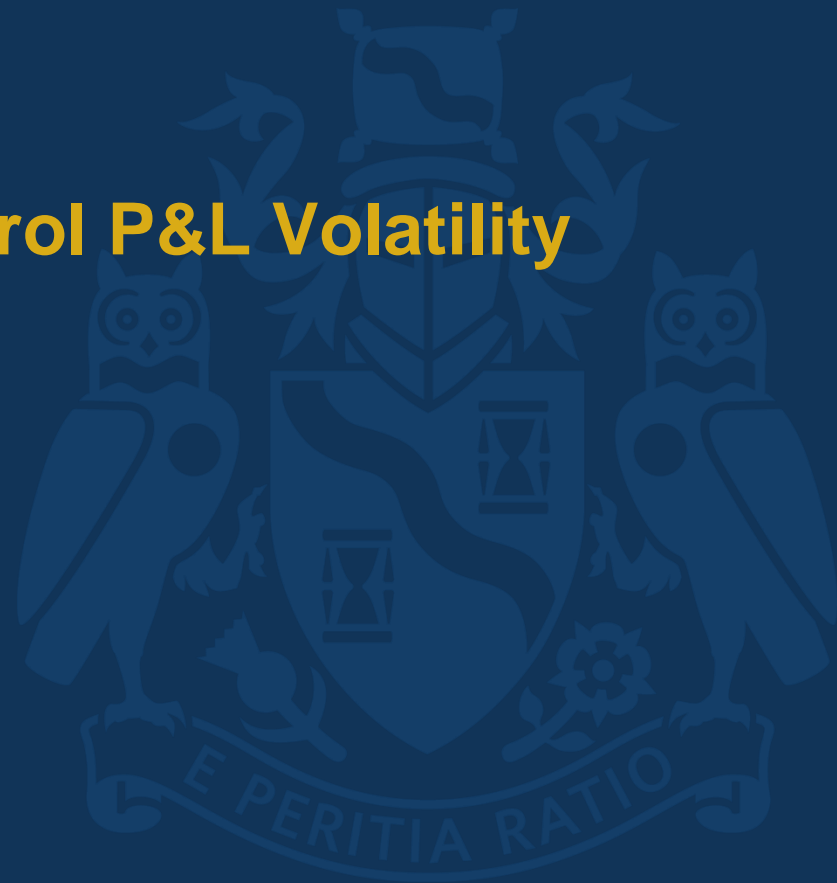




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Using Reinsurance to Control P&L Volatility

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Flashback to GIRO 2017 (Session F09)

Framework ... how I think about reinsurance:

- CAPITAL (only capital) ... I believe reinsurance should only consider the insurer's capital (at the legal entity / Group level). Nothing else. And in the short-medium term: capital is fixed.
 - Not the profit & loss (P&L)
 - ...
-
- I received feedback from some quarters that just focussing on capital was too doctrinaire
 - ... so I set out to think about this, and explore it some more.



I was also influenced by a recent survey

Global Reinsurance and Risk Appetite Survey Report 2017/2018 (Willis Tower Watson, July 2018):

- “Due to pressure from investors, insurers are becoming less tolerant of missed earnings targets”
- “Reinsurance is used increasingly for earnings protection and volatility reduction”
- “Managing the volatility of underwriting results is of prime importance to insurers, and reinsurance strategy measured by risk appetite is key to that”

<https://www.willistowerswatson.com/en/insights/2018/07/risk-appetite-gains-momentum-in-a-changing-world>



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Basic P&L Statement

Suspend any thoughts of Gross versus Net (for the minute)

- Earned Premiums
- less Incurred Claims
- less Acquisition Costs (usually expensed in line with Earned Premiums)
- less Operating Costs
- plus Investment Income
- equals Profit Before Tax (and subsequently Profit After Tax)



Basic Statement of Changes in Equity (a.k.a. Capital)

- Share Capital / Share Premium at 31 December YYYY [... usually small]
- plus Retained Earnings at 31 December YYYY [... usually large]
- plus Profit After Tax for YYYY+1
- less Dividends for YYYY+1
- equals Shareholders' Equity at 31 December YYYY+1



Lightbulb moment

- So now I have had a lightbulb moment: P&L / Profit After Tax / earnings is intimately connected to capital.
- This opens up the possibility that controlling P&L volatility (at the legal entity / Group level), directly, is a valid consideration and/or aim when purchasing reinsurance.



