ASSURED INDUSTRY STUDY

2019 Industry Reserve Analysis

Reserves turn Deficient

The year 2019 marked the 14th straight year that the U.S. P/C industry's loss reserves developed favorably – by about $6 billion during 2019 down by 50% from the prior year. In contrast, this is the first year since YE2013 when we first published our Industry Reserve Study that we've estimated the industry to be in an overall deficient reserve position.

Our work points to a roughly $4.7 billion reserve deficiency across the ten most recent accident years, or about 0.7% of the industry's carried loss reserves of nearly $650 billion. Actuarially speaking – that's not saying a whole lot; it's well within a reasonable tolerance for error.

But the change from past years is important, particularly in an underwriting environment colored by the emergence of 'nuclear' verdicts and social inflation.

In this report we're going to focus on the statements our work leads us to make, including:

The reserve position of the general (aka "other") liability lines – occurrence and claims made – has deteriorated appreciably since last year.

Despite years of rising prices, the commercial auto liability line is still deficient; though the inflection point in the loss ratio has been passed (it's declining).

Despite years of harvesting reserve redundancies, the workers' compensation line is still reserved redundantly; though the inflection point in the loss ratio has been passed (it's rising).

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We estimate that the P/C insurance industry's U.S. loss reserves are deficient by about $4.7 billion, or 0.7% of the carried loss reserves we reviewed (totaling $648 billion at YE2019).[1] That's a material change from our work in prior years where for six consecutive years we estimated the industry's reserves were redundant; typically around $12-$15 billion or about 2-3% of carried loss reserves. Perhaps paradoxically, the industry enjoyed its 14th consecutive year of reserve releases, though in calendar year 2019 the release of about $6 billion was one-half the prior year figure.

In this report we focus on the few lines of insurance where we feel like our work allows us to make a statement – a point of real differentiation from 'the industry', or where we have something to offer readers that may be surprising.

Nearby Figure 1 shows our overall results by line of insurance (AYs 2010-2019).

Our main observations include:

- **The reserve positions of the general liability lines (occurrence and claims made) have deteriorated appreciably since last year**. In the occurrence line, our estimated ultimate loss ratios (ULR) are fully ten points above the carried ULR for the most recent accident years (see Fig. 2).

Fig 1: Reserve Indications by Line of Insurance; YE2019

	Indicated Loss & DCCE Reserves	Carried Loss & DCCE Reserves	Indicated Reserve Redundancy/ (Deficiency)	Red/ (Def) % Carried Reserves
Workers' Comp	133,240,508	144,307,513	11,067,005	7.7%
PP Auto Liab	121,925,473	124,167,104	2,241,631	1.8%
Two Year Lines	41,060,109	42,786,662	1,726,553	4.0%
Medical Prof Liability - Occ	8,274,841	9,993,790	1,718,949	17.2%
Homeowners	24,819,602	26,202,904	1,383,302	5.3%
Medical Prof Liability - CM	14,474,466	15,484,655	1,010,189	6.5%
Reinsurance - Property	11,159,644	12,118,507	958,863	7.9%
Products Liability - CM	1,070,856	1,269,505	198,649	15.6%
Special Liability	5,777,923	5,866,266	88,343	1.5%
International	595,888	656,559	60,671	9.2%
Reinsurance - Financial	552,421	536,709	-15,712	-2.9%
Comm Multi-Peril	41,725,292	41,572,171	-153,121	-0.4%
Products Liability - Occ	12,640,690	12,275,104	-365,586	-3.0%
Reinsurance - Liability	31,947,625	30,652,162	-1,295,463	-4.2%
Other Liability - CM	45,056,599	41,639,796	-3,416,803	-8.2%
Comm Auto Liab	43,588,248	39,710,087	-3,878,161	-9.8%
Other Liability - Occ	114,614,349	98,620,829	-15,993,520	-16.2%
Totals	**652,524,535**	**647,860,323**	**-4,664,212**	**-0.7%**

