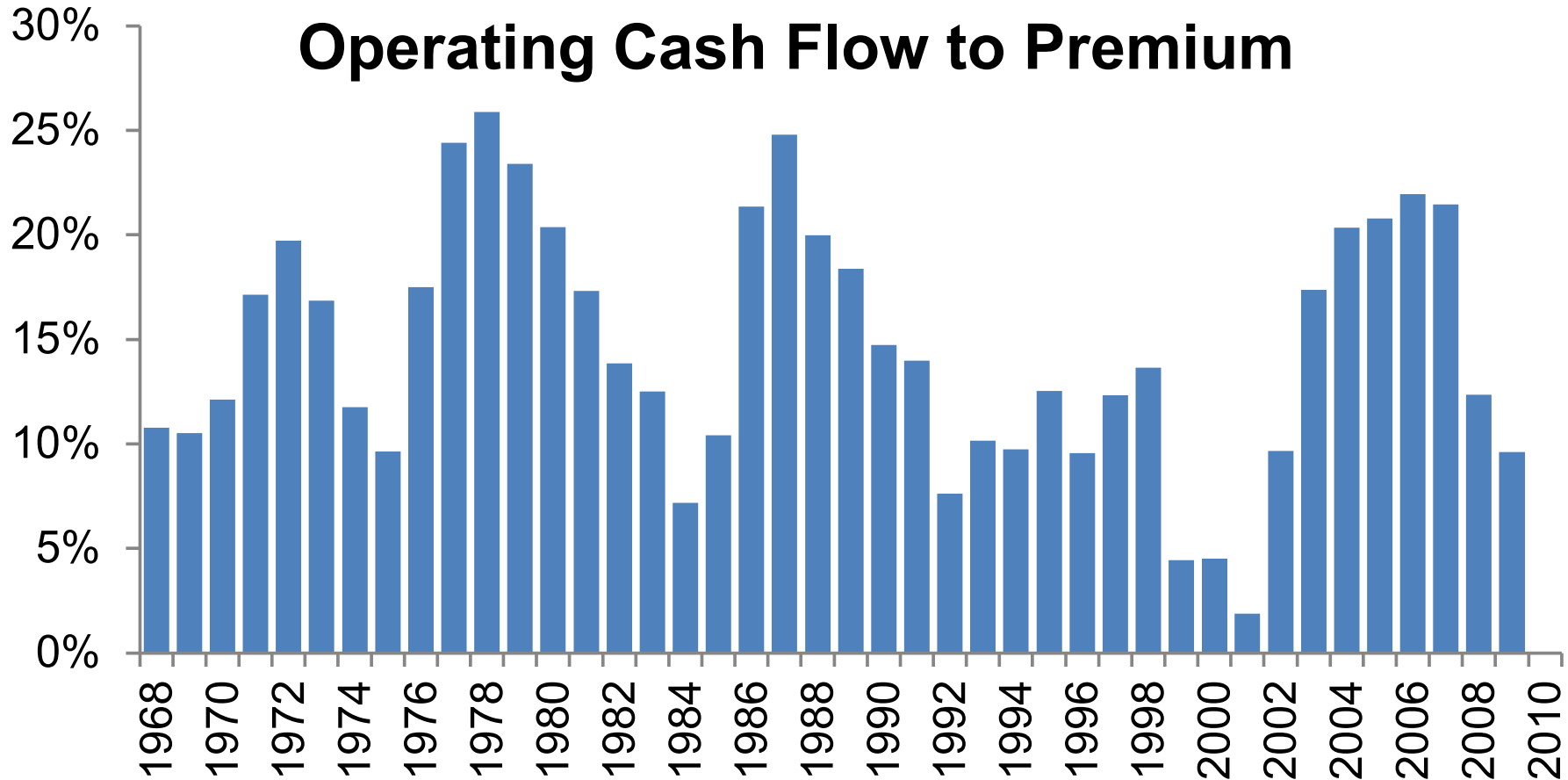
- Change in surplus relative to GDP is a more informative variable than straight change in surplus
- Industry surplus grew 1999 over 1998, but shrank moderately as a percentage of GDP
- Cat reinsurance: surplus relative to measured PML

Why is there a Cycle: Capital Driven?

