

*Global Market Stats & Benchmarking  
2020  
announced @ 52nd IMIA conference  
Vienna, 2019*

**IRCI**

**Rate Change**

**ILORI**

**IMIA**

**Loss Ratio**

**Index**

**IMLI**

**Mega Loss**

# *IRCI / ILORI / IMLI – in accordance with IMIA’s Anti Trust Statement*

## Anti Trust Statement

### Anti-Trust Compliance Statement

Representatives of companies or trade associations participating in The International Association of Engineering Insurers (IMIA) are advised to bear in mind that their respective companies or the members of their respective associations are competitors in the marketplace outside their activities as participants in IMIA. Accordingly, company representatives and members of trade associations may discuss issues of a qualitative nature such as the impact of new legislation. However, they should exercise great care in discussing matters unrelated to IMIA policies or other proper business matters affecting IMIA.

#### 1. Anti-Trust Laws

1. Purpose. The purpose of Anti-trust legislation is to maintain free enterprise through fair competition. Agreements, understandings or concerted practices between competitors which (a) fix purchase or selling prices or other trading conditions, (b) limit or control production, markets, technical development, or investment or not compete in certain geographical areas or markets, (c) boycott actual or potential customers or suppliers or apply dissimilar conditions to equivalent transactions with other trading parties, (d) engage in a tying arrangement (i.e. agreement by a party to sell a product or service only if the buyer also buys a different (tied) product or service), and (e) share markets or sources of supply may be anti-competitive in various jurisdictions.
2. Applicable Laws. Most countries have published and enforced anti-trust laws. They may apply to actions or agreements entered into abroad as well as domestically. Infringement of anti-trust laws may result in (a) fines against both the IMIA, its members and any trade associations (b) criminal sanctions and/or disqualification as a company director and (c) damages to injured third parties and (d) void or unenforceable agreements.
3. IMIA Policy. IMIA recognises the importance of compliance with those anti-trust laws which are applicable to members of the IMIA. These laws generally prohibit underwriters from entering into any agreement, understanding or concerted practice, express or implied, on matters affecting rates or conditions of insurance. It is the policy of the IMIA to require its Members, Officers and all participants in IMIA activities to honour and abide by these prohibitions in all respects.

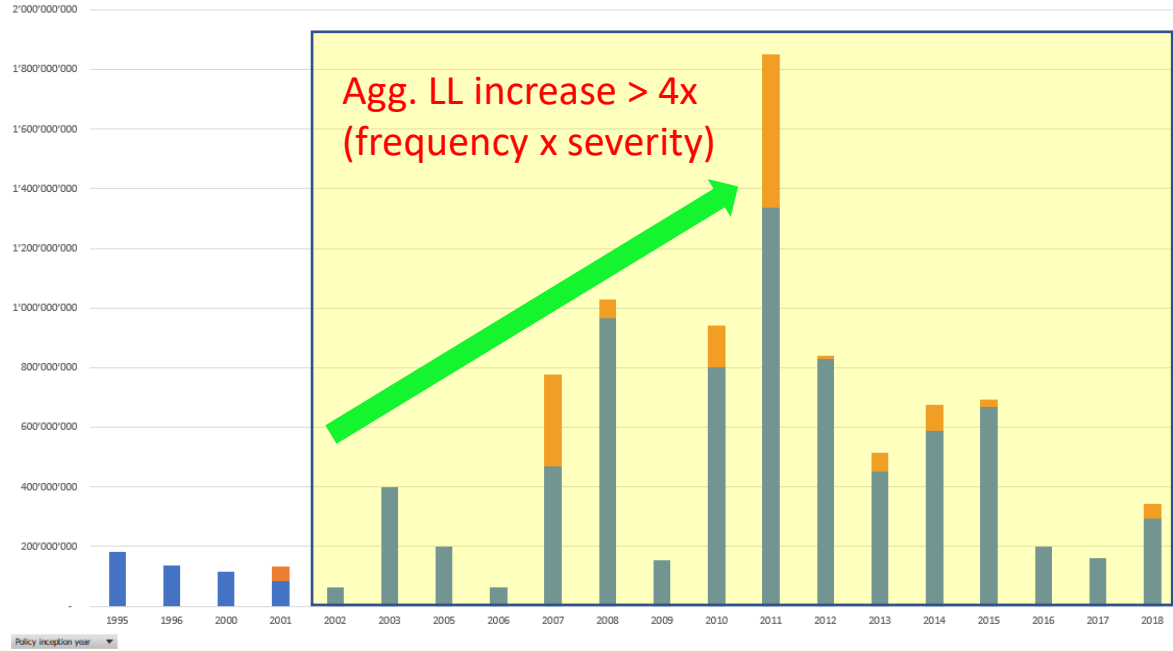
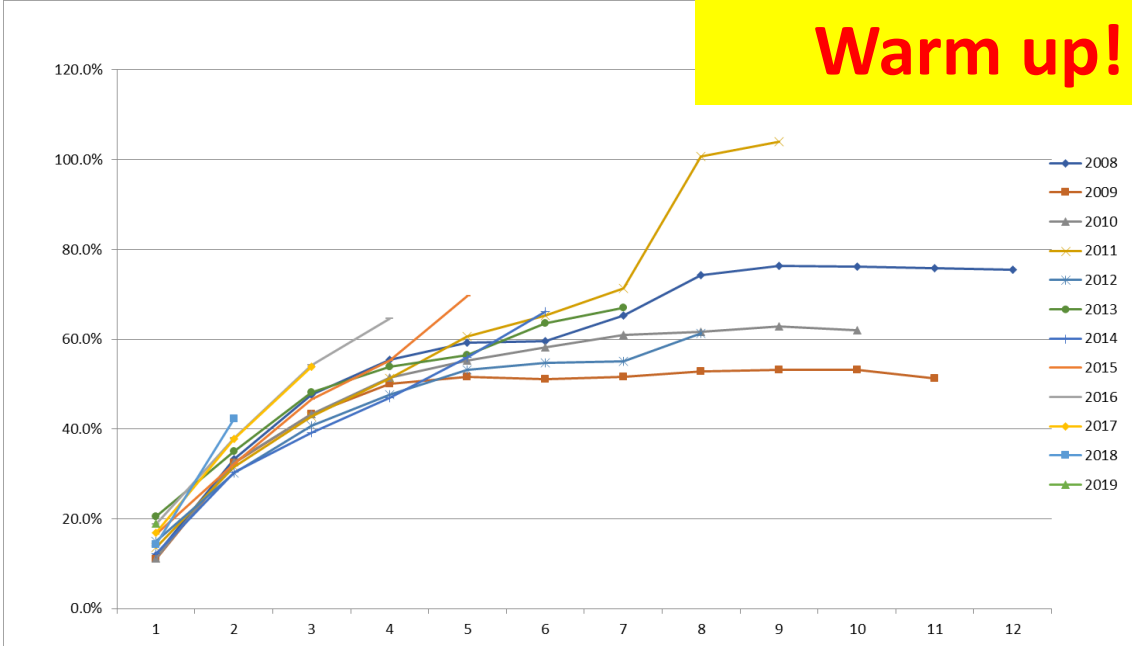
#### 2. Anti-Trust Guidelines for IMIA Members, Officers and Participants in all IMIA Activities The following specific guidelines should be observed:

1. Written Agenda. All IMIA meetings, including working groups, should have a written agenda. At the opening of each work session, the chairperson ought to make reference to this anti-trust document. Accurate and detailed minutes of each meeting (including reference to anti-trust guidelines) should be published. As a general rule, all involved should adhere to the written IMIA meeting agenda.
2. Rates. All involved should not discuss or exchange information on their respective companies' intentions concerning rates (including "pure premium") and should not pressure other companies to raise rates or use a particular rate or cost factor as a "benchmark" in setting rates.
3. Underwriting Guidelines. There should be neither discussion nor exchange of information between the participants about the underwriting guidelines of their respective companies.
4. Policy Forms. All involved should not discuss what specific terms are appropriate in particular policies, such as provisions governing the coverage trigger, limits, exclusions or types of risks covered, which are all elements of competition between companies.
5. Claims. All involved should not disclose their individual claims adjustment and cost containment practices.
6. Reinsurance. All involved, whether primary carriers or reinsurers, should not disclose their plans for negotiating renewals, existing reinsurance arrangements purchased or provided by their companies.
7. Markets. There should be no discussion of what market response companies should make, or threaten to make, in reaction to changes in governmental regulation. Specifically, there should be no suggestion that companies withdraw from a particular class of customers in order to induce, deter, or retaliate against such governmental action.
8. Relationship with Distributors. All involved should not discuss their individual plans regarding competitively sensitive matters in this area.
9. Report. All instances of meetings where the matters covered in this Appendix are raised or attempted to be raised should be reported to IMIA and to your respective company. If you are unsure or in doubt about what you can and cannot discuss at IMIA meetings, please take independent advice from your legal advisers before attending.

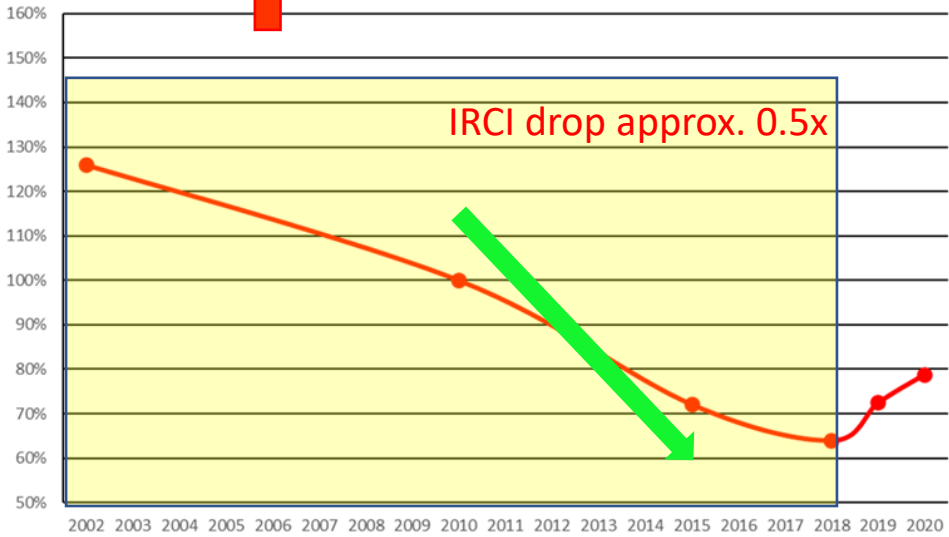
# Abbreviations

IRCI	IMIA Rate Change Index	CAR	Contractors all risk
ILORI	IMIA Loss Ratio Index	EAR	Erection all risk
IMLI	IMIA Mega Loss Index	ALOP/DSU	Advanced Loss of profit / Delay Start up
uwy	Underwriting Year	MB	Machinery Breakdown
Occ.	Occurrence	LOP	Loss of profit
FY	Financial year	EEl	Electronic Equipment Insurance
iLR	Incurred loss ratio	SRe	Swiss Re
ULR	Ultimate Loss Ratio	FGU	from ground up
CR	Combined Ratio	xs	in Excess of
LL	Large Loss	LNG	Liquified Natural Gas
ML	Mega Loss	Agg	Aggregate
Ø	Average	MD	Material damage
D&F	Direct & facultative		
Neg.	Negative		
MGA	Managing General Agency		
Fac	Facultative		
y	Year		