Source: S&P Global, Assured Research

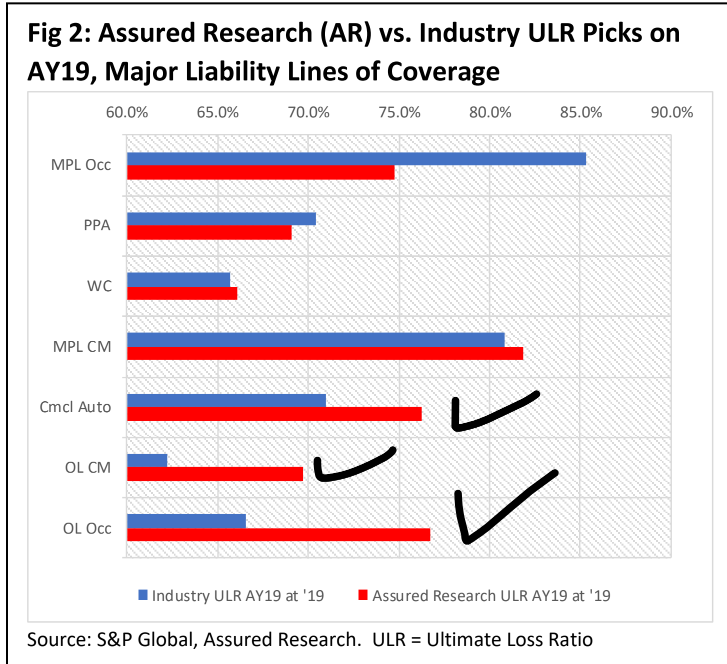
- Despite years of reserve strengthening and rising rates, **the commercial auto line appears to still be appreciably under reserved at nearly 10% of carried reserves**. On a positive note, the infection point in ULR has been

[1] Throughout this report, losses and reserves include defense and cost containment expenses. Our analysis covers accident years 2010-2019 only (i.e., no prior years or legacy liabilities).

passed and the line's profitability is improving.

- **Workers' Compensation is the mirror image of commercial auto**; despite years of reserve harvesting this line seems to have more to give – **our estimated reserve redundancy has grown since last year**. The inflection point in ULR has been passed, however, and U/W results are becoming less profitable.

Fig 2: Assured Research (AR) vs. Industry ULR Picks on AY19, Major Liability Lines of Coverage



Source: S&P Global, Assured Research. ULR = Ultimate Loss Ratio

- Readers interested in our work on these, or any other lines of business should please ask us – we're happy to share. But nearby Figure 2 makes clear why we choose in this report to focus on the liability lines mentioned; the substantial loss ratio difference on accident year 2019 (AY19) reveals both a material reserve deficiency (if our higher estimate of the ULR is broadly accurate) and a pricing shortfall that will adversely impact profitability for the current year of account – 2020.

What this means for the pricing cycle

Loss reserve (in)adequacy and the pricing cycle are inextricably linked. This work suggests to us that diminishing reserve releases will give way to more loss reserve charges (concentrated in lines including Other Liability and Commercial Auto), in turn, providing the catalyst for more – and perhaps accelerating - rate increases in those lines. **It's possible that mid-year 2020 reserve studies (commonly conducted on liability lines) will begin to recognize rising reserve deficiencies and thus act as a catalyst for accelerating rate increases**.

It will be difficult for insurers to continue raising prices into 2021 if their reported results improve from 2019 at the same time that interest rates (and their cost of equity hurdle) decline and their customers are dealing with an economic slowdown/recession.

However, with reference to our Assured Report (*Liability Loss Ratios Provide Clues for Hard Market*, March 10, 2020) we continue to see and believe:

1) **There is still a material difference between, for example, the mid 70's loss ratio of today in Other Liability Occurrence and the 100%+ loss ratios from the late 1990s/early 00s**; and

2) **Reported 2020 results will hold large sway over the duration of this pricing cycle into 2021**. With the economy likely to slow from the affects of COVID-19, the results of P/C insurers could temporarily benefit from the slower economic activity at the same time their pricing power is tempered by the substantial, negative impact this event will have on many other industries.