Prior Year Change in Surplus/GDP vs. Change in Premium/GDP

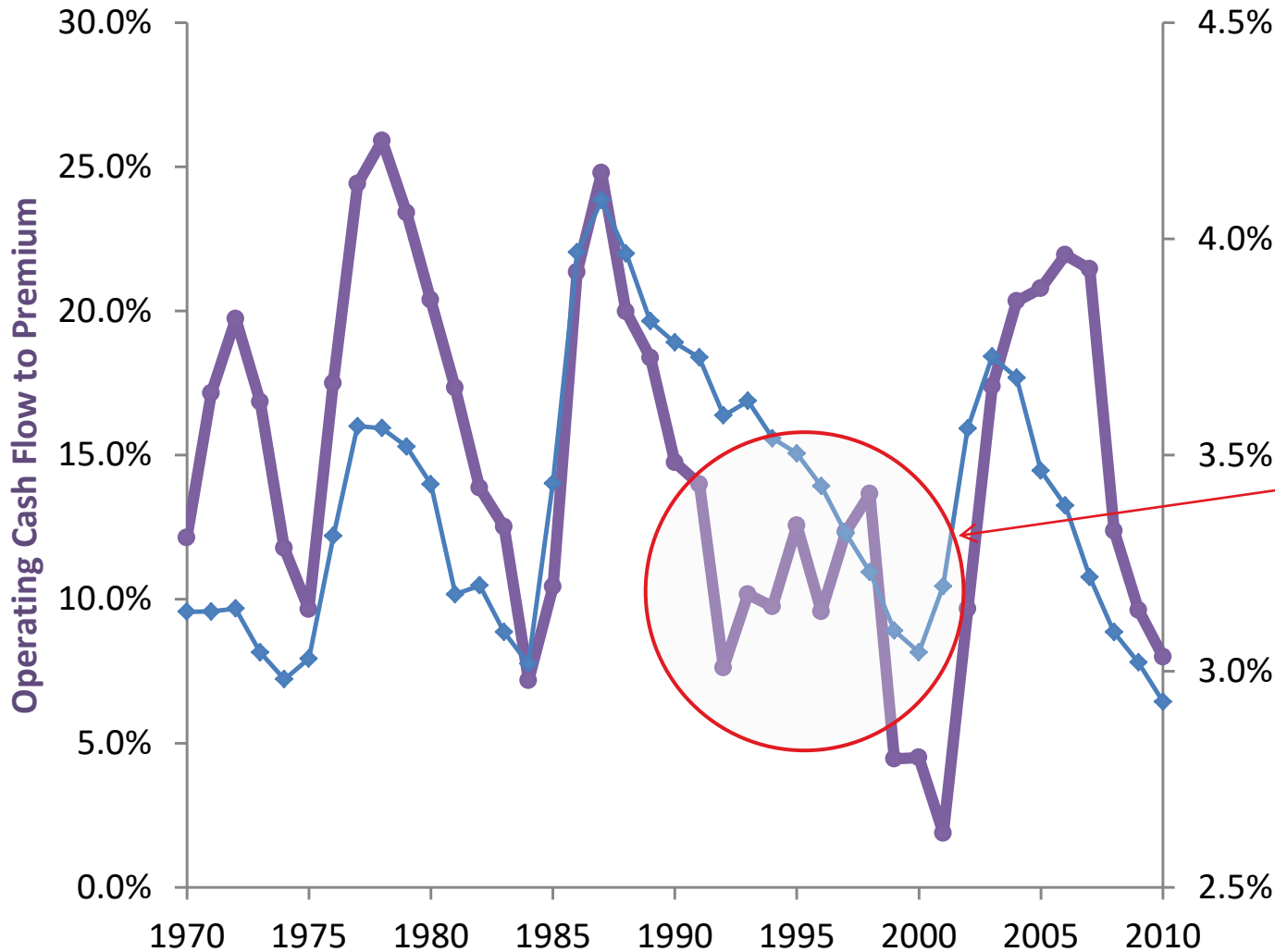


Why is there a Cycle?



Why is there a Cycle?

Operating Cash Flow and Premium to GDP

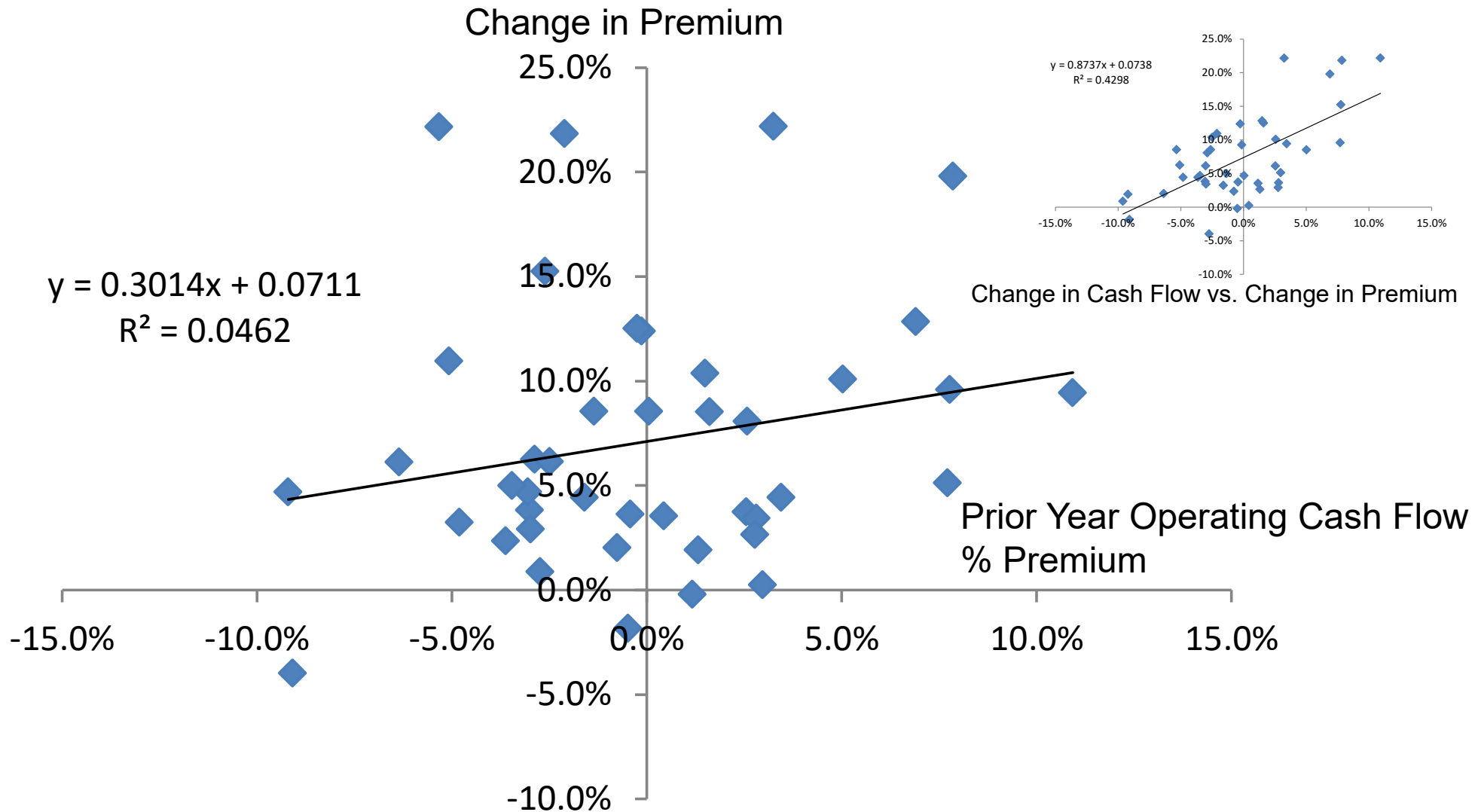


Peaks and troughs align

Strong investment income keeps cash flow positive in late 1990s and prolongs soft market