Basic P&L Statement [repeated slide]

Suspend any thoughts of Gross versus Net (for the minute)

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What makes up 'Incurred Claims'?

- Incurred Claims = Paid Claims, plus ▲ Claims Reserves
- Incurred Claims = Paid Claims, plus ▲ Claims Reserves (current year)
+ Paid Claims, plus ▲ Claims Reserves (prior years)
- Volatility in the first grouping represents Underwriting Risk, and volatility in the second grouping represents Reserve Risk



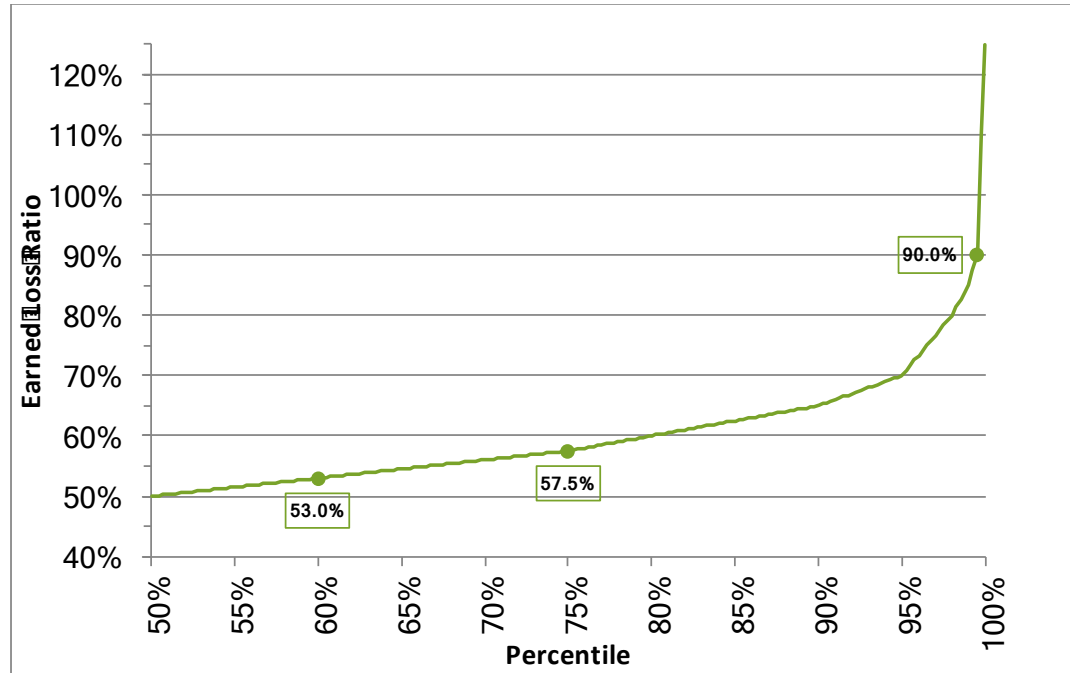
Upshot

- Controlling volatility in Incurred Claims, directly, controls both Underwriting Risk and Reserve Risk (1 year) [... more correctly: collectively, post-diversification between the two]
- Since Earned Premium is reasonably predictable at the beginning of the year, and we need a scaling factor, controlling the volatility in the Earned Loss Ratio [= Incurred Claims / Earned Premium], directly, should more-or-less achieve the same result



Gross Earned Loss Ratio (GELR, not GNELR)