Actual vs. Expected in 2019

Figure 3 compares our year-end 2018 reserve position with actual reserve development during calendar year 2019. Our labelling of this an 'actual vs. expected' analysis is a bit loose; we wouldn't have expected all of our estimated redundancy to be realized in just one year. But since most insurance professionals understand the concept of 'A vs. E', we'll roll with it.

Figure 3: Assured Research 2018 Reserve Position vs. Actual 2019 Reserve Development

	Indicated Resv Red/(Def) at YE18	Actual Development CY19 Fav/(Adv)	Difference
PPA Liability	3,377,284	442,082	2,935,202
Workers' Comp	8,700,181	7,314,661	1,385,520
MPL Occ	1,785,922	466,173	1,319,749
MPL Claims Made	1,259,403	10,629	1,248,774
Homeowners	1,086,670	(136,741)	1,223,411
Reins_Liab	833,882	(337,570)	1,171,452
Cmcl Multi Peril	77,883	(672,254)	750,137
Product Liab CM	308,947	79,723	229,224
International	99,014	(119,370)	218,384
Product Liab Occ	48,685	(91,193)	139,878
Reins_Prop	708,140	724,241	(16,101)
Special Liability	(250,856)	(148,919)	(101,937)
Reins_Fincl	(200,867)	(27,481)	(173,386)
Cmcl Auto Liability	(3,201,188)	(2,553,331)	(647,857)
Other Liab CM	(1,404,843)	(407,024)	(997,819)
Two Yr Lines	3,219,192	4,505,287	(1,286,095)
Other Liab Occ	(5,076,764)	(3,087,823)	(1,988,941)
Total	11,370,685	5,961,090	5,409,595

We get plenty of things wrong, but on this scorecard our work was directionally correct across most lines of insurance.

We'll note on PPA Liability that that our ULR selections typically differ from the industry by less than 100bp. So, we're not making much of a 'statement' by indicating a material redundancy on that line; it's just that small ULR differences are being applied to a very large (~$150 bil.) premium base.

More on the major liability lines in the sections following.

Source: S&P Global, Assured Research

Line of Insurance Commentary

Our line of insurance commentary this year is focused on the areas where we feel like our work is making a *statement* – either through materially different loss ratio selections or where our findings were surprising to us; and so we reckoned to many readers. We'd be pleased to discuss other lines of insurance or to share our work – just ask.

And new this year is a style of presentation for which we can take no credit but which we think does a fabulous job of illustrating the pernicious impact of trends – bad or good – in loss development triangles. We'll get to them shortly, but our thanks to Paul Brehm, SVP at OneBeacon Insurance (an Intact Financial Corp. company) for both enlightening us and allowing us to use this technique for bringing boring loss development triangles to life.