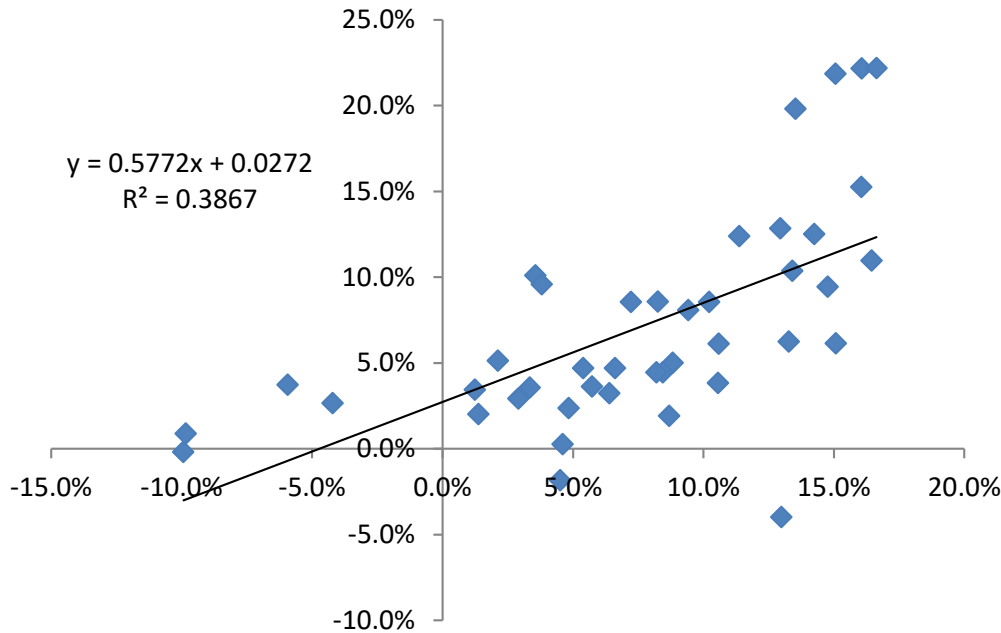
Why is there a Cycle?

Not Strongly Predicted by Operating Cash Flow

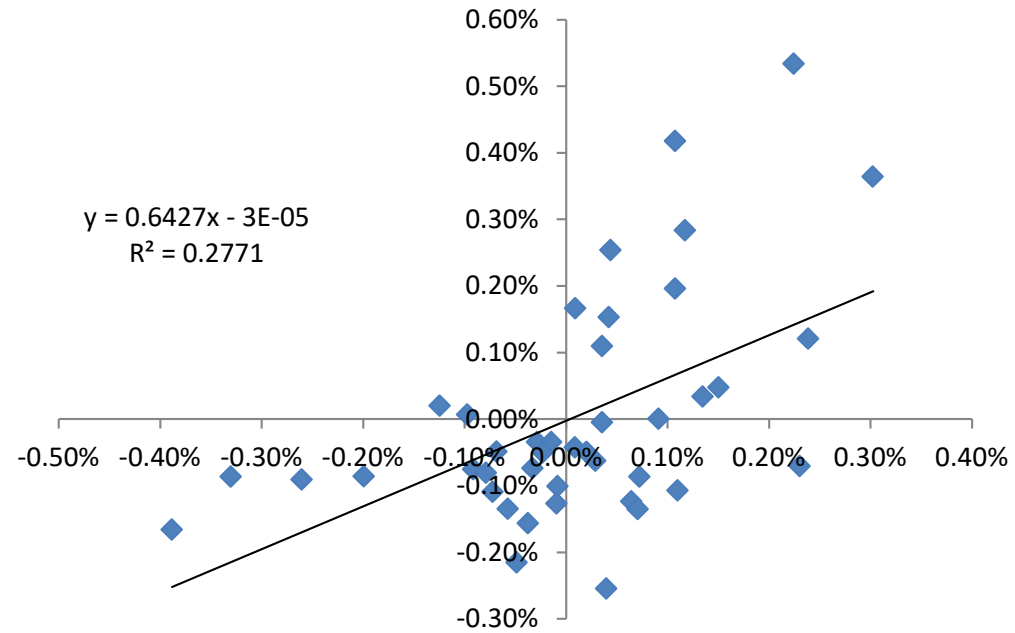


Why is there a Cycle?

Prior Year Change in Loss vs. Current Year Change in Premium



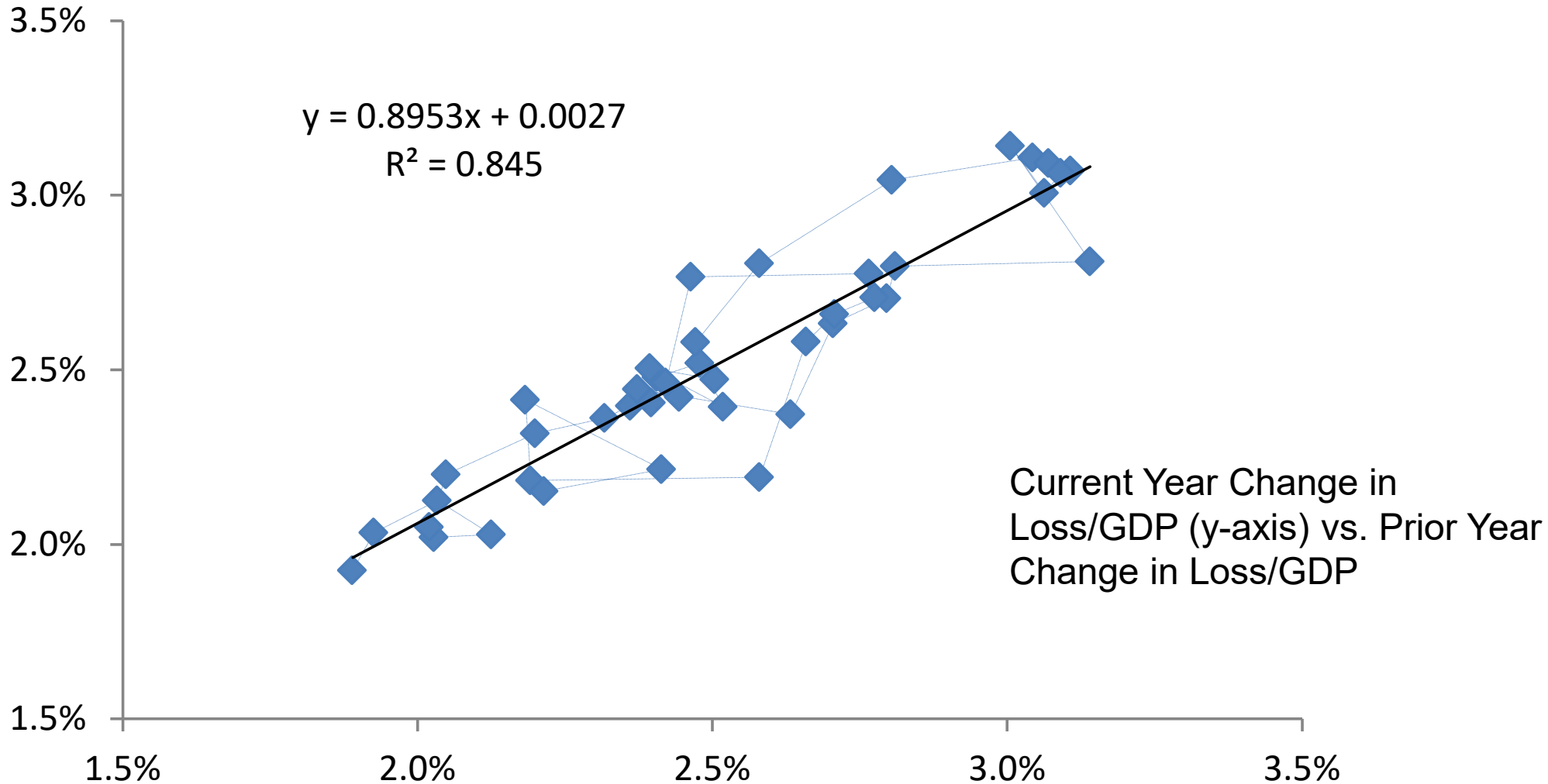
Prior year change in calendar year incurred loss (x-axis) vs. current year change in premium