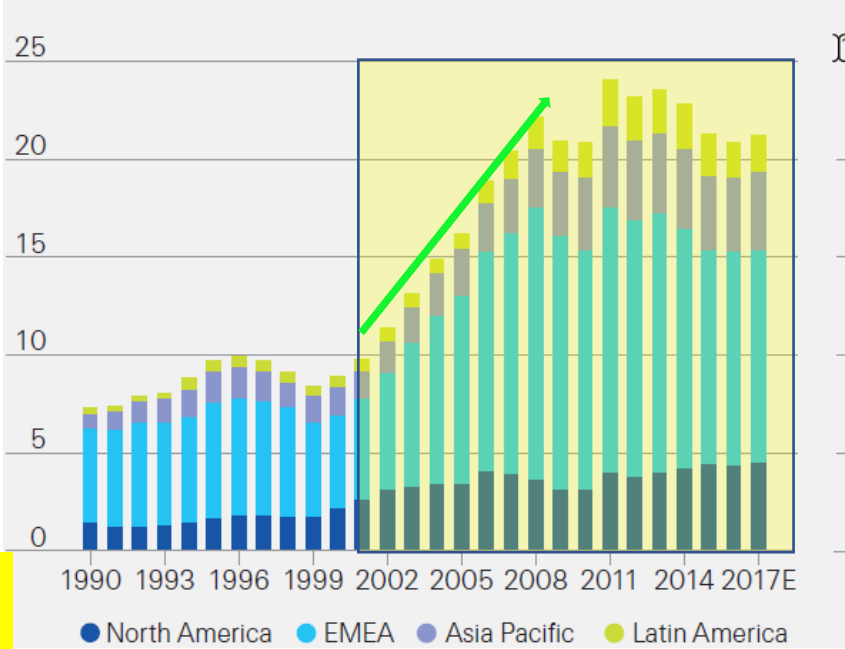
**Warm up!**



Rate Level Index 2020 (2010 = 100%)



Share of global engineering premiums, by region (USD billion)



**premium (+) could not offset rate (-) & LL (+)**

**Global Eng. Premium growth approx. 3x**





*“... a collaborative approach –  
by the Engineering insurers, for the Engineering insurers”*

## Vision

“IMIA makes the complex engineering insurance market tangible”



## Mission

“IMIA & PERILS produce reference points which help the engineering insurance markets to benchmark their activities”



## PERILS

Data collected, anonymized, validated, aggregated,  
handed over to IMIA (Antitrust & GDPR compliant)



## Benchmarks (IRCI, ILORI, IMLI)

- in accordance with

*data protection & antitrust law*

**IMIA has no access to raw data**

ASSESSMENT BY  
**INDEPENDENT** PARTY  
(PERILS)

**ANONYMIZATION**

**AGGREGATED** DATA  
**GDPR** COMPLIANT

**NDA** BETWEEN PERILS  
& DATA PROVIDING  
COMPANIES IF DESIRED

CONTEMPLATION OF  
THE **PAST**

VOLUNTARY  
PARTICIPATION **OPEN**  
FOR ALL INTERESTED  
PARTIES – ALSO NON-  
IMIA



# PERILS

...please visit [WWW.PERILS.ORG](http://WWW.PERILS.ORG).

# What is the global engineering market premium?

ILORI & IRCI 2020 contributions

## ILORI 2020 & sigma 2018

- project/ annual 50:50 (IMIA 40:60)
- Global GWP \$20-30bn (IMIA ~ \$9bn)

## ILORI 2020

- ~ 5% market premium represented (~ \$1bn)
- 6 markets contributing

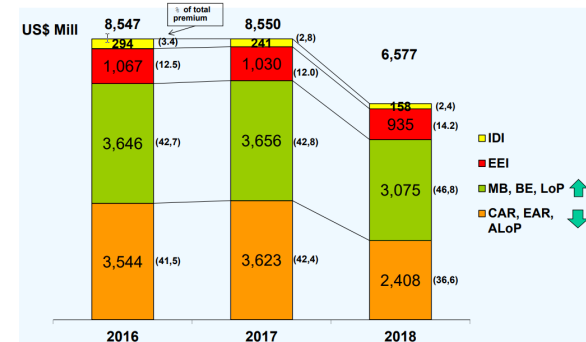
## IRCI 2020

- ~ 10% market premium represented (~ \$2bn)
- 14 markets contributing (global/regional 50:50)

## IMLI 2020

- 90 CAR/EAR losses since the 90ies (xs \$50m FGU)
- > \$10bn agg. total losses

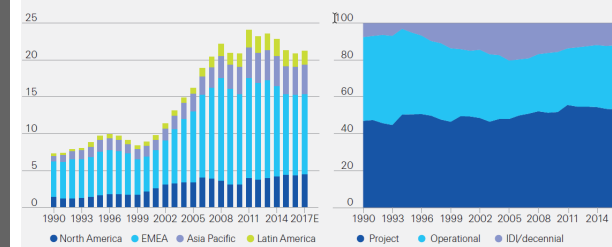
Development of Premiums 2016 – 2018 per Line of Business



IMIA stats ± 20 country associations. No London market, limited USA/Germany, no China etc.)

<https://www.imia.com/premium-and-loss-statistics/>

Figure 2 Share of global engineering premiums, by region (USD billion) and major policy type (%)



Note: Left-hand chart is based on a sample of around 60 countries for which engineering premiums are separately reported plus estimates for countries where separate statistics are unavailable. The latter are constructed using the corresponding regional share of engineering premiums in non-life insurance. Right-hand chart is based only on a subset of the 60 countries where detailed engineering premiums by line of business are disclosed.  
EMEA = Europe, the Middle East and Africa  
Source: Various national sources, IMIA and Swiss Re Institute calculations

<https://www.swissre.com/institute/research/sigma-research/sigma-2018-02.html>

Territorial scope	Flag	Glob. Mkt. Size GWP [USD]	
National	4%	< 10 bil	1
Regional	0%	10 bil - 20 bil	1
Global	96%	20 bil - 30 bil	4
		> 30 bil	0
Portfolio split	%		
Direct & Fac Mrkt	54%		
Treaty Market	46%		
P'folio composition	%	Glob. Mkt. GWP composit.	%
Operational / Annual*	39%	Operational / Annual*	46%
Project (incl. annuals)**	60%	Project (incl. annuals)**	50%
IDI	0%	IDI	4%

# IRCI

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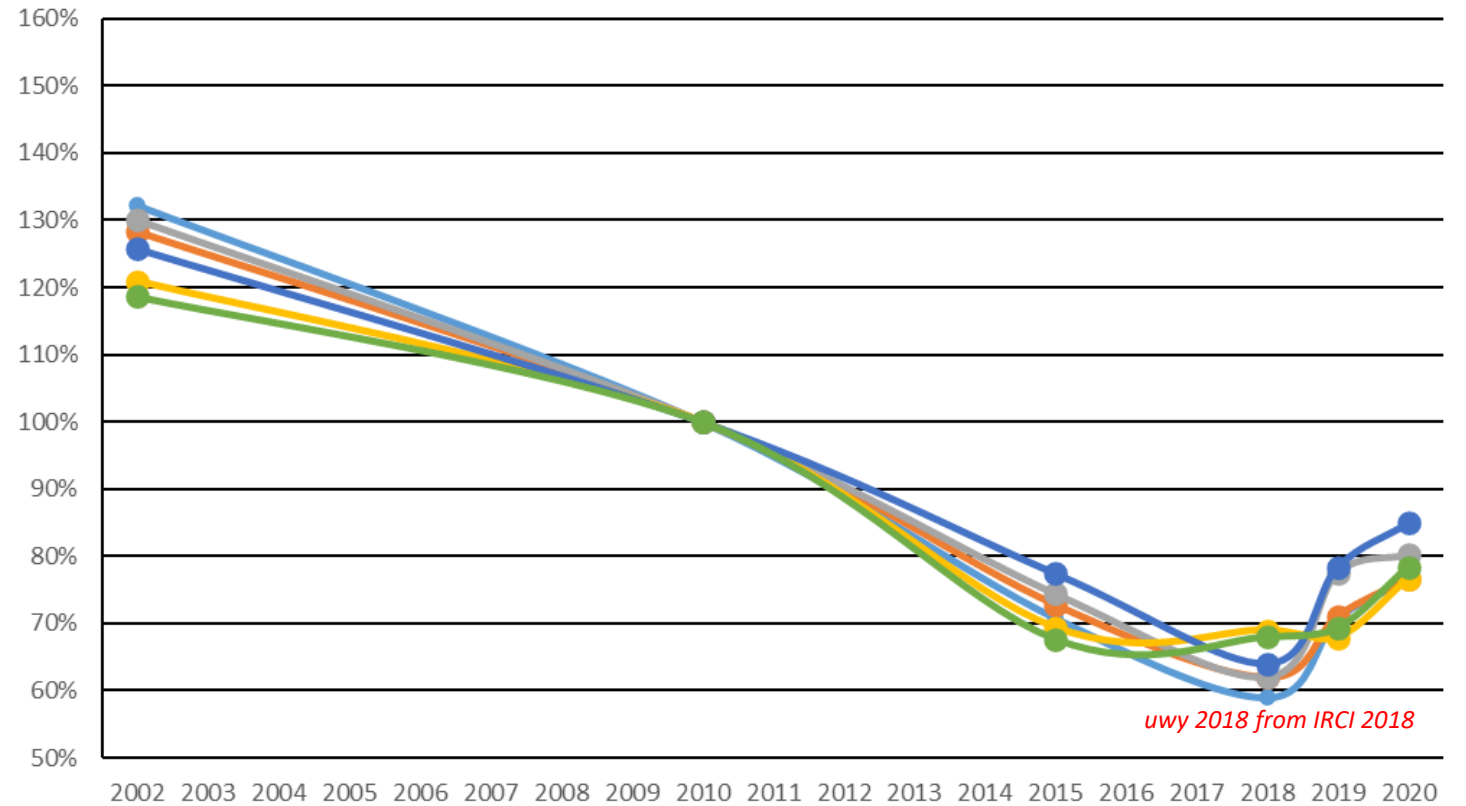
The established qualitative uwy market rates benchmark





# IRCI 2020

## Rate Level Index 2020 (2010 = 100%)



- 4.1 Project Business (Construction / Erection)
- 4.1.1 Civil / Infrastructure "Building"
- 4.1.2 Civil / Infrastructure "Road"
- 4.1.3 Erection / Power Plant
- 4.2 Operational Business incl. Machinery Breakdown
- 4.2.1 Oil&Gas Industry
- 4.2.2 Power Plant
- 4.2.3 Heavy Industries

### Construction insurance rates

Line of business	Rate increase	Comment
UK civil engineering	+30-40%	Capacity and coverage tightening
Power, oil and gas projects	+25-30%	Capacity globally remains strong
US domestic market	+10-15%	Rate change dependent on location
Overall construction	+25-30%	Cross-portfolio rate change. Projects often delayed