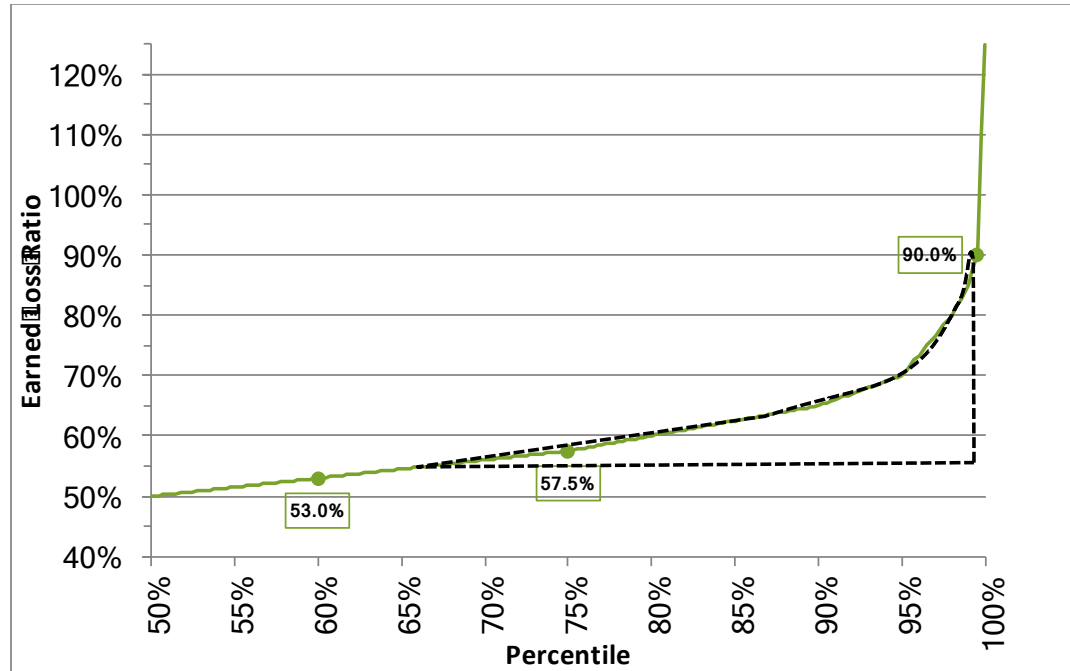
This graph shows different GELR outcomes at varying percentiles.



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Gross Earned Loss Ratio: what volatility needs reducing?

The triangle shows the volatility that we wish to reduce.



How can we control P&L volatility?

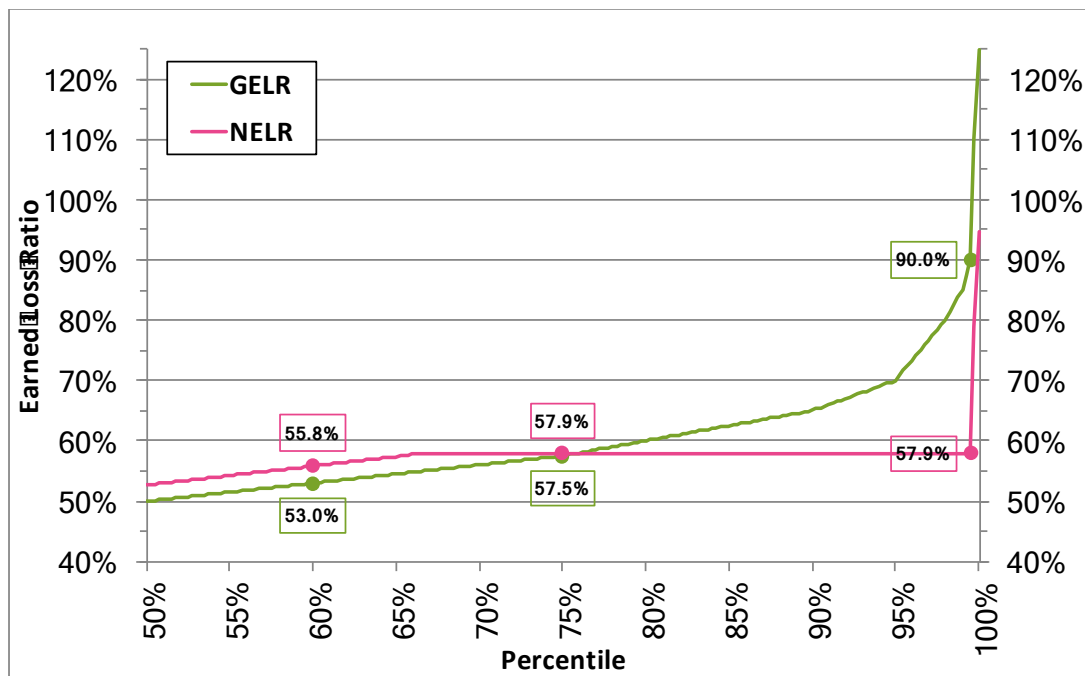
By using Whole Account Stop-Loss Protection (WASP)