Prior year change in calendar year incurred loss / GDP (x-axis) vs. current year change in premium / GDP

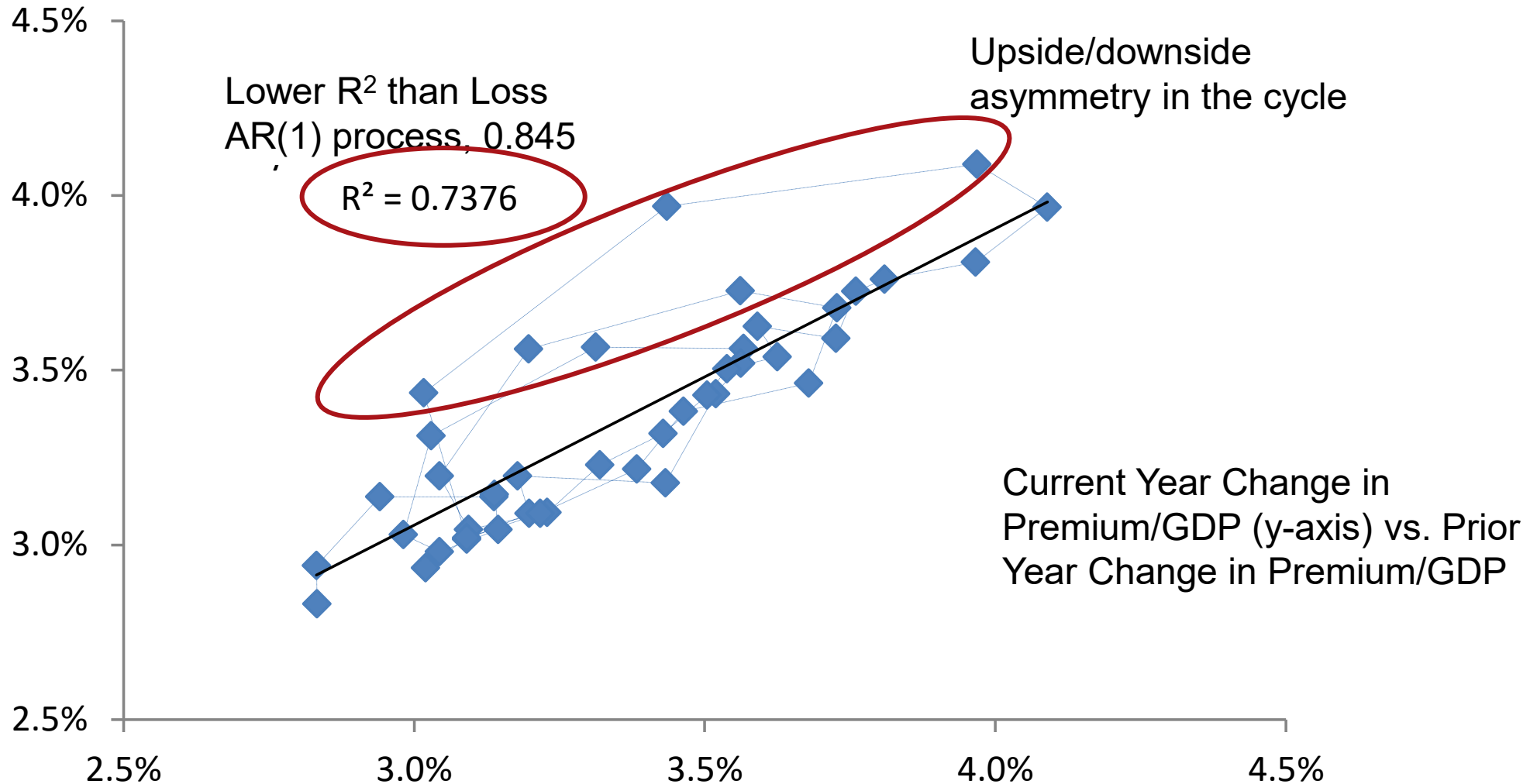
Why is there a Cycle?