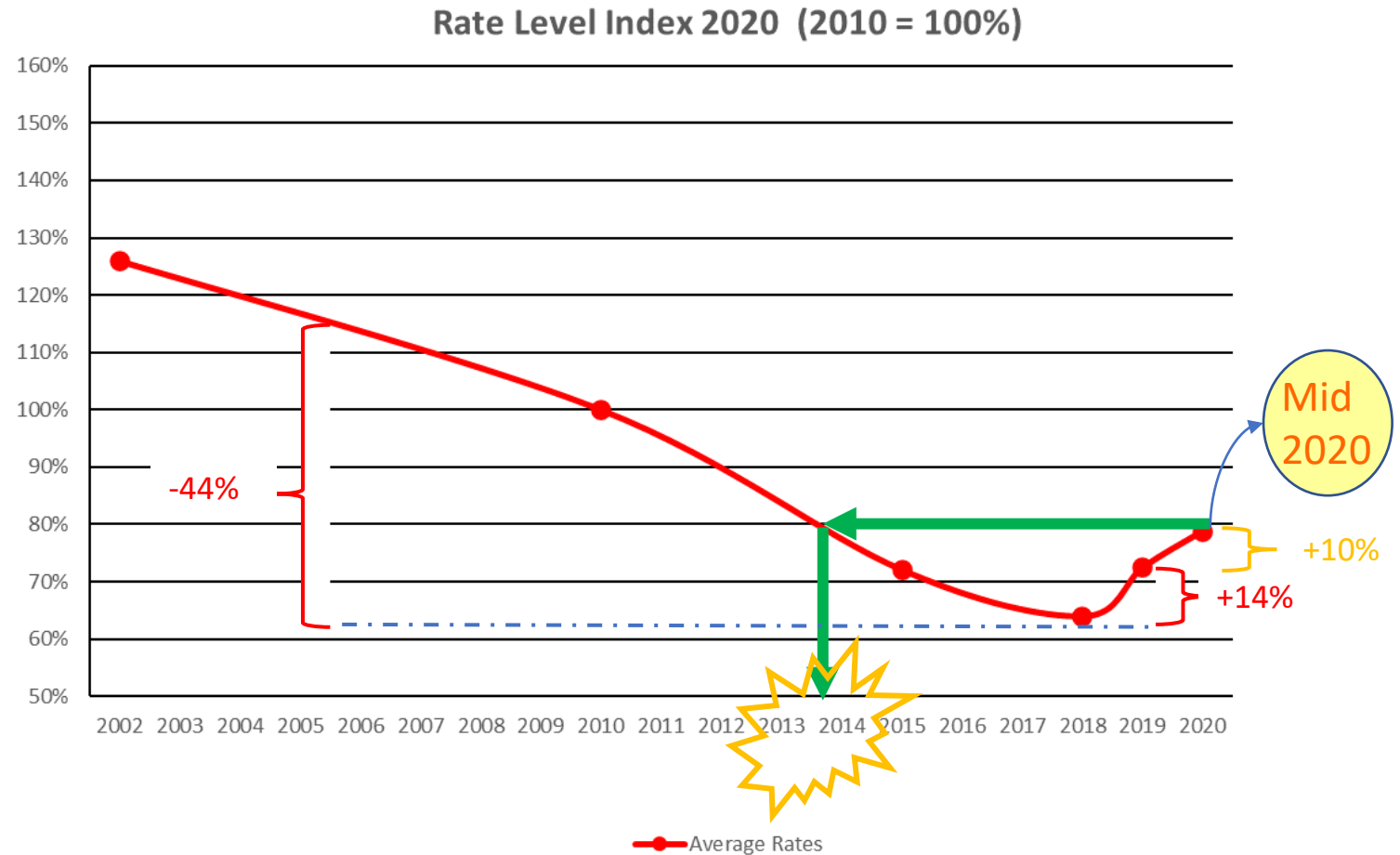
Source: Gallagher

**Check the RC method!**

# IRCI 2020

Global  $\emptyset$  rate  
Local + D&F Market

...  $\emptyset$  IRCI 2020 compared to the past

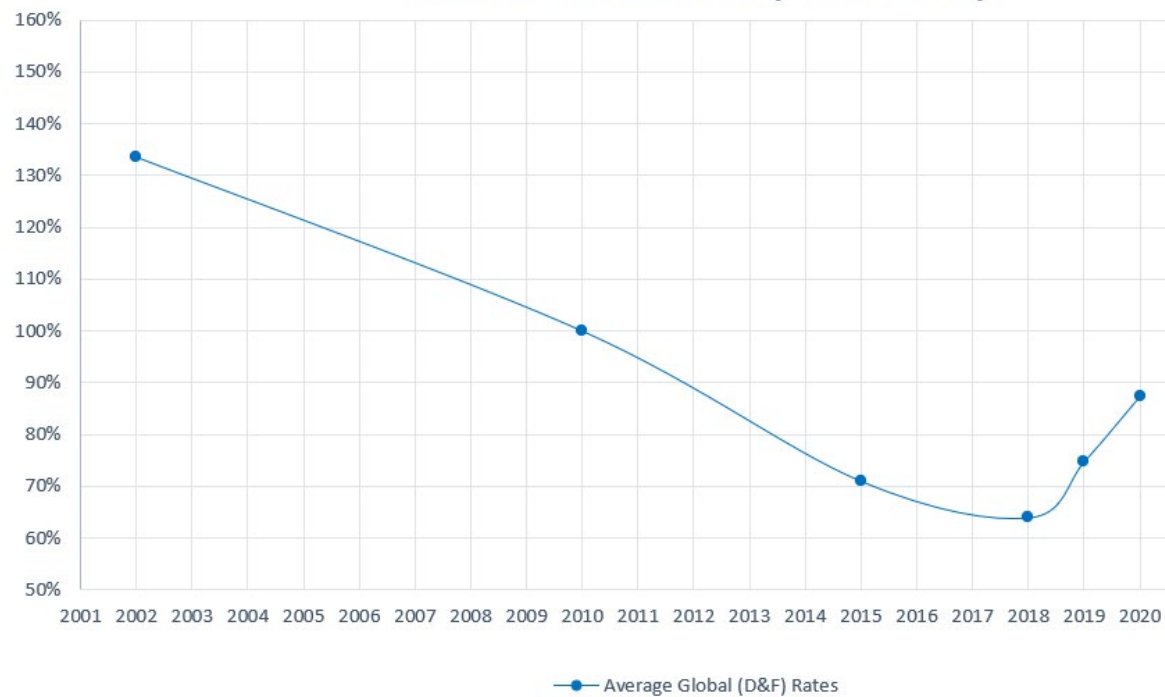


IRCI decrease (uwy) -44%  
correlates with  
LR increase of country stats (FY) +56%  
since FY 2006

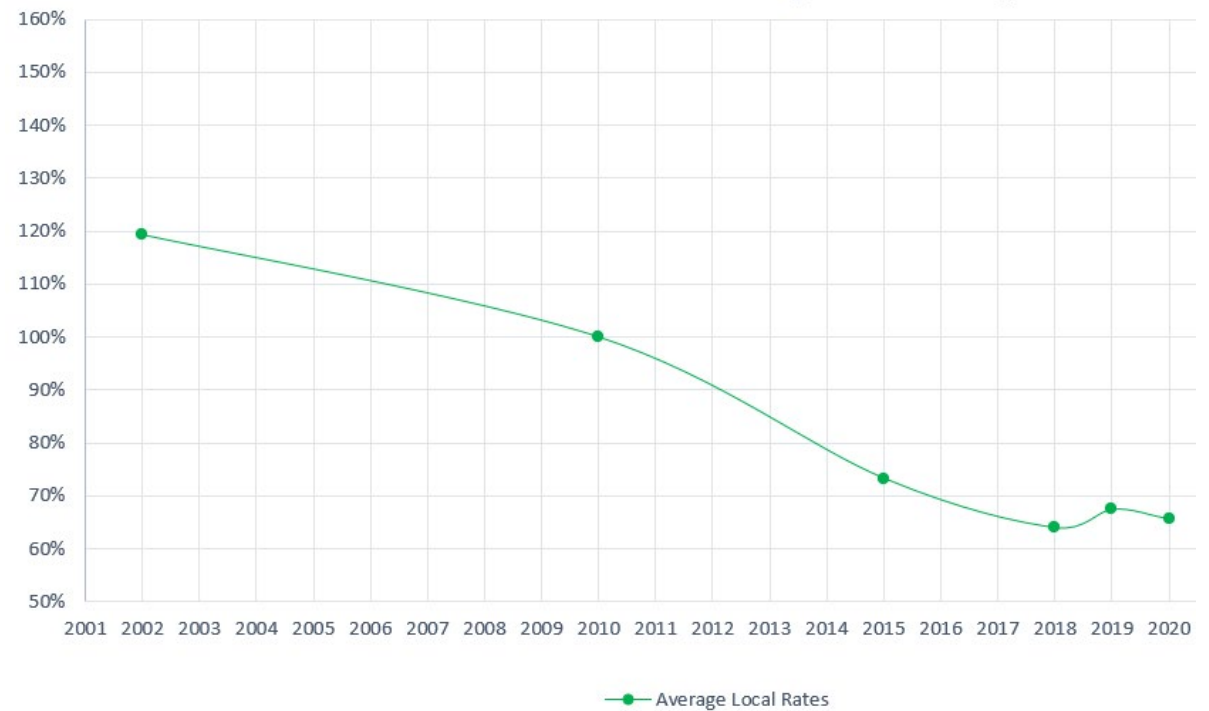
# Ø IRCI 2020

## Global D&F vs. Local Markets

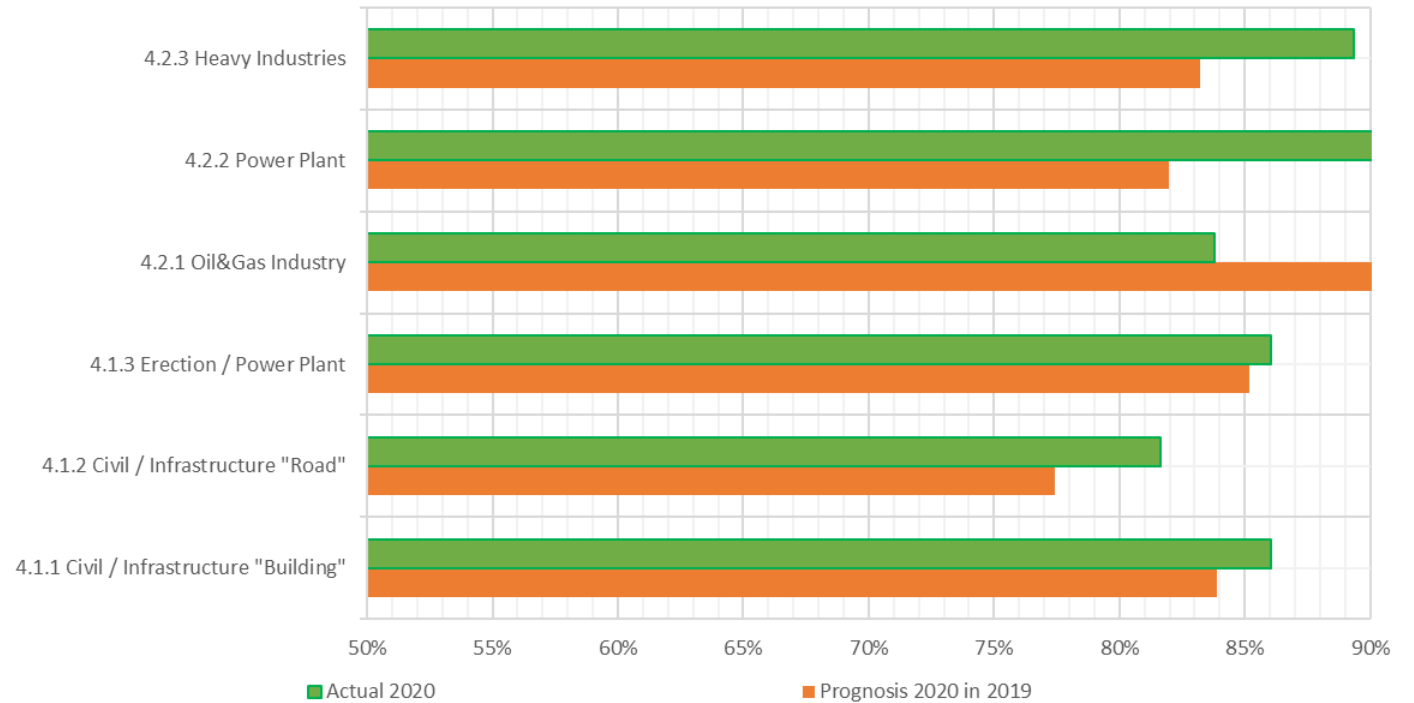
Rate Level Index 2020 (2010 = 100%)