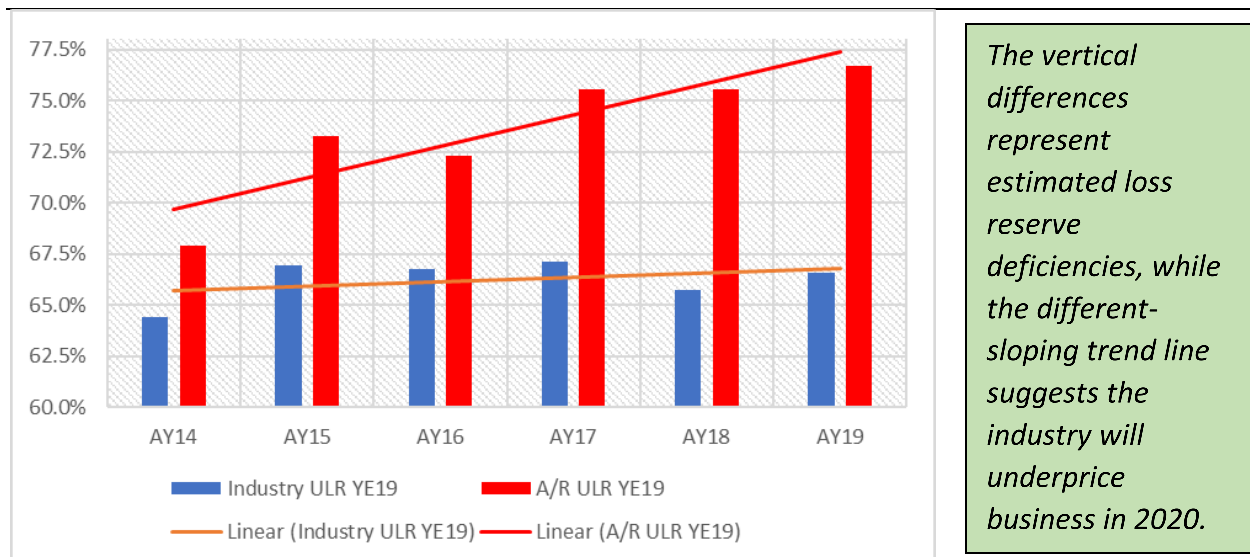
We'll categorize our work as uncovering **new and adverse trends** in Other Liability Occurrence and Claims made; **still adverse reserving trends** in Commercial Auto Liability; **and still favorable reserving trends** in workers' compensation.

New and Adverse Trends: Other Liability Occurrence

Our estimated reserve deficiency on this line (the industry's 3rd largest by carried reserves with nearly $100 billion) **grew from $5 bil. last year to nearly $16 bil. this year. What changed?**

First, in Figure 4 we show the results of our analysis and how it is that reserving and pricing problems are inextricably linked.

Figure 4: Industry Selected and Assured Research Indicated ULR by Accident Year



Source: S&P Global, Assured Research. Data shown is for Other Liability Occurrence

It's perplexing to us how "the industry" (which we realize is not each and every insurer) is holding their net ULR in the 65-67.5% range each of the past several accident years while at the same time decrying the onset of 'nuclear' verdicts and social inflation. Our projections may

prove incorrect, of course, but they're at least consistent with the dire narrative offered by most insurance executives.

And **as to why the change**…that's where **our new visual aid should help**. Most readers will be familiar with loss development triangles – for our purposes we're working with reported losses (paid plus case reserves). And to specify further, **we're showing below a triangle of reported loss ratios, with each column representing the incremental loss emergence at each point of development**.

In Figure 4 we first show the triangle for Homeowners. Why? Because this is what a triangle thusly constructed should look like. We've marked in green the cells where the incremental development down a column is below the average for that development period, and in red where it is above.

Figure 5: Incremental Loss Ratio Development Triangle – Homeowners'

Accident Years	Incremental Incurred Loss Ratio									
	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2005	51.1%	6.8%	1.6%	0.8%	0.4%	0.2%	-0.1%	0.1%	0.0%	0.0%
2006	46.0%	5.3%	0.9%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
2007	49.3%	5.2%	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
2008	66.7%	7.2%	1.1%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
2009	60.1%	6.5%	0.8%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
2010	59.2%	6.4%	0.9%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%
2011	73.8%	6.3%	0.8%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	
2012	57.3%	6.1%	1.0%	0.3%	0.2%	0.1%	0.1%	0.0%		
2013	47.2%	4.6%	0.8%	0.3%	0.1%	0.1%	0.1%			
2014	49.1%	5.2%	0.9%	0.3%	0.2%	0.1%				
2015	47.5%	5.8%	0.7%	0.3%	0.2%					
2016	48.7%	6.2%	0.9%	0.3%						
2017	60.3%	8.3%	0.8%							
2018	56.8%	8.7%								
2019	51.9%									

Source: S&P Global, Assured Research

It looks reasonably random, right? It's supposed to. Now look at the same triangle for OL Occ.