Prior Year Change in Loss/GDP vs. Current Year Change



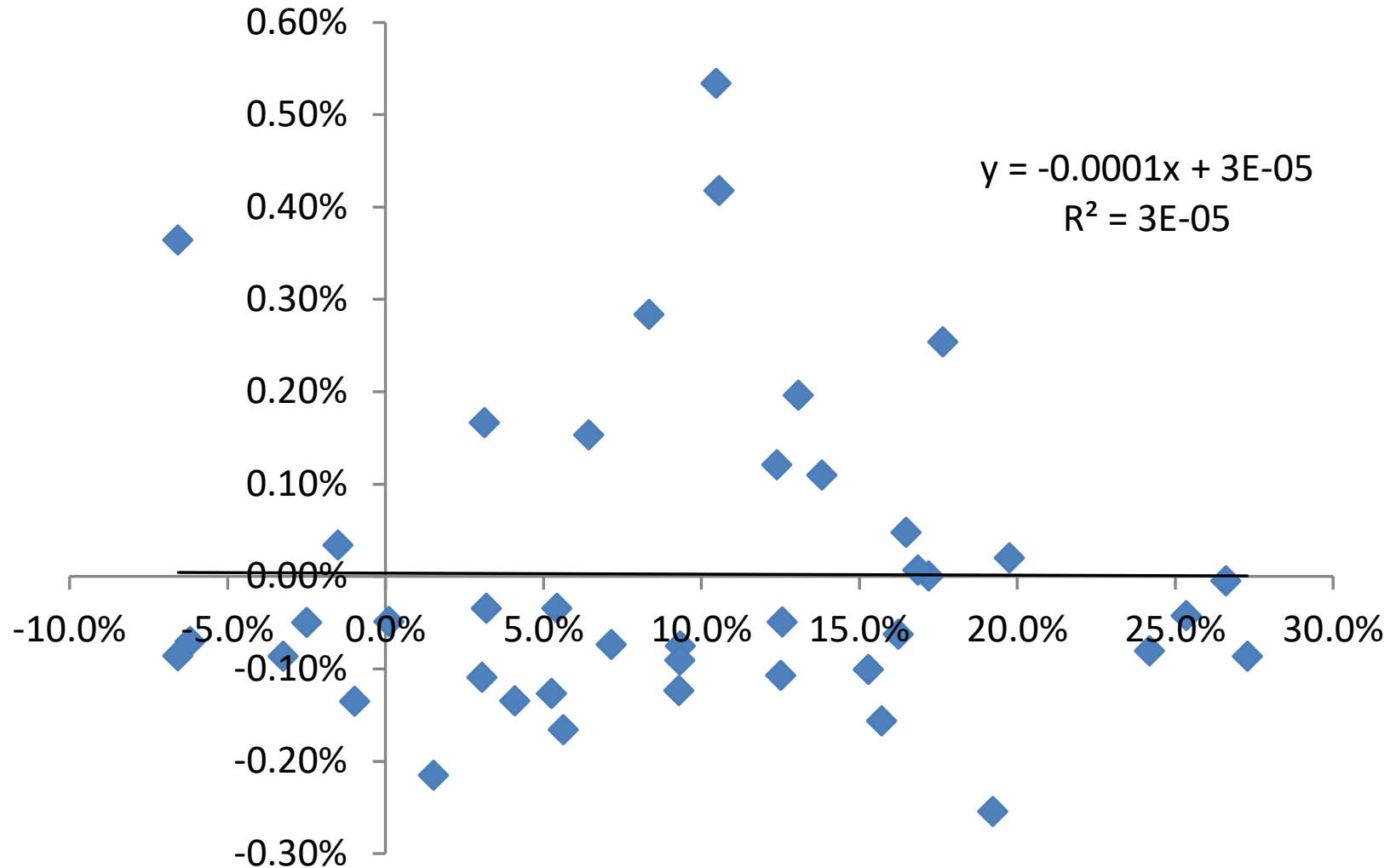
Why is there a Cycle?

Prior Year Premium/GDP vs. Current Year Change



Why is there a Cycle?

Prior Year Change in Inv. Inc. Current Year Change Premium/GDP

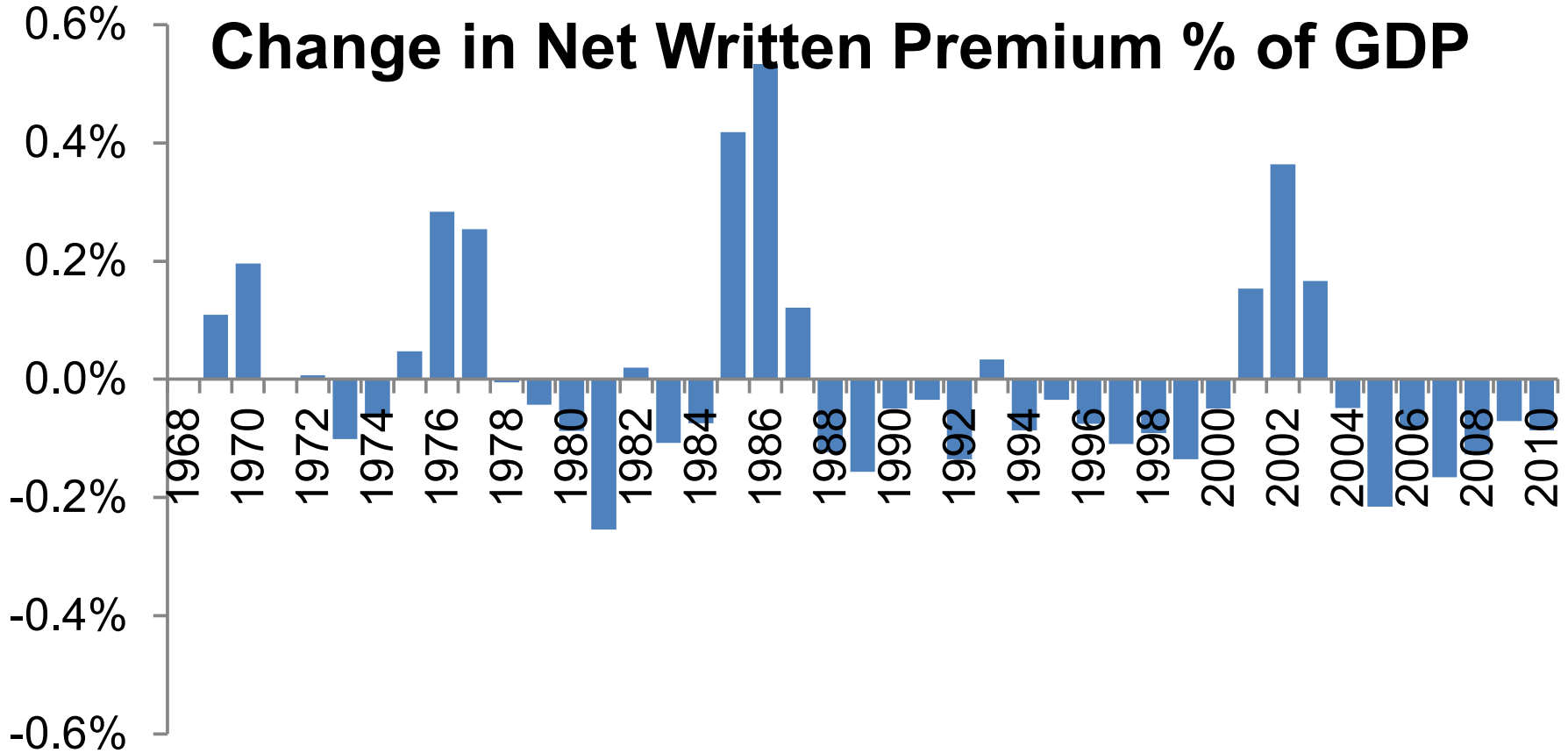


Why is there a Cycle?