- Controls P&L volatility, directly
- Controls both Underwriting Risk and Reserve Risk
- Geared off GELR
- Geared directly off published, audited, financial results



Example: WASP, attaching at 66.5th percentile (54.95% GELR), exhausting at 99.5th percentile (90.00% GELR)

WASP controls P&L volatility, directly.



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WASP outcomes

- P&L volatility has been controlled, directly
- Below a 1-in-200 year level the Net Earned Loss Ratio (NELR) will never be above 57.9%
- Effectively the insurer has bought 35.05 GELR percentage points of protection for 5.04 GELR percentage points of premium
$$[66.5\text{th percentile} = 54.95\% \text{ GELR}, 99.5\text{th percentile} = 90.00\%, 55.8\% \text{ NELR} = (53 - 0) / (100 - 5.04)]$$
- This equates to a 14.38% Rate On Line (ROL, i.e. $5.04 / 35.05$); the reinsurer's expected loss is 8.39% ROL (which equates to a reinsurer expected loss ratio of 58%)



WASP outcomes from the insurer's (cedant's) point-of-view

- The Board asks the CFO after a somewhat poor year: what's the NELR?
Answer: "57.9%"
- The Board asks the CFO after a 1-in-20 year: what's the NELR? Answer:
"57.9%"
- The Board asks the CFO after a 1-in-200 year: what's the NELR? Answer:
"57.9%"
- P&L volatility has largely been eliminated



WASP outcomes from the reinsurer's point-of-view

- Chunky ROL
- Loss settled directly based on the cedant's published accounts, which are fully audited already (no extra work needed i.e. no loss adjustment expenses)
- Loss settled quickly (the cedant's published accounts will be published 2-3 months after end-of-year): very capital-efficient, as the reinsurer's reserves only need to be carried by the reinsurer for short periods of time (short-tail)
- [negative] susceptible to historic systemic under-reserving: this can be controlled by capping the number of past years for which Reserve Risk is included (e.g. past 5 years only) ... but more likely a judgment will be made, in the normal underwriting sense, of the cedant's reserving practices and the reinsurance premium will be adjusted accordingly



Moral Hazard: Reserve Risk

Moral Hazard: lower than might otherwise be thought.

- There is clearly the possibility in a ‘bad year’ that an insurer might be tempted to fatten reserves. But would they?
- An insurer needs to manage its ongoing reputation in the investor community: an outsized GELR may cause stock analysts to look askance, even if there is no direct hit to P&L.
- An insurer needs to manage its ongoing reputation in the reinsurer community (including with current reinsurers): this will temper base instincts.
- “Good years get better, bad years get worse”: the traditional approach is actually the opposite (no doubt with the two former dot-points in mind). It is actually much more likely there’ll be a reserve weakening.



How would a reinsurer underwrite WASP?

Three Key Considerations.

- Study and form a view on cedant-generated forward-looking capital-modelling output (or create a proxy of same); benchmark against the cedant's historic GELRs as a 'sense check'
- Study and form a view on the cedant's historic reserving practices
- Study and form a view on the cedant's mix of business (including by geography)



Who is WASP targeting?