Rate Level Index 2020 (2010 = 100%)



# *IRCI 2020 vs. Prognosis 2020 in 2019*







# FY LR (claims/premium)

– missing link premium & losses = volatility

not suitable for long-term business (CAR/EAR)

Working Group Paper 73 (11)

Reserving - how to reserve an  
Engineering portfolio with its specific characteristics

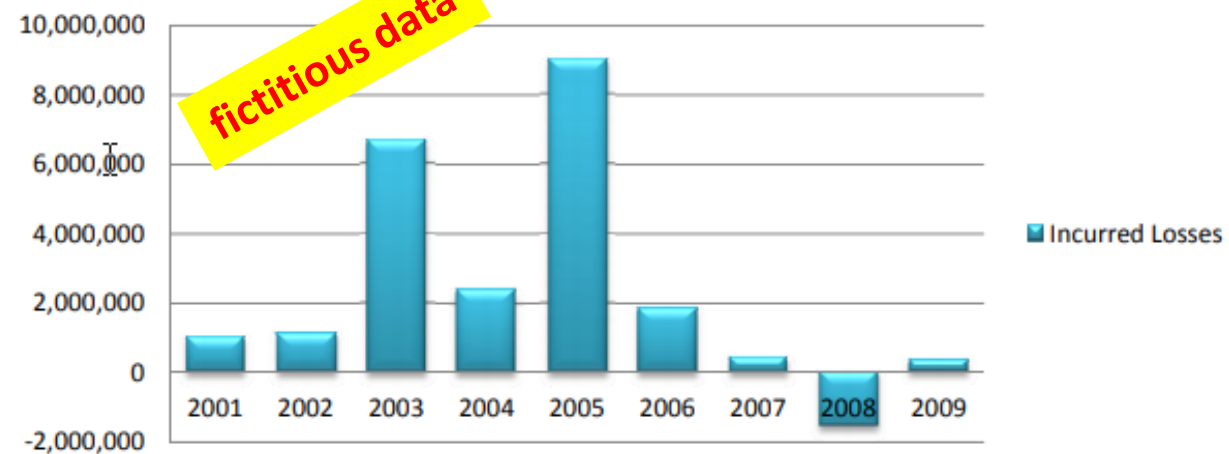


Prepared by:

Jürg Buff (Partner Re) Zürich (Chairman)  
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Andy Hottinger (AXIS Re) Zürich  
Hari Radhakrishnan (HDFC Ergo) Mumbai  
Jean-Marc Rossé (Nationale Suisse) Basel  
Anne Sheehy (XL Insurance) Zürich  
Marina Zyuganova (Renaissance) Moscow  
Oscar Treceno (Nationale Suisse) Basel (Sponsor)

Volatility & missing premium-claims link  
= trends & patterns disguised

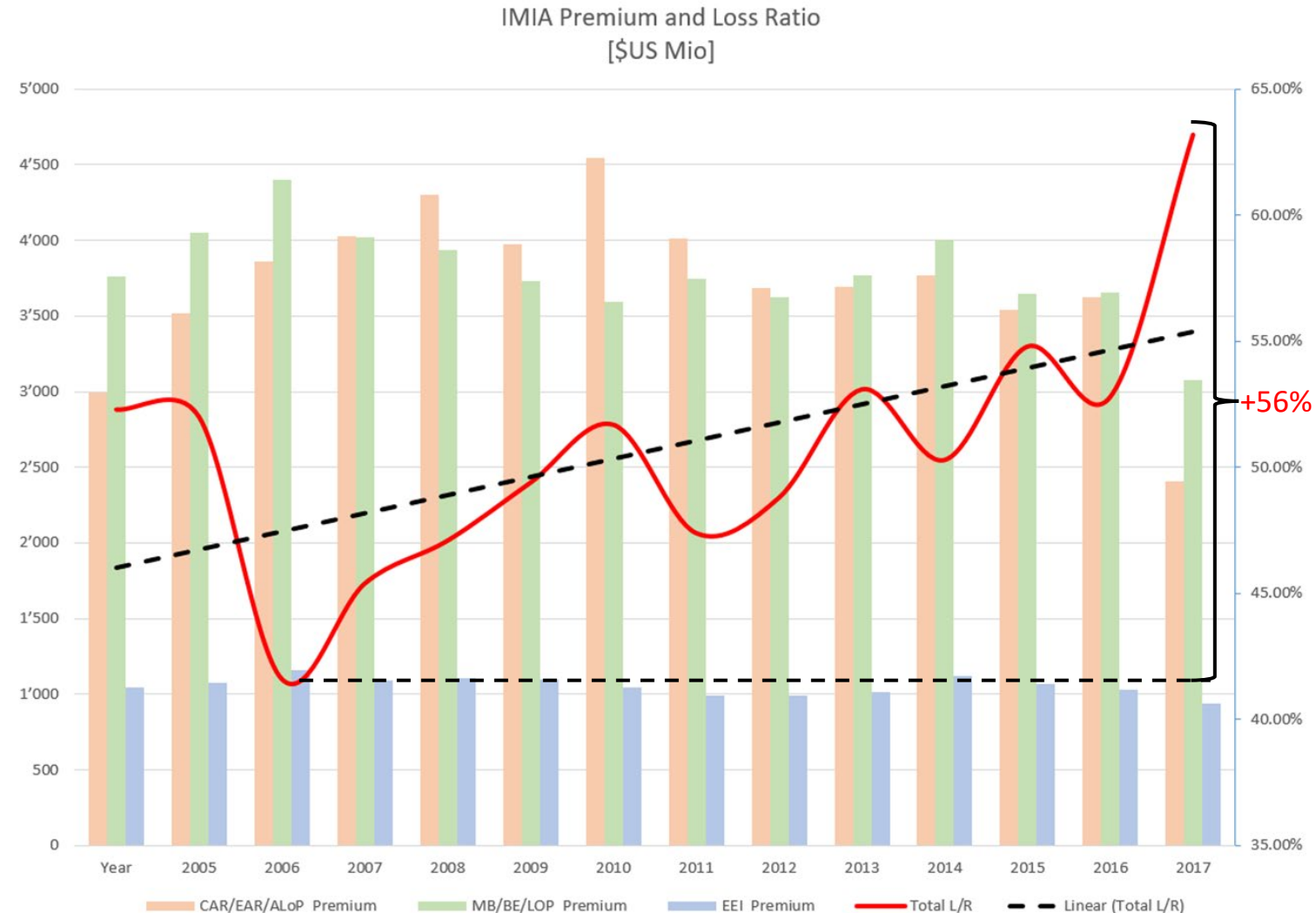
Incurred Losses of above Portfolio by Financial Year



# Why ILORI & Country Stats?

...IMIA Stats from Country Associations:

- FY not UWY (& rather written instead of earned premium)
- Local Market not Global D&F
- 12 y period flattens FY volatility
- LR **+56% correlates** with **-44%** IRCI since FY 2006 (relative growth comparison)
- Local & Global D&F market connected (facilities, MGA's, treaties, Fac out, binders etc.)



Working Group Paper 73 (11)

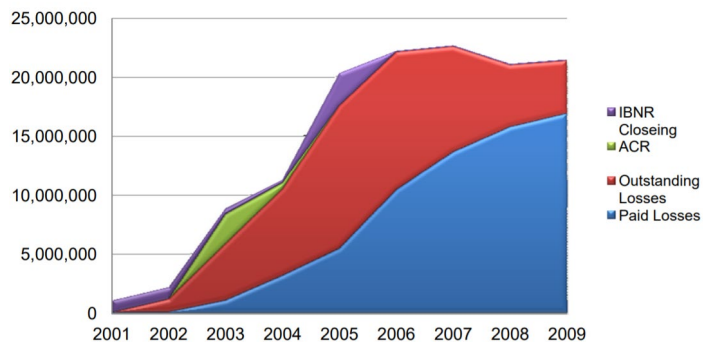
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Prepared by:

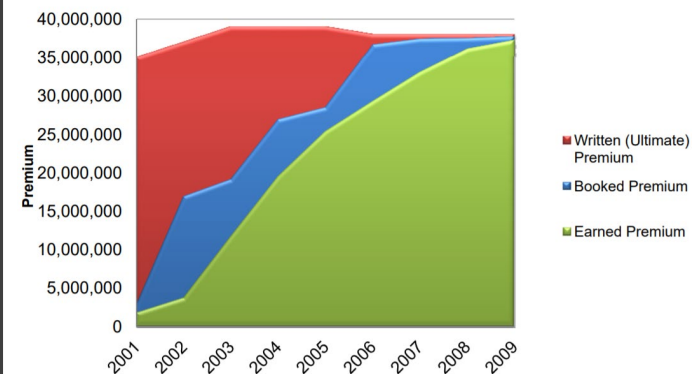
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IMIA Claims Development Example of CAR/EAR Portfolio UWY 2001 / Cumulated View