- Prior year capital, loss and premium predictive, with expected signs
- Operating cash flows and investment income are not predictive
- Asymmetry: “up the elevator, down the escalator”
- Hardening phases easier to understand than softening



Up the Elevator and Down the Escalator

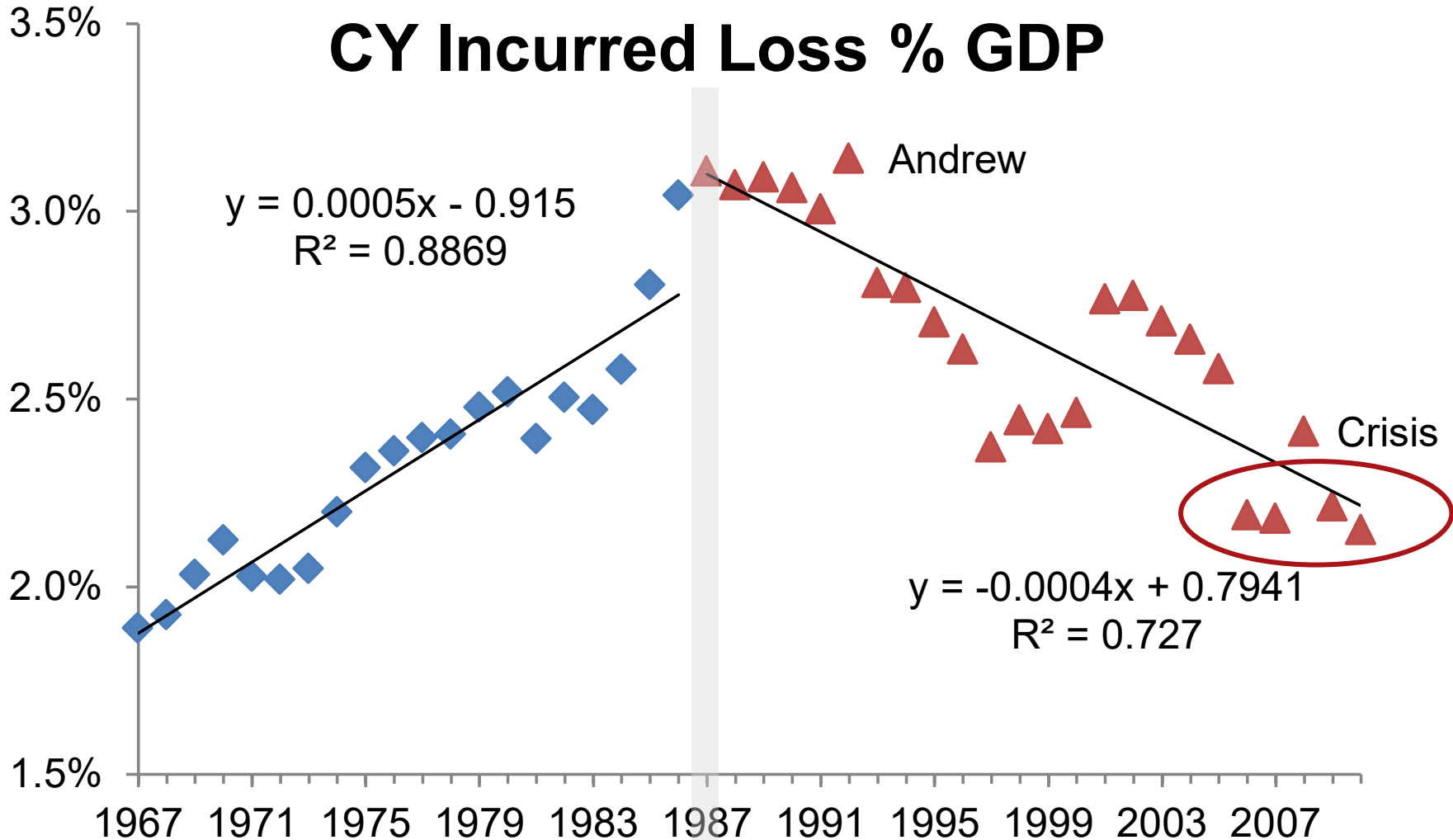


Is the Cycle Different Today?

- Long period of favorable frequency trends
 - All liability lines have experienced favorable frequency trends and controlled severity trends
 - Headlines around property and reserve releases
- Professional, transparent reinsurers and new capital at Lloyds have not supported soft market pricing
 - Big increase in retentions for casualty lines...and lost out on profitable business
 - No Unicover, working casualty treaties
- Historically favorable combined ratios...but historically low leverage ratios and low investment returns that change the target combined
- Continued focus on rate monitoring from soft market