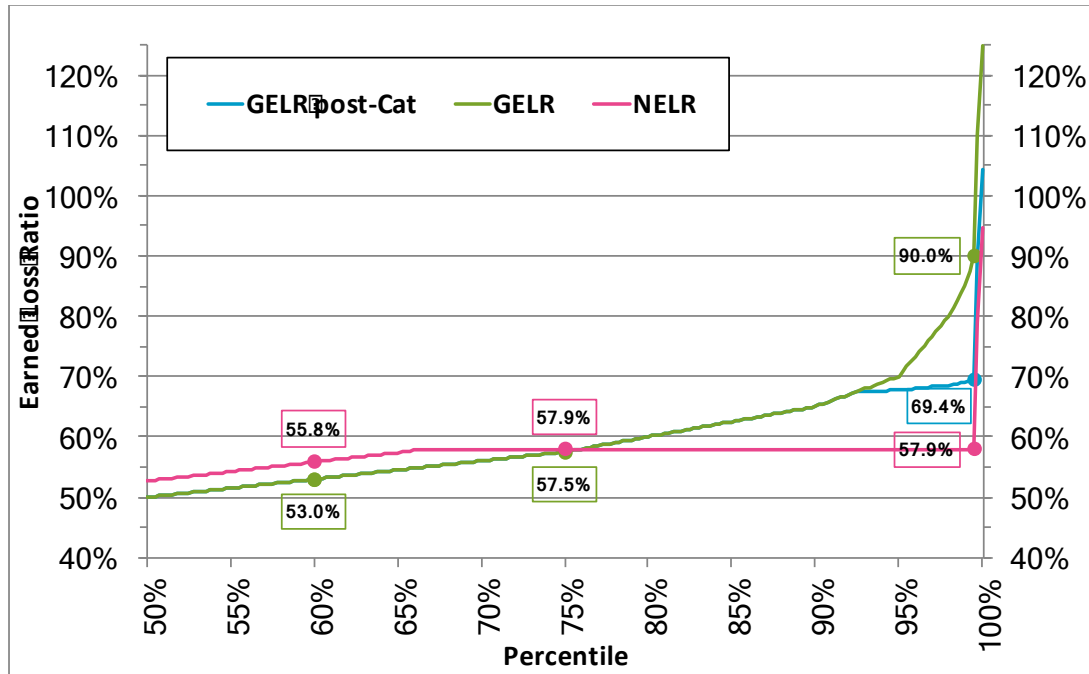
Potential for a reinsurer to deepen / broaden the cedant relationship.

- WASP will probably not be purchased by the Reinsurance Manager or the Chief Underwriting Officer
- WASP will probably be purchased by the CFO and/or the CEO
- Huge benefit: the target audience (CFO / CEO) are quick decision-makers who will immediately see the benefit WASP brings to shareholders ... and to them personally
- Lower P&L volatility: higher Price / Book and Price / Earnings metrics
- Lower P&L volatility: may result in a lower economic capital requirement, and a favourable rating agency view



One possible 'twist'

Traditional catastrophe reinsurance programme inuring to WASP.



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Alternative Capital

- WASP will be particularly well-suited to Alternative Capital, given the short-tail nature and transparent (and fully audited) loss settlement process: losses geared directly off published, audited, financial results
- Very capital-efficient: the reinsurer's reserves only need to be carried by the reinsurer for short periods of time (short-tail): very important for collateralised Alternative Capital
- Alternative Capital can now participate in underlying long-tail risk, something that has been difficult in the past



Any IFRS 17 considerations?

WASP is:

- Simple
- Losses Occuring During (LOD)
- Typically 12 months coverage period (to align with the accounting period)
- i.e. WASP fits very neatly into an IFRS 17 paradigm



Summary

- Much innovation starts by creating a product, and then stimulating demand
- Demand is already there ... but no suitable product exists
- WASP uses an easily understood structure (stop-loss) and re-purposes this for the 21st Century needs of cedants
- At a stretch it is conceivable that an insurer only needs to buy 1 reinsurance contract each year: a WASP, which will control both Underwriting Risk and Reserve Risk
- In practice, initially anyway, it is more likely an insurer will purchase (say) 5% of a WASP and will then reduce existing reinsurance expenditure by a similar amount (5%) ... over time the 5% would become 20% then 50% then 100%



Summary (continued)

- Does WASP cannibalise existing reinsurance expenditure? Yes, absolutely!
- The best way to target P&L volatility is to do so directly
- WASP targets the very thing (P&L) an insurer is trying to control, directly



Questions

Comments

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