fictitious data

IMIA Premium Development Example of CAR/EAR Portfolio UWY 2001



incurred Loss Ratio  
(claims/premium) per uwy



@ same • in 

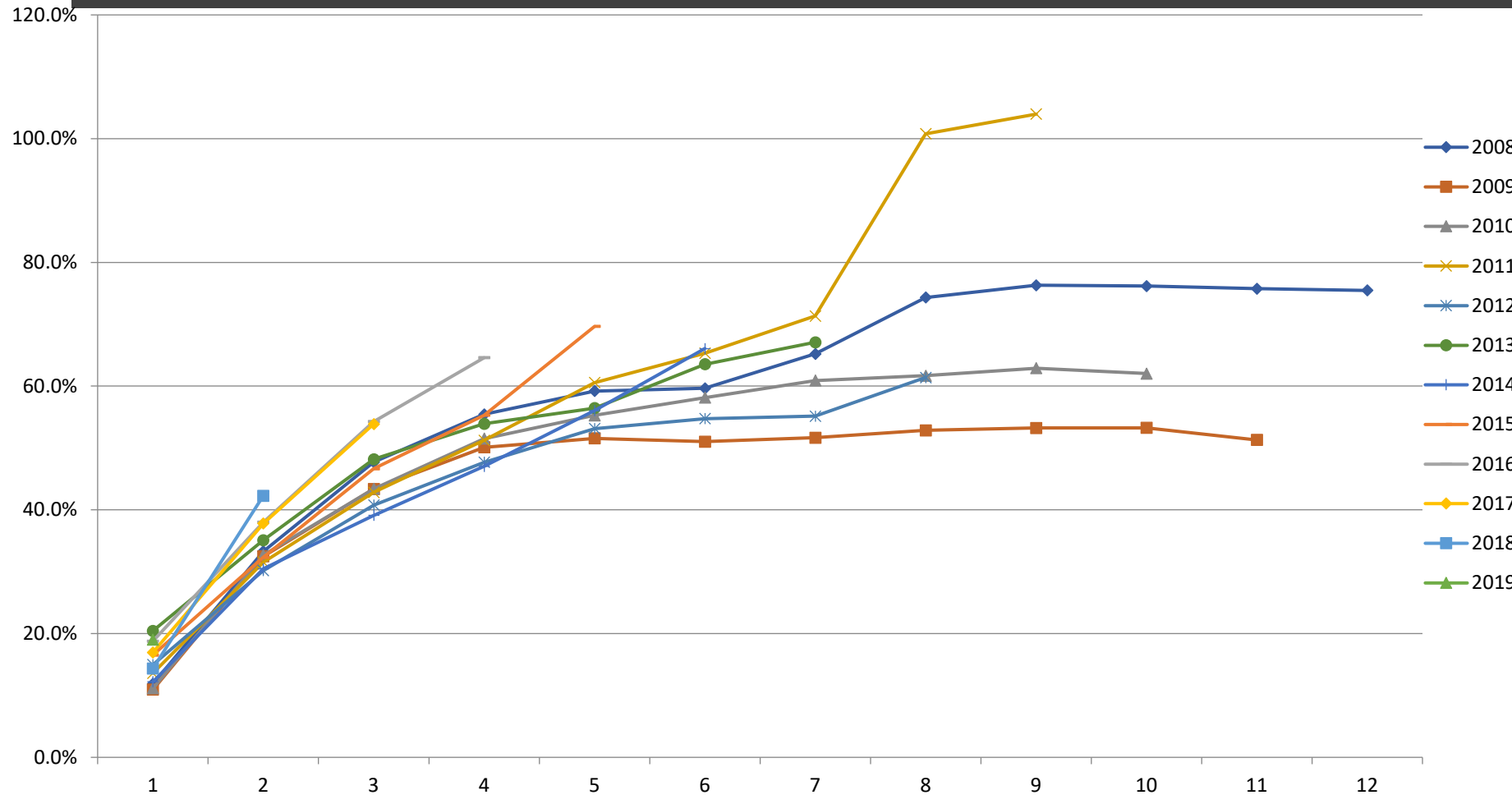
young uwy's quicker @ higher iLR's

uwy	devY 1	devY 2	devY 3	devY 4	devY 5	devY 6	devY 7	devY 8	devY 9	devY 10	devY 11	devY 12
2008	11.88%	33.28%	47.71%	55.44%	59.20%	59.64%	65.20%	74.32%	76.29%	76.17%	75.75%	75.47%
2009	10.94%	32.48%	43.38%	50.11%	51.55%	51.02%	51.66%	52.84%	53.24%	53.24%	51.30%	
2010	11.16%	32.68%	43.40%	51.51%	55.27%	58.13%	60.89%	61.67%	62.89%	62.01%		
2011	13.59%	31.54%	42.81%	51.23%	60.56%	65.32%	71.33%	100.78%	103.96%			
2012	14.97%	30.17%	40.76%	47.67%	53.13%	54.74%	55.13%	61.38%				
2013	20.44%	35.10%	48.18%	53.91%	56.44%	63.54%	67.08%					
2014	12.21%	30.45%	39.10%	47.02%	56.03%	66.07%						
2015	16.53%	32.33%	46.64%	55.28%	69.64%							
2016	18.77%	38.00%	54.27%	64.59%								
2017	16.95%	37.79%	53.86%									
2018	14.35%	42.26%										
2019	19.00%											
avg=	15.07%	34.19%	46.01%	52.97%	57.73%	59.78%	61.88%	70.20%	74.10%	63.81%	63.53%	75.47%
StDev=	3.26%	3.74%	5.13%	5.29%	5.63%	5.62%	7.46%	18.73%	22.04%	11.57%	17.29%	

- ✓ Regular LR increase driven by rates (attritional) e.g. uwy 2009 & 2010
- ✓ “jumps” driven by LL e.g. uwy ‘08, ‘11, ‘14-17
- ✓ uwy maturity, i.e. ULR > 7 years (regional market > 3 years)
- ✓ “young” uwy’s LR grow quicker
- ✓ Last diagonal generally above average

@ same • in 

young uwy's quicker @ higher iLR's



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# IMLI

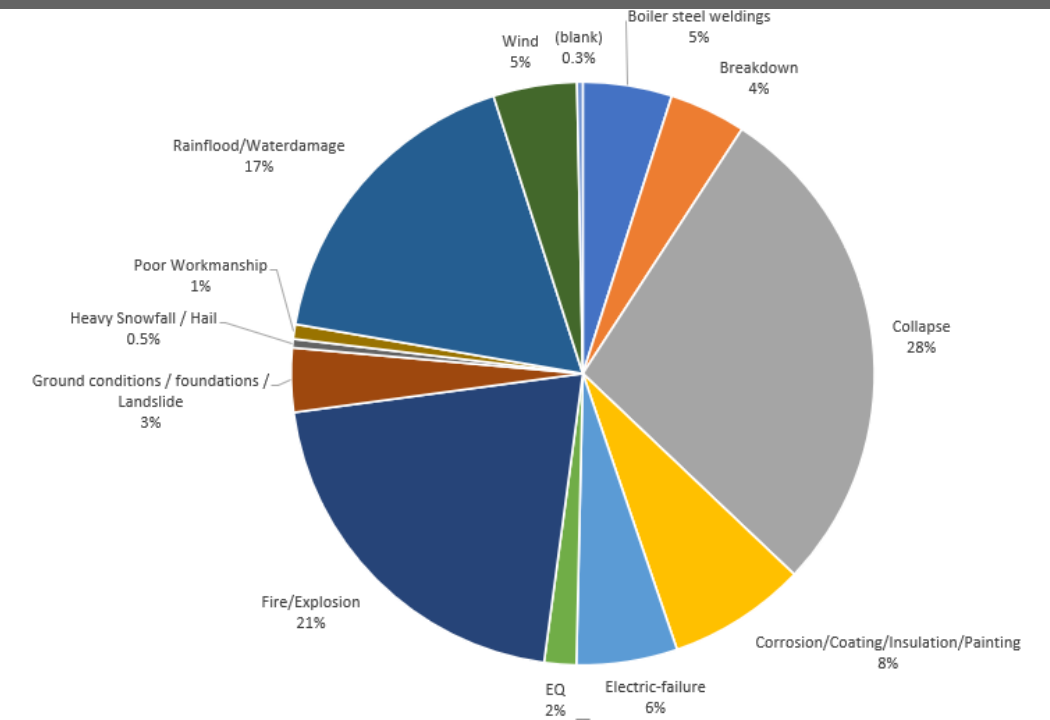
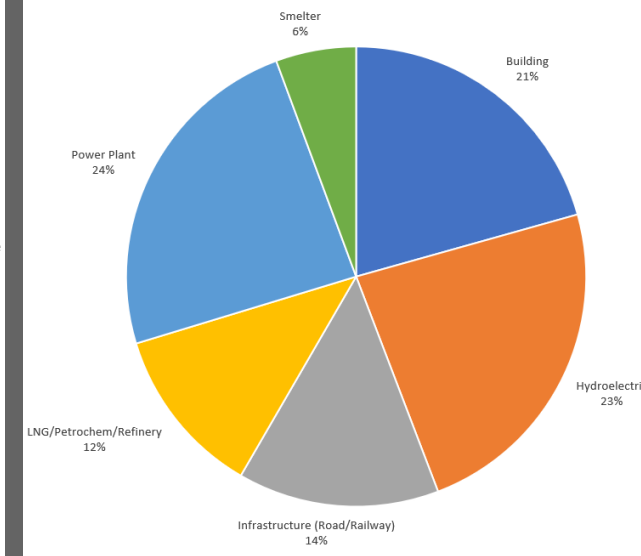
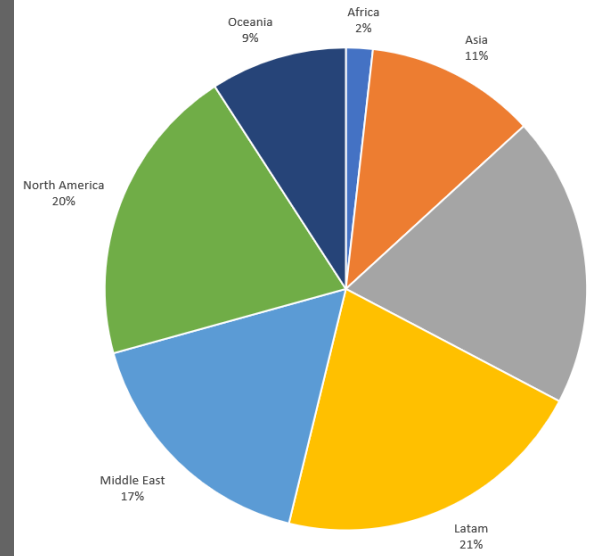
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## The NEW Mega Loss Index

- FGU losses xs \$50m since 1990ies
- CAR/EAR (*for the time being*)
- Agg. Losses = Frequency x Severity (*per uwy & occ. year*)
- Best estimate figures FGU
- Challenges: FX rates, indexation