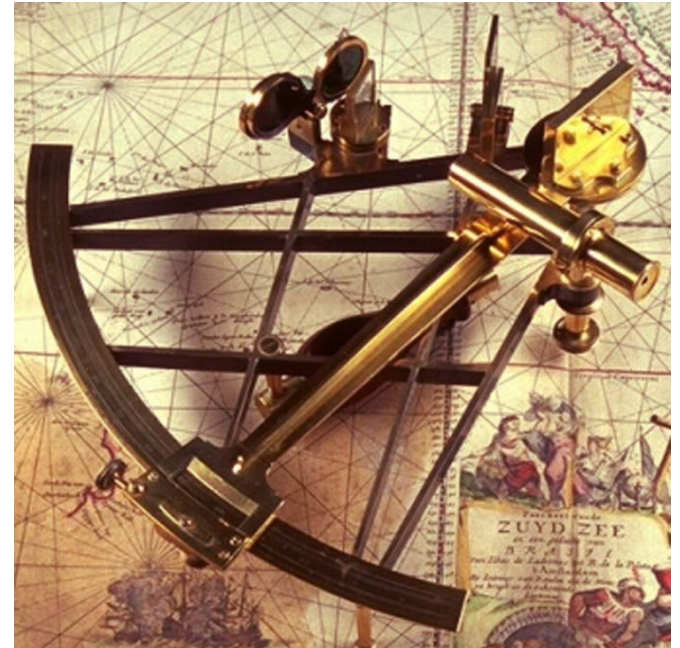
...Yes

A Different Cycle Since 1987 Tax Reform



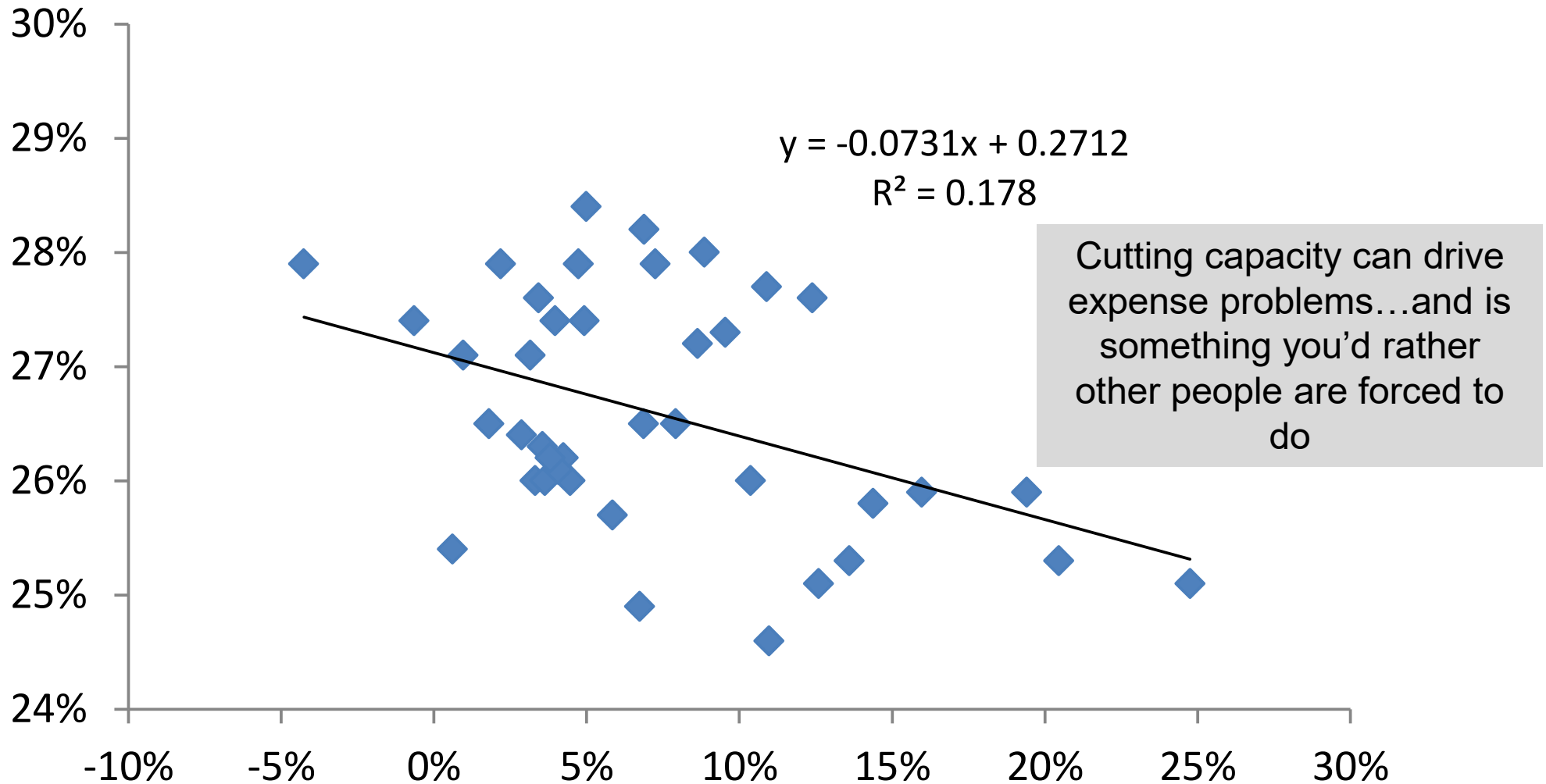
Maps and Sextants: Navigation Tools

- ERM / ECM, cat models, capital models, predictive models
- Solvency II: unclear if S2 will be a net benefit
- Property driven problems vs. liability in 1980s and 1990s...but property risk “understood” using catastrophe models and absorbed by new startups
- Easy to talk about courage when the line is in the distance
- Tools don't make the decisions easier