Figure 6: Incremental Loss Ratio Development Triangle – Other Liability Occurrence

Accident Years	Incremental Incurred Loss Ratio									
	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2005	16.8%	9.7%	6.7%	5.8%	3.7%	1.4%	1.7%	1.7%	1.1%	1.0%
2006	15.4%	9.5%	7.8%	5.4%	3.1%	2.3%	2.1%	0.8%	0.6%	1.1%
2007	16.0%	10.9%	8.2%	5.5%	4.3%	3.6%	1.7%	1.1%	1.1%	0.7%
2008	15.1%	11.5%	8.8%	6.4%	5.4%	2.6%	2.2%	1.1%	1.3%	1.2%
2009	16.6%	11.9%	8.4%	7.5%	4.7%	2.9%	1.8%	1.8%	1.6%	0.8%
2010	15.6%	12.4%	11.0%	7.4%	5.1%	2.8%	3.0%	2.1%	1.2%	0.1%
2011	15.3%	12.8%	10.7%	8.5%	5.4%	3.9%	3.0%	1.9%	0.6%	
2012	14.2%	12.2%	10.7%	8.8%	4.9%	4.8%	2.2%	1.1%		
2013	13.3%	12.1%	11.1%	8.6%	6.4%	3.7%	2.4%			
2014	14.2%	12.3%	11.1%	8.8%	5.8%	3.6%				
2015	14.1%	13.7%	11.6%	9.8%	6.6%					
2016	14.2%	13.0%	11.1%	10.1%						
2017	13.6%	15.3%	11.8%							
2018	14.4%	13.6%								
2019	15.1%									

Source: S&P Global, Assured Research

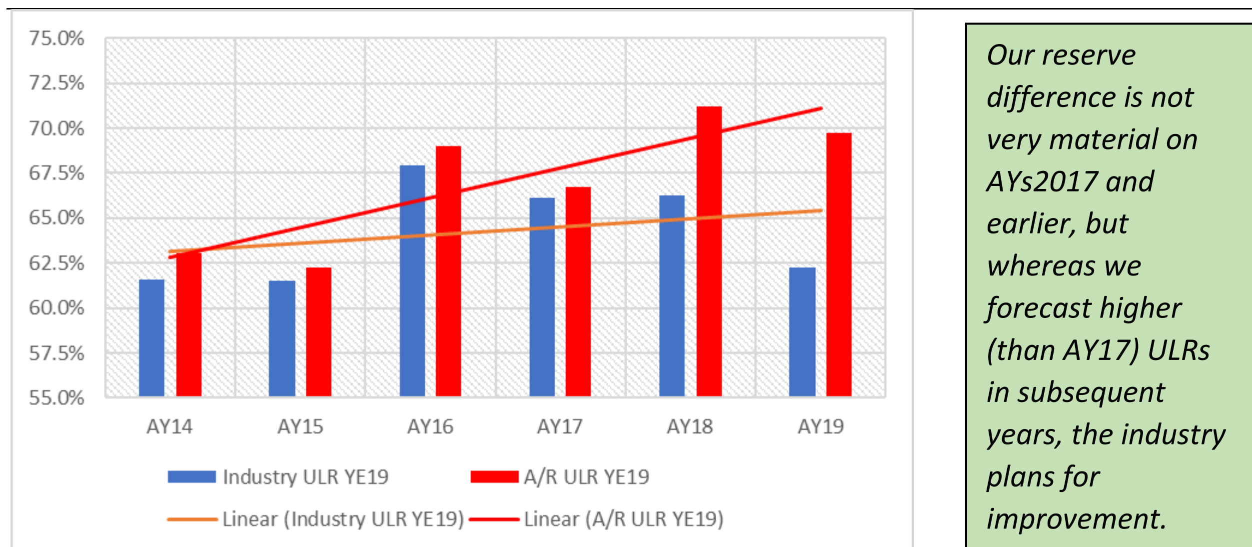
The consistent appearance of red cells along recent diagonals says to us that **macroeconomic forces (which would include social inflation) are adversely impacting loss reserve development on open claims across**, in this case, accident years 2013 and subsequent. Since actuaries use past loss development to inform their selections about future development – one can see how they're playing catch-up when adverse trends are accelerating.