# A few examples what IMLI can provide



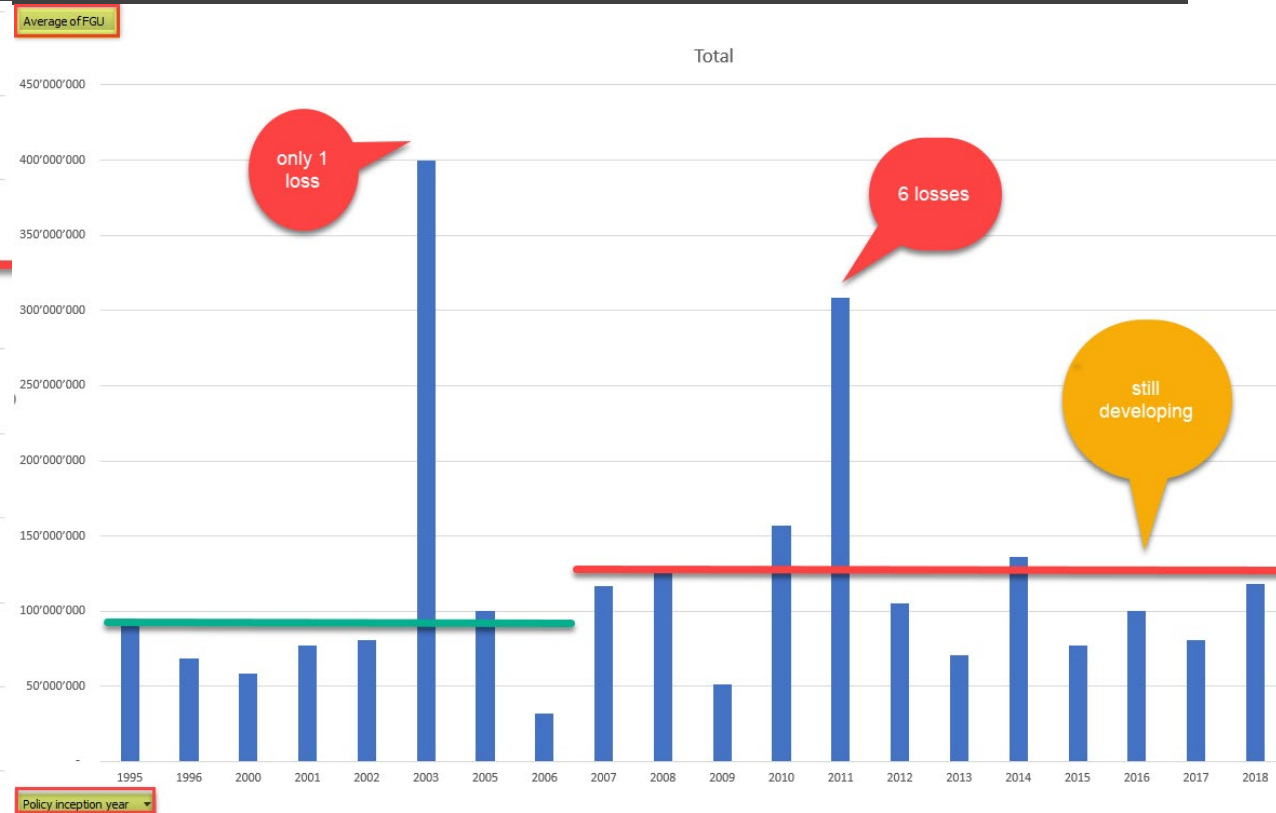
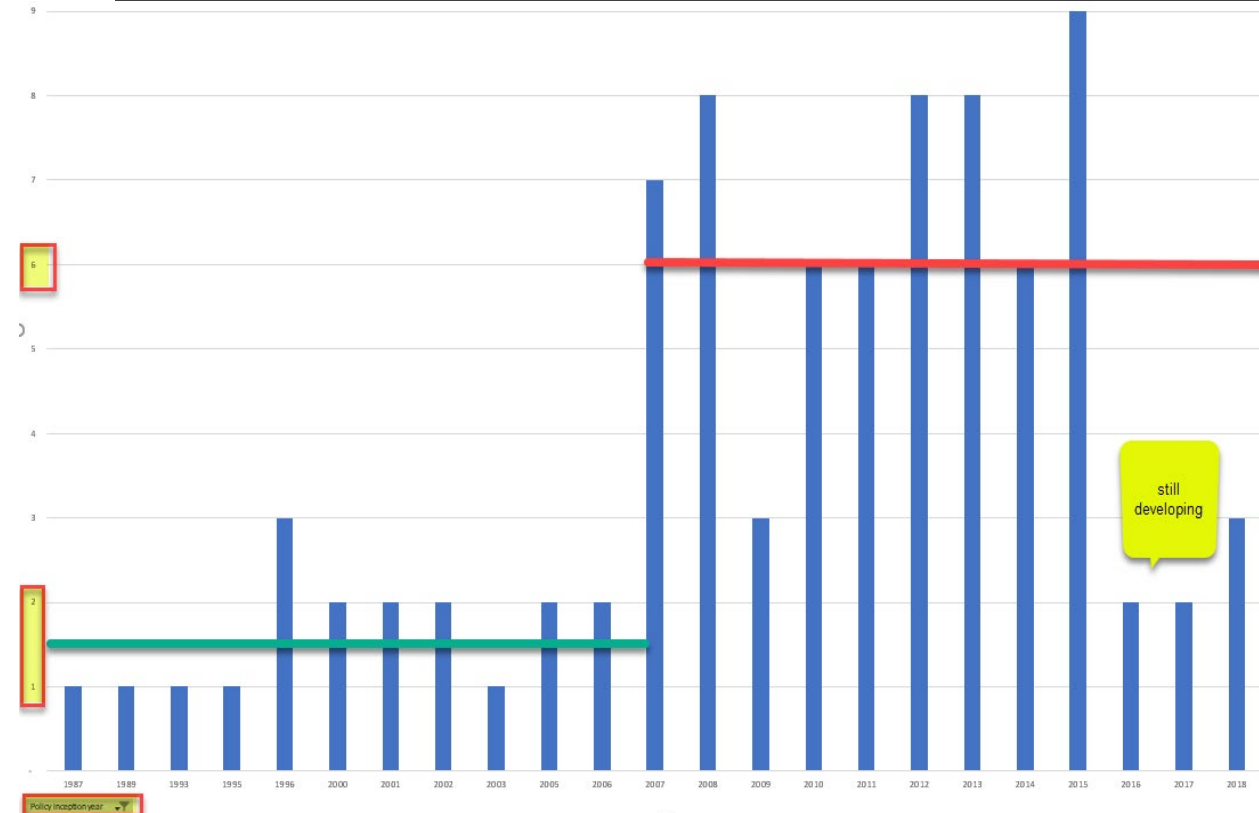


# Increase of CAR/EAR ML/uwy

frequency

∅ severity

(many uwy's in the 90ies had no ML at all xs \$50m)



f < 2

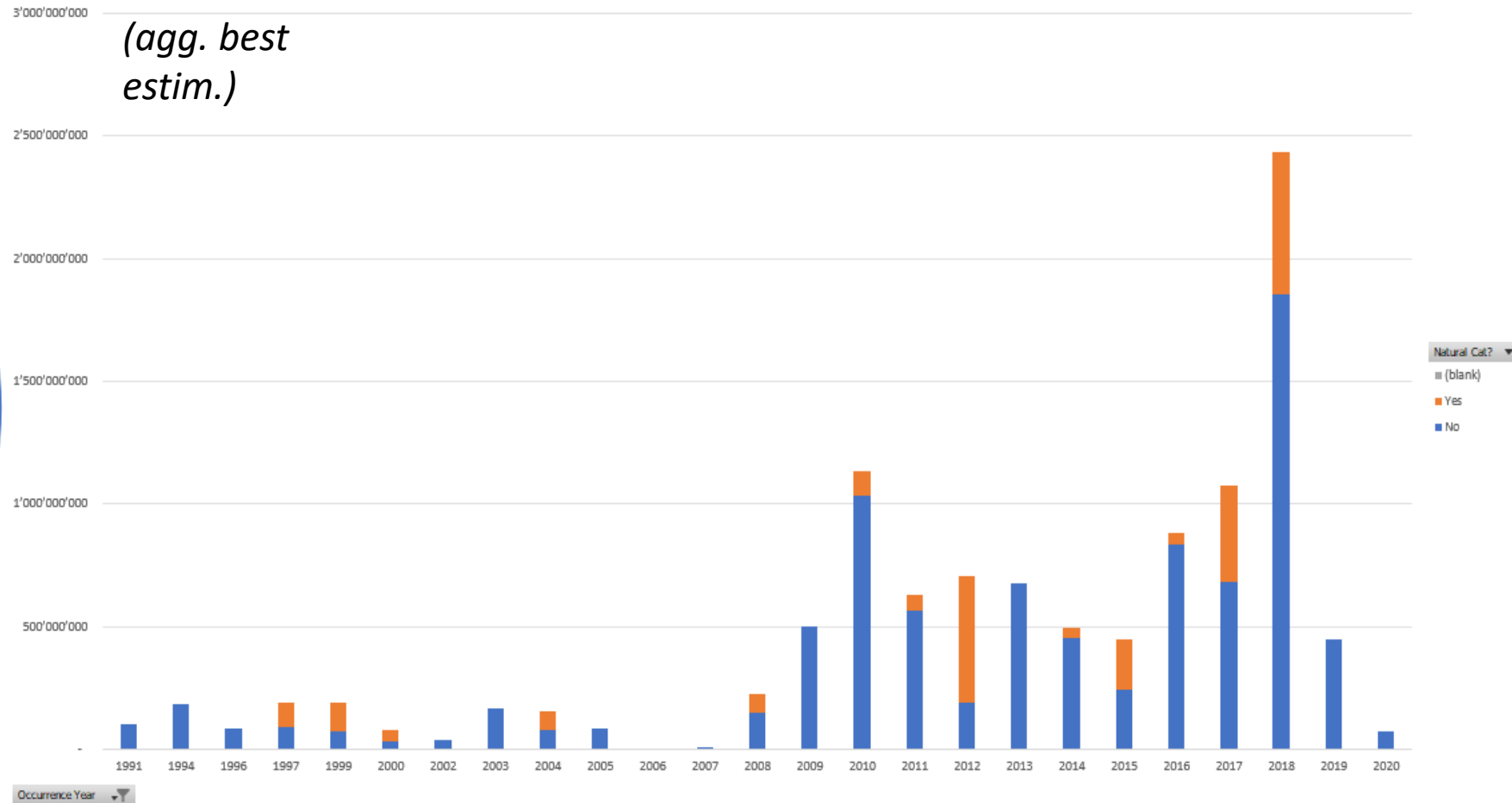
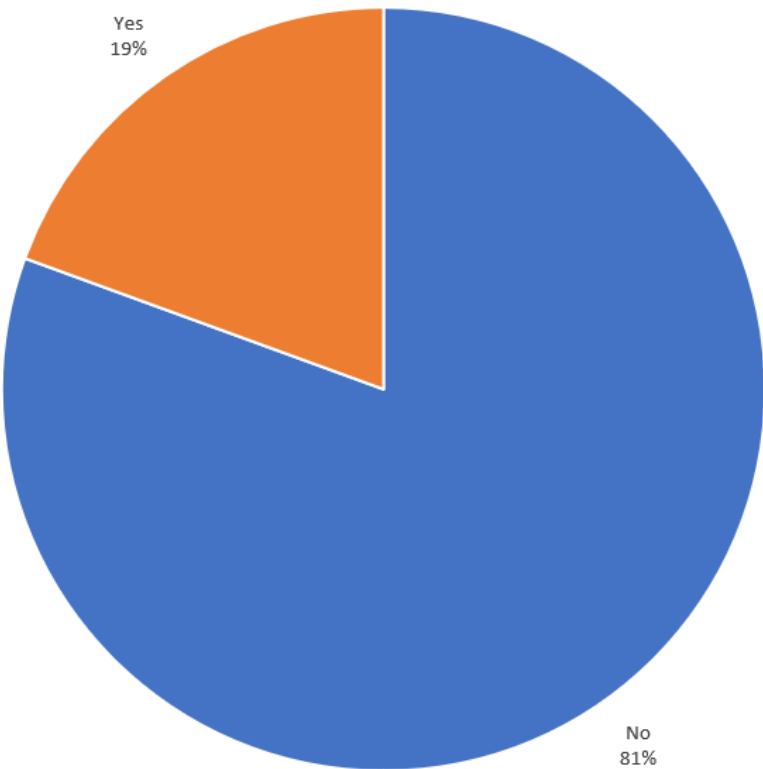
f > 5