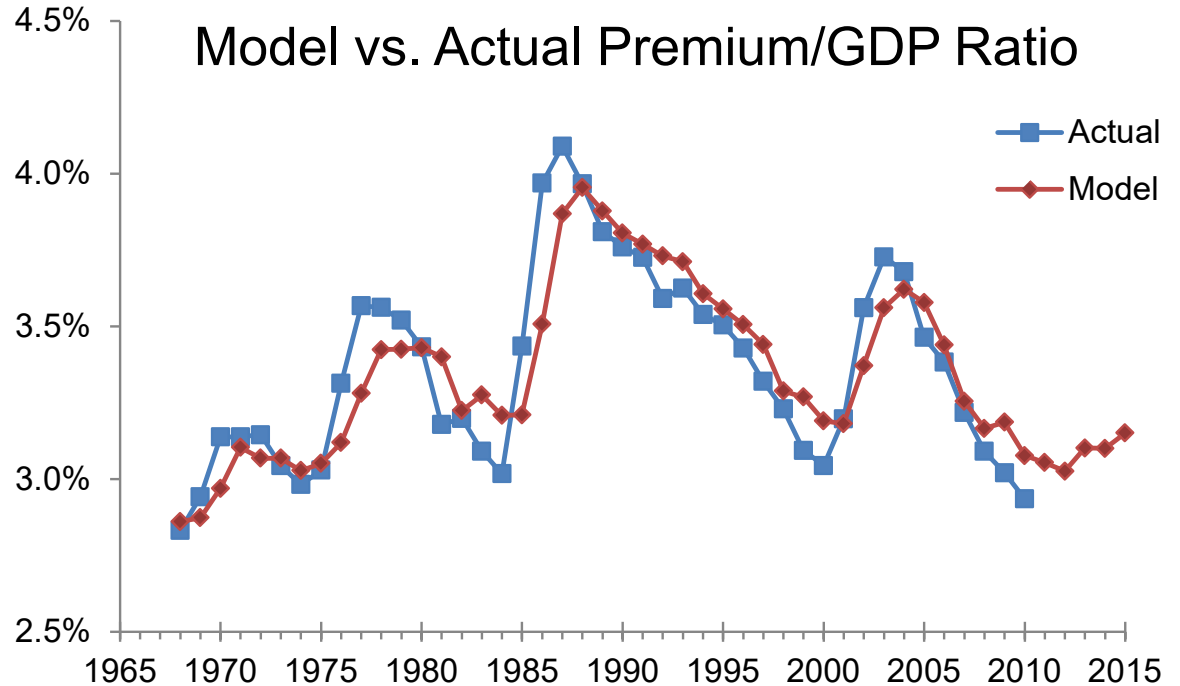
There is nothing complex about the cycle. It is about having the courage of your convictions to act with strength.
Rolf Tolle

Change in Premium vs. Expense Ratio



Where are we Now?

- Model of premium/GDP cycle based on prior year loss/GDP and premium/GDP ratios
- Predicts slight bottoming of market but no convincing hardening
- With 2011 loss/GDP like 2008, 0.2 points of GDP higher, model shows 0.7 point increase in premium/GDP ratio for 2012, to 3.1%

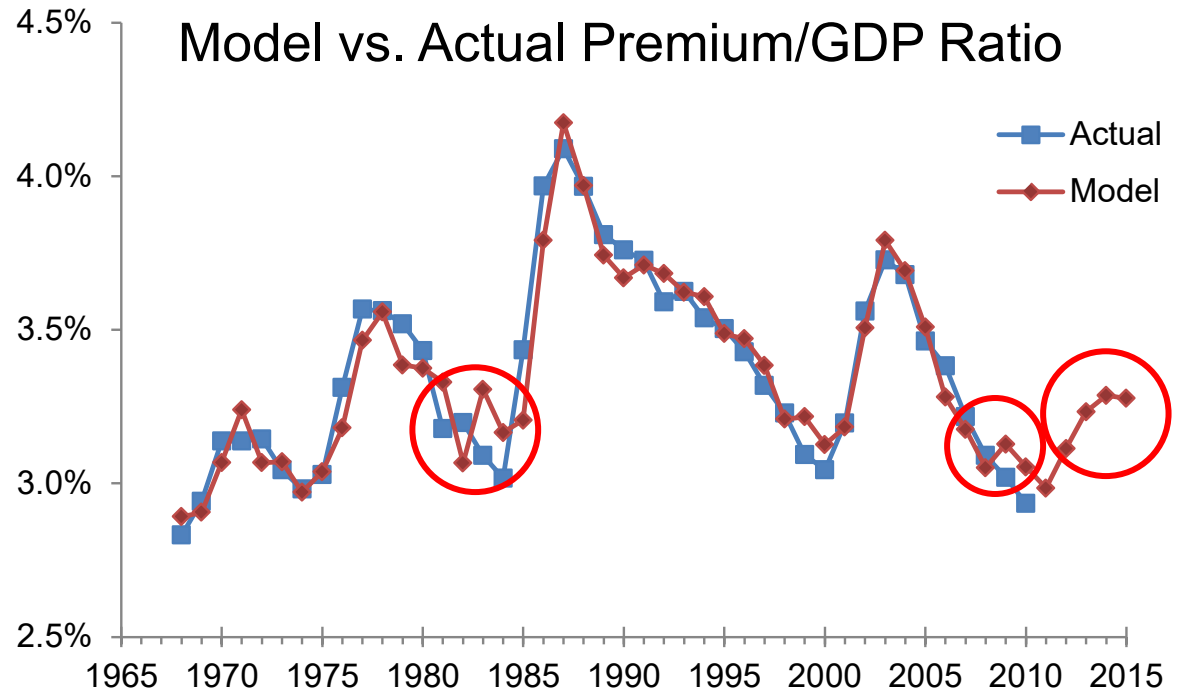


Cycle Model Statistics

	Parameter	Std. Error	p Value
Constant	0.007	0.0025	0.7%
Prior Loss/GDP	0.370	0.1196	0.4%
Prior Premium/GDP	0.512	0.1306	0.0%
Second Prior Premium/GDP			
Regression R ²	78.8%		

Where are we Now?

- Add second prior year premium/GDP ratio to model
- R^2 improves from 79% to 91%
- Predicts slight bottoming of market but no convincing hardening
- With 2011 loss/GDP like 2008, 0.2 points of GDP higher, model shows 0.9 point increase in premium/GDP ratio for 2012, to 3.3%



Cycle Model Statistics

	Parameter	Std. Error	p Value
Constant	0.010	0.0017	7.9E-07
Prior Loss/GDP	0.426	0.0798	4.4E-06
Prior Premium/GDP	1.053	0.1149	1.2E-08
Second Prior Premium/GDP	-0.673	0.0936	2.8E-11
Regression R^2	90.9%		

Predictions

- Market cycle model predicting bottom/slight turn to market
 - Loss level to GDP key driver of future turn, currently at historically low levels
 - Premium components of model consistent with auto regressive noise theory

- A real hard market will be casualty driven
 - Property driven turn to market will be more localized and short lived because of capital sitting on sidelines waiting for profitable opportunities
 - Harder to get capital into a casualty New Co as reserve issues will make investors skittish about injecting new capital
 - 1985 turn, most severe in recent memory, was liability driven

- Possible drivers of casualty based turn – manifest through reserve development
 - Liability catastrophe(s)
 - Reversal of current, favorable frequency trends
 - Severity inflation (not in next 12-18 months)
 - More militant and successful trial bar lawyers