And in light of this, the industry's decision to hold the ULR for AYs 2014-19 is particularly perplexing and it helps to explain why our ULR is accelerating.

New and Adverse Trends: Other Liability Claims Made

Our estimated reserve deficiency on this line grew from $1.4 bil. last year to $3.4 bil. this year. Reserves developed adversely during calendar year 2019 with nearly all of that deficiency emerging on AYs 2017 and 2018.

Figure 7: Industry Selected and Assured Research Indicated ULR by Accident Year



Our reserve difference is not very material on AYs2017 and earlier, but whereas we forecast higher (than AY17) ULRs in subsequent years, the industry plans for improvement.

Source: S&P Global, Assured Research. Data shown is for Other Liability Claims Made

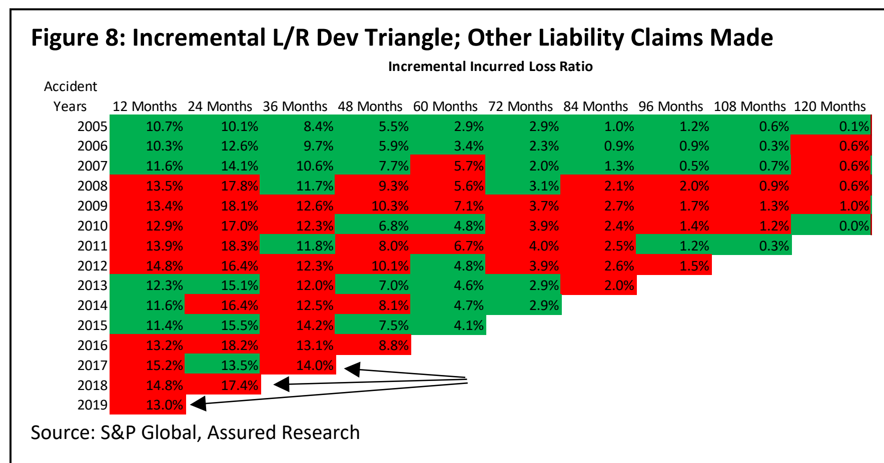


Figure 8: Incremental L/R Dev Triangle; Other Liability Claims Made

Incremental Incurred Loss Ratio

Accident Years	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2005	10.7%	10.1%	8.4%	5.5%	2.9%	2.9%	1.0%	1.2%	0.6%	0.1%
2006	10.3%	12.6%	9.7%	5.9%	3.4%	2.3%	0.9%	0.9%	0.3%	0.6%
2007	11.6%	14.1%	10.6%	7.7%	5.7%	2.0%	1.3%	0.5%	0.7%	0.6%
2008	13.5%	17.8%	11.7%	9.3%	5.6%	3.1%	2.1%	2.0%	0.9%	0.6%
2009	13.4%	18.1%	12.6%	10.3%	7.1%	3.7%	2.7%	1.7%	1.3%	1.0%
2010	12.9%	17.0%	12.3%	6.8%	4.8%	3.9%	2.4%	1.4%	1.2%	0.0%
2011	13.9%	18.3%	11.8%	8.0%	6.7%	4.0%	2.5%	1.2%	0.3%	
2012	14.8%	16.4%	12.3%	10.1%	4.8%	3.9%	2.6%	1.5%		
2013	12.3%	15.1%	12.0%	7.0%	4.6%	2.9%	2.0%			
2014	11.6%	16.4%	12.5%	8.1%	4.7%	2.9%				
2015	11.4%	15.5%	14.2%	7.5%	4.1%					
2016	13.2%	18.2%	13.1%	8.8%						
2017	15.2%	13.5%	14.0%							
2018	14.8%	17.4%								
2019	13.0%									

Source: S&P Global, Assured Research

Figure 8 shows the same incremental loss ratio triangle as for Other Liability Occ (Fig. 6 above) but for Other Liability Claims Made – the repository for most professional liability and D&O policies. We've highlighted the recent development along the diagonal affecting

AYs2017 and subsequent. This worsening loss experience helps to explain our rising loss ratio differential (indicating reserve deficiencies and likely pricing shortfalls) evident in Figure 7.