∅ severity < \$100m

∅ severity > \$100m

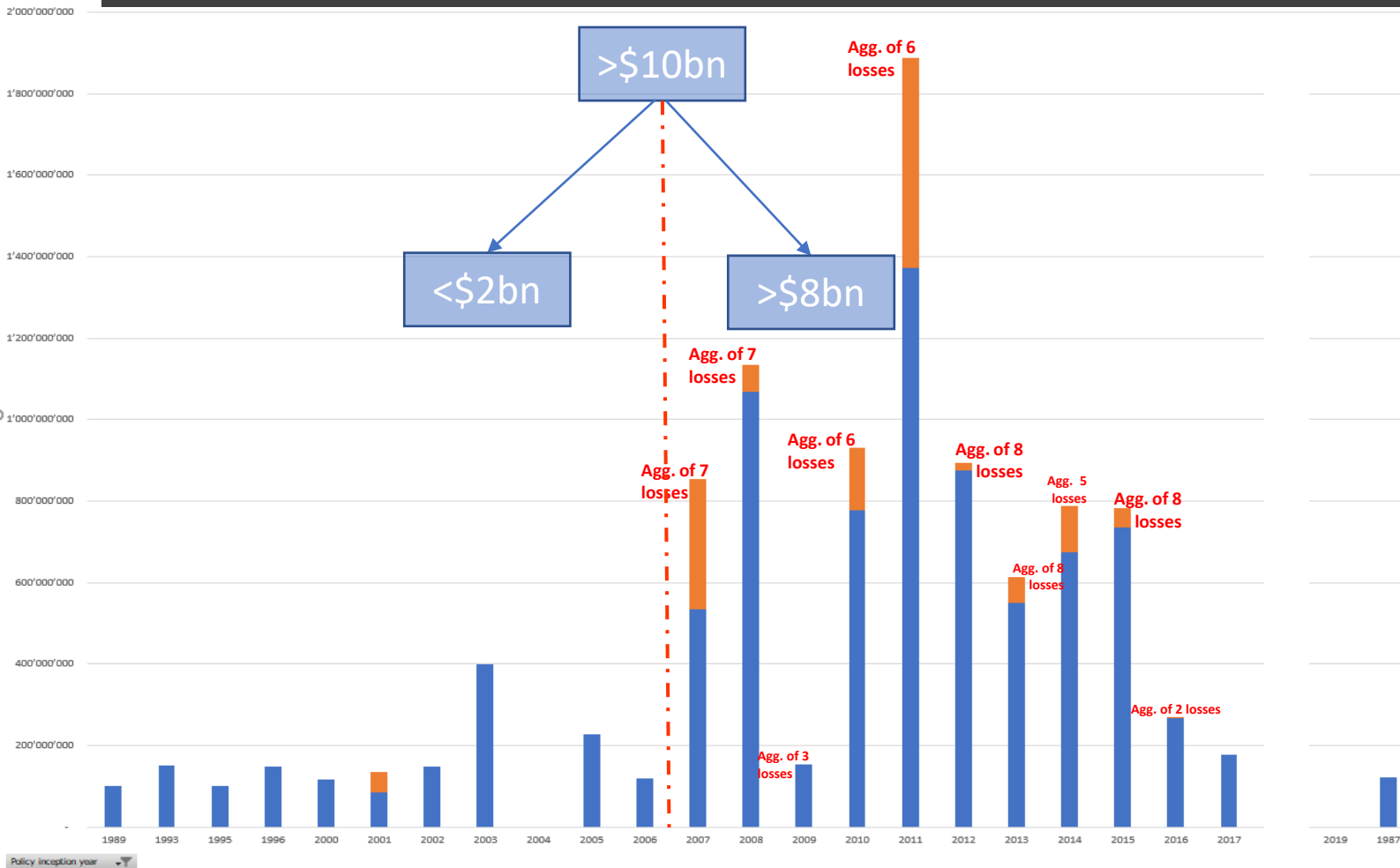
# man-made CAR/EAR ML prevail

frequency driven by man-made (t&c)  
severity partially driven by NatCAT



# CAR/EAR ML's (xs \$50m) & global uwy's LR jump

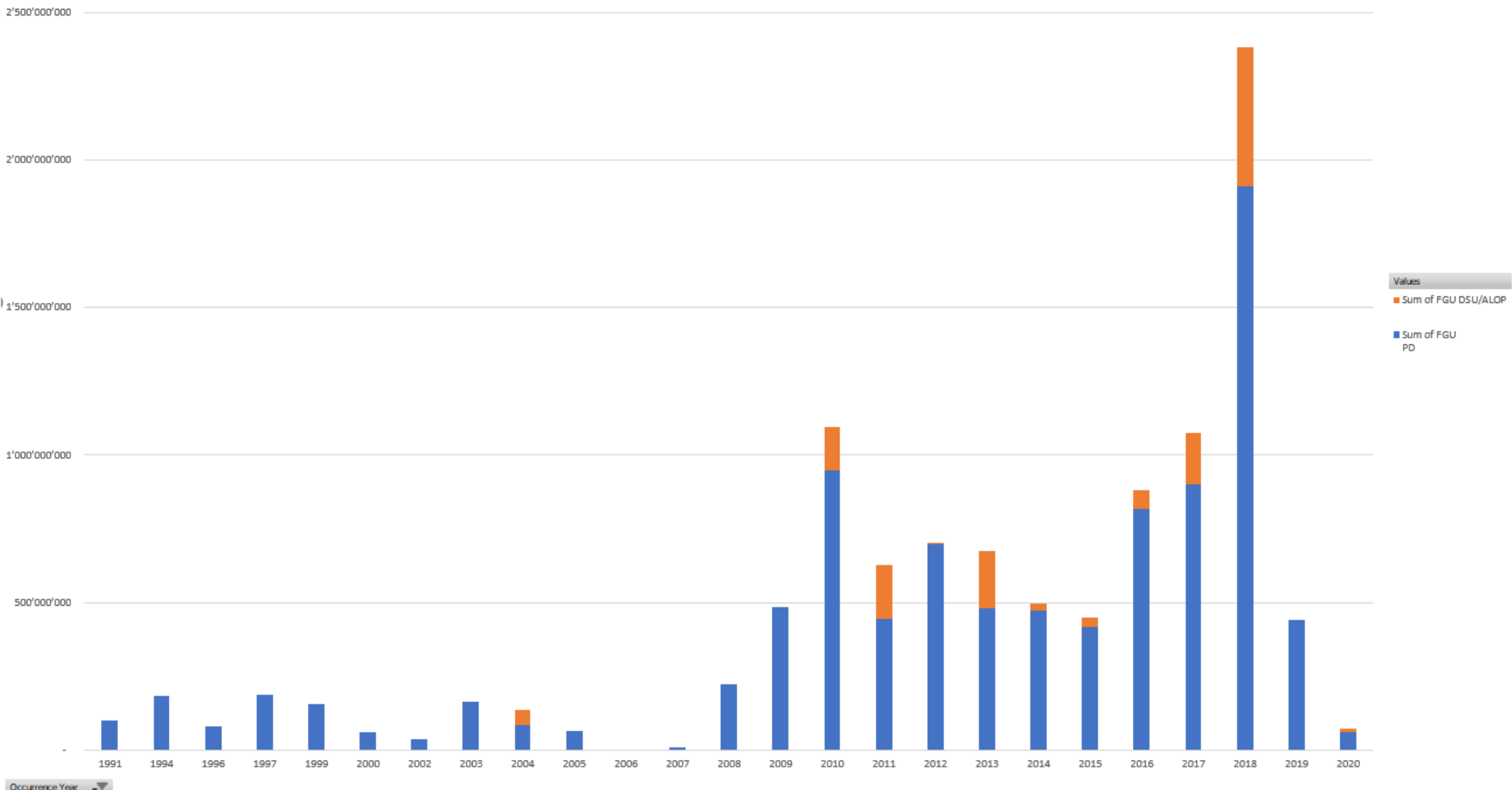
MD blue / DSU orange  
aggregated per uwy  
best estimate figures FGU



- uwy's 2008, '11, '12, '13, '14, '15
- ML occur typically 4-8 years after inception
- ∅ agg ML / uwy: \$500m-1bn since uwy 2007
- major impact on Global D&F market

# How did market react on frequency increase of CAR/EAR ML ?

MD blue / DSU orange  
aggregated losses per FY  
best estimate figures FGU



- Since 2007 clear increase of ML frequency & severity
- After 2018 significant drop of Eng. PML capacity
- various markets reduced capacity and/or withdraw from the market
- indirect impact on regional market via FAC, facilities, binders, MGA's, treaties



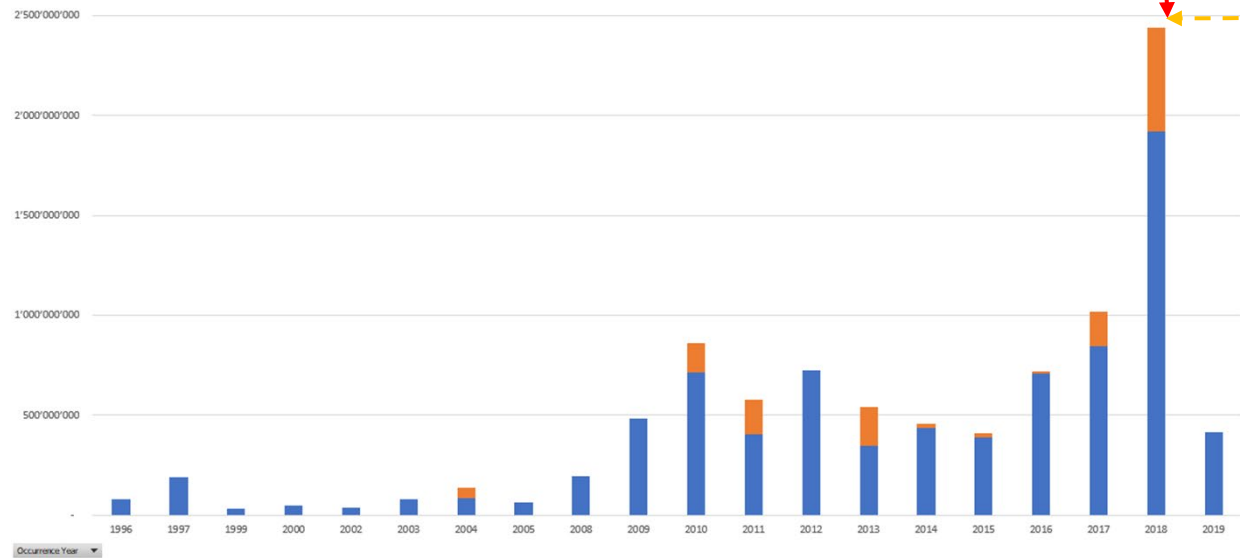
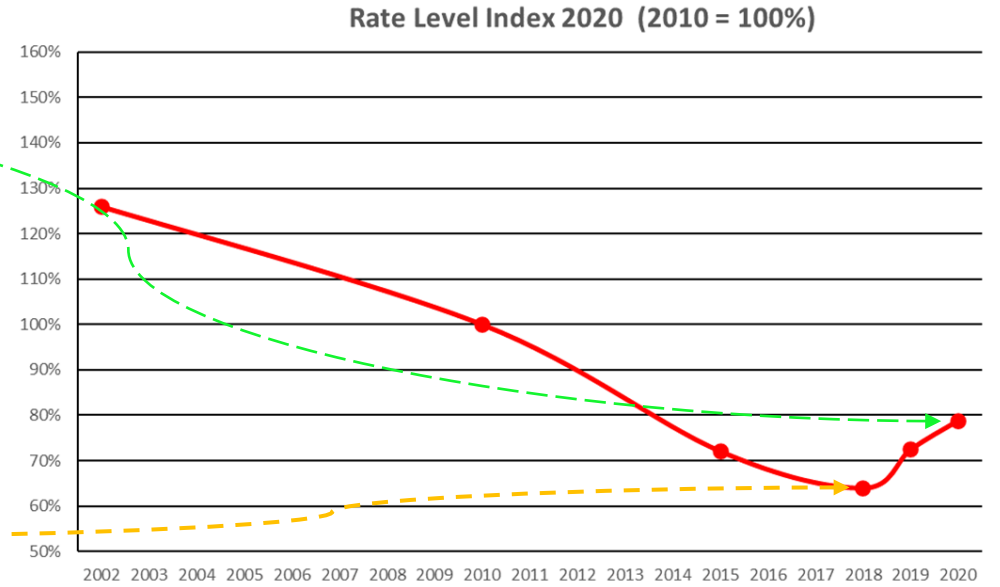
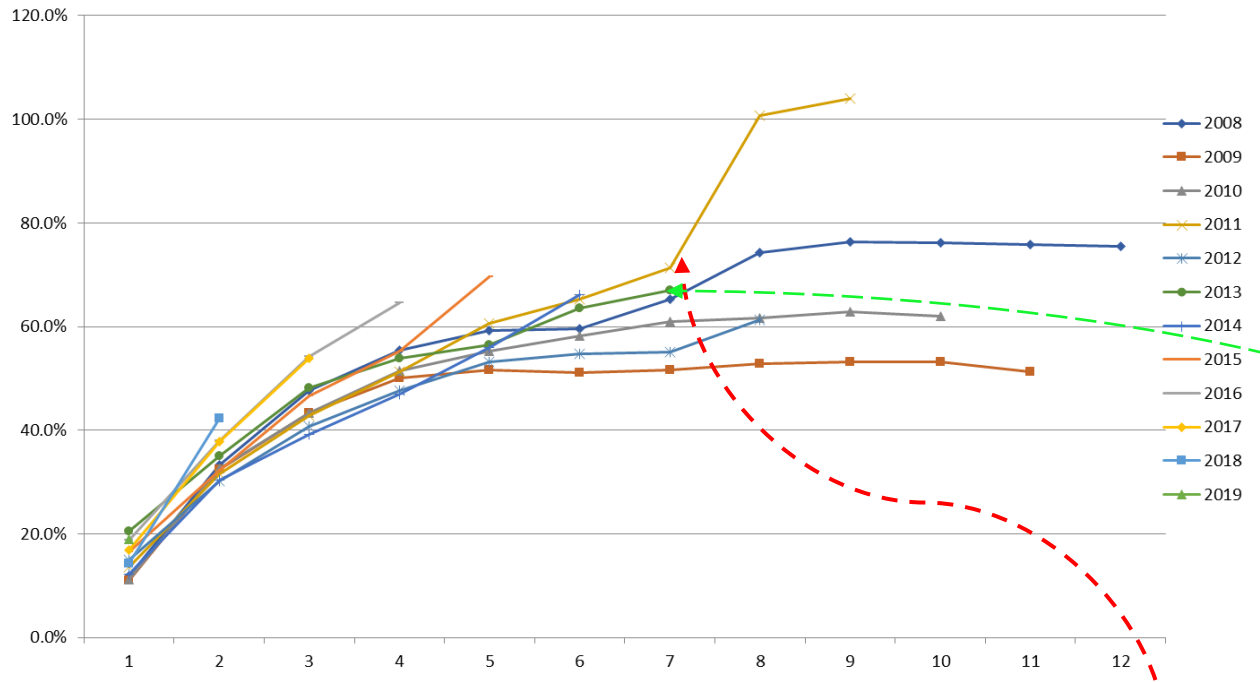
IRCI  
IMLI  
ILORI

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How they play together  
Long-term & late development to ULR

**Plausibility check!**



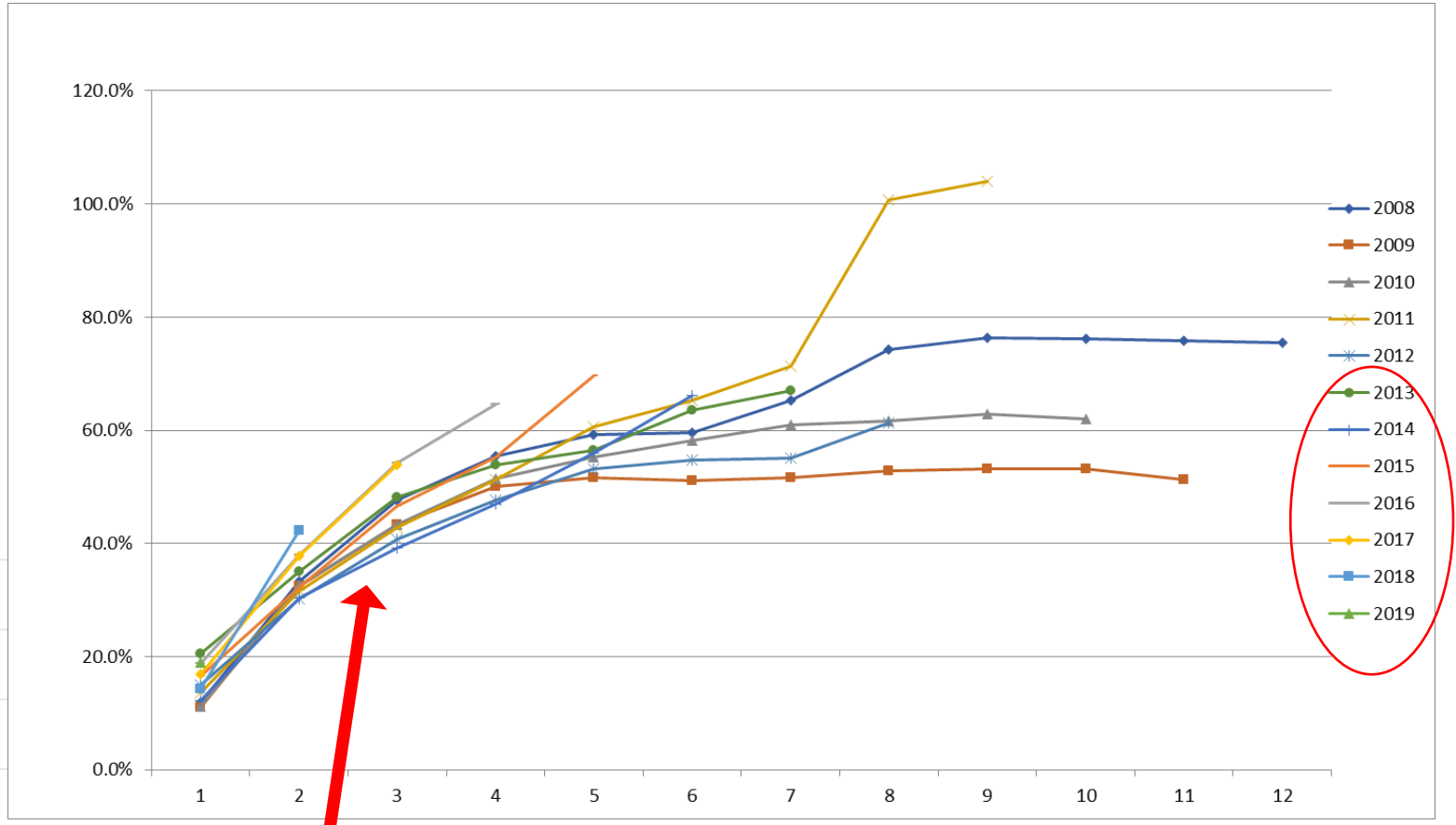
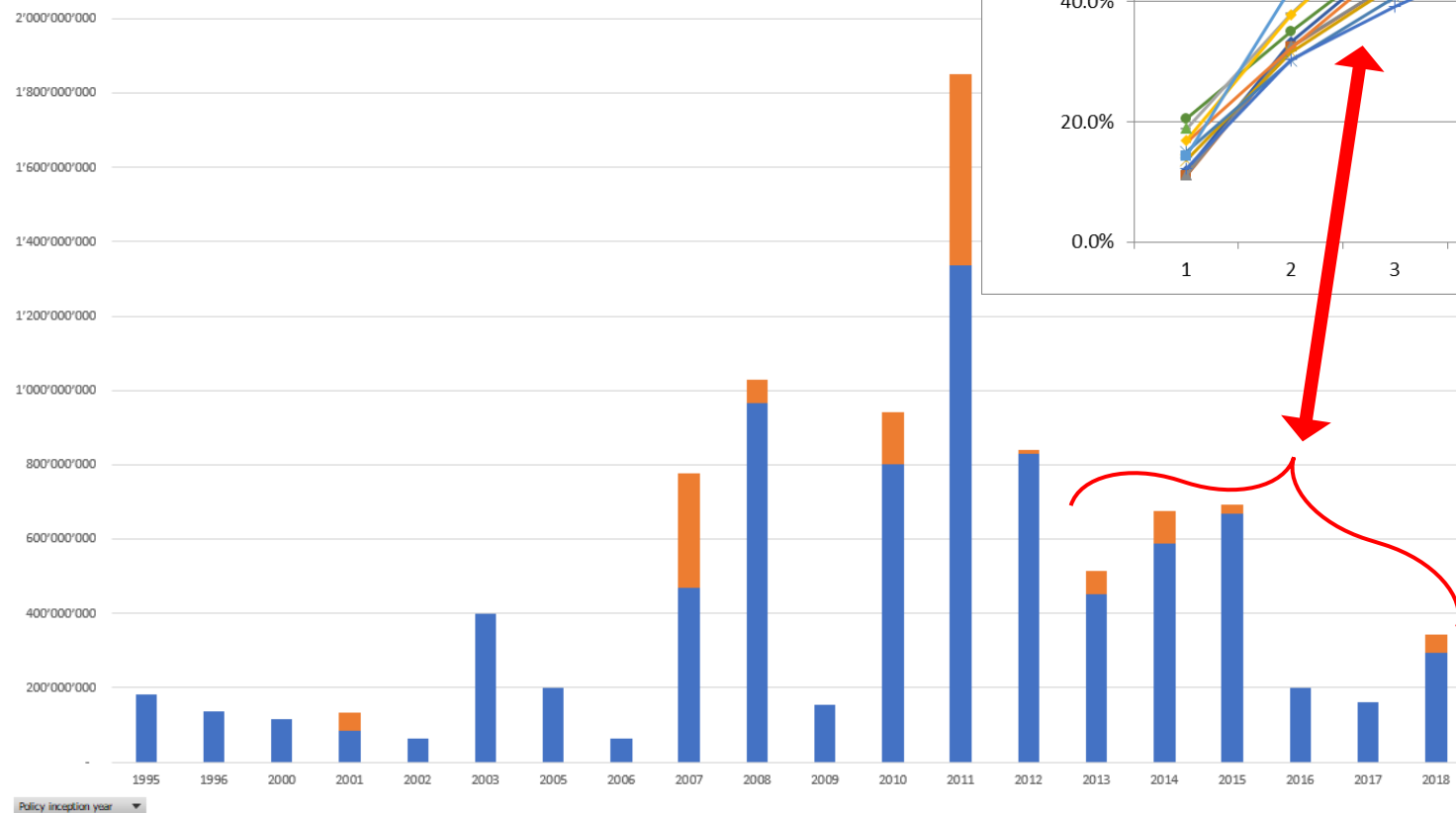


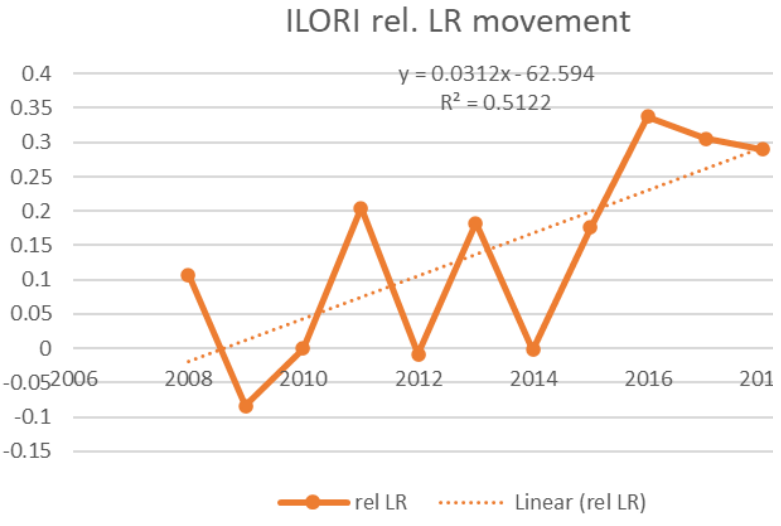