Still Adverse: Commercial Auto

Back at YE2017 we estimated the reserve deficiency in commercial auto liability was $1.9 billion. The next year reserves developed adversely by $1.8 billion, but we still estimated a reserve shortfall of $3.2 billion at YE18. Reserves developed adversely during calendar year 2019 by $2.6 billion, but we *still* increased our estimate of reserve deficiency at YE2019 to $3.9 billion or nearly 10% of the industry' carried reserves.

Figure 9 does a good job of explaining why we're still playing catch up to materially adverse loss trends in this line – persistent adverse loss emergence and trends.

Figure 9: Incremental Loss Ratio Development Triangle – Commercial Auto Liability

Incremental Incurred Loss Ratio

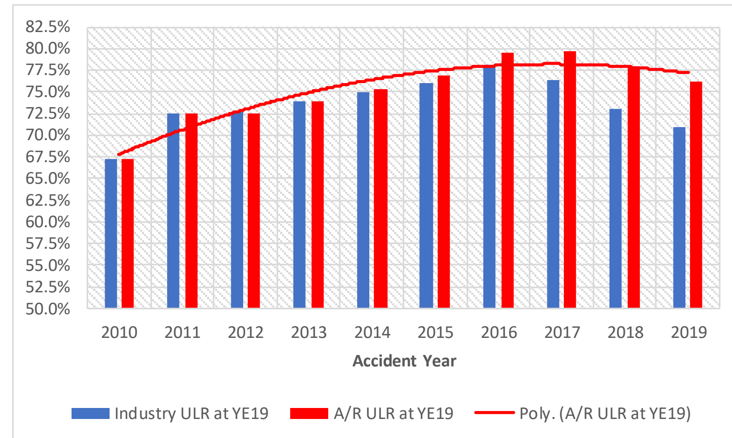
Accident Years	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2005	34.0%	11.0%	5.7%	3.3%	1.4%	0.6%	0.2%	0.1%	-0.1%	0.0%
2006	34.5%	10.9%	5.8%	3.1%	1.4%	0.4%	0.4%	0.1%	0.0%	0.1%
2007	34.7%	11.9%	6.3%	3.6%	1.3%	0.9%	0.2%	0.1%	0.1%	0.1%
2008	35.2%	11.9%	6.2%	3.4%	1.9%	0.6%	0.4%	0.2%	0.2%	0.0%
2009	34.3%	11.8%	6.3%	4.0%	1.8%	0.9%	0.3%	0.1%	0.2%	0.1%
2010	37.0%	13.2%	8.0%	4.5%	2.5%	0.9%	0.4%	0.2%	0.2%	0.1%
2011	38.3%	15.3%	8.5%	5.1%	2.7%	1.1%	0.5%	0.4%	0.2%	
2012	38.1%	15.2%	8.8%	5.4%	2.7%	1.0%	0.5%	0.3%		
2013	37.3%	15.4%	9.4%	6.2%	2.8%	1.1%	0.9%			
2014	37.0%	15.5%	10.1%	6.3%	3.5%	1.3%				
2015	37.4%	16.8%	9.9%	6.7%	3.4%					
2016	38.9%	16.6%	10.9%	6.9%						
2017	38.8%	16.9%	10.9%							
2018	37.2%	17.5%								
2019	37.0%									

Source: S&P Global, Assured Research

There is good news! Nearby Figure 10 shows that the ULRs for commercial auto appear to have finally inflected favorably.

As we've noted on several occasions now, **with rate increases still being written and earned while the economy slows from COVID-19, it would seem AY20 results for commercial auto will improve further.**

Figure 10: Comcl. Auto Liability Ultimate Loss Ratios



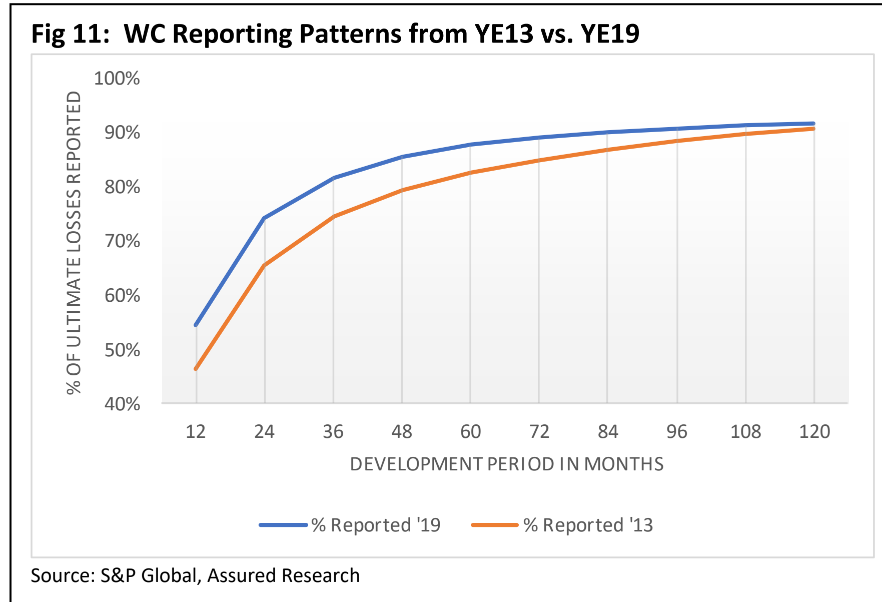
Source: S&P Global, Assured Research

Still Favorable: Workers' Compensation

The industry reported over $7 billion of reserve releases in Workers' Compensation during calendar year 2019. And yet, we increased our estimate of the reserve redundancy in this, the largest liability line with $144 billion of carried reserves. What gives? Figure 11 shows how the loss reporting pattern for WC has shortened since we first began publishing industry reserving studies.

And Figure 12 makes apparent why the loss reporting pattern has been declining – incremental losses have been decelerating for the past several years.

Fig 11: WC Reporting Patterns from YE13 vs. YE19



Source: S&P Global, Assured Research

Figure 12: Incremental Loss Ratio Development Triangle – Workers' Compensation

	Incremental Incurred Loss Ratio									
Accident Years	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2005	28.8%	9.0%	4.2%	2.6%	1.5%	1.6%	1.1%	0.8%	0.6%	0.3%
2006	29.3%	10.6%	5.5%	2.9%	2.2%	1.4%	1.1%	1.0%	0.4%	0.4%
2007	32.5%	12.8%	5.8%	3.6%	2.2%	1.6%	1.3%	0.7%	0.5%	0.4%
2008	35.0%	13.9%	6.7%	3.9%	2.4%	1.4%	1.4%	0.9%	0.7%	0.3%
2009	35.3%	14.3%	6.8%	3.9%	2.4%	1.9%	1.0%	1.0%	0.6%	0.3%
2010	38.0%	16.0%	7.6%	4.1%	2.7%	1.4%	1.3%	0.8%	0.2%	0.5%
2011	37.0%	15.3%	6.9%	4.0%	2.5%	1.7%	0.9%	0.3%	0.6%	
2012	33.9%	13.9%	5.9%	1.4%	3.7%	1.2%	0.5%	0.6%		
2013	31.5%	12.9%	5.0%	3.0%	1.5%	0.6%	0.3%			
2014	30.2%	11.5%	4.8%	2.4%	1.2%	0.7%				
2015	28.8%	11.6%	4.4%	1.8%	1.2%					
2016	28.9%	9.9%	3.7%	2.0%						
2017	28.9%	10.6%	4.1%							
2018	29.4%	10.7%								
2019	31.3%									

Source: S&P Global, Assured Research

Summary

This reserve analysis marks a turning point in our series of studies. We think recognition of loss reserve deficiencies will be a catalyst for extending the hardening market now underway. But as external events unfold, only time will tell whether the hardening market extends into 2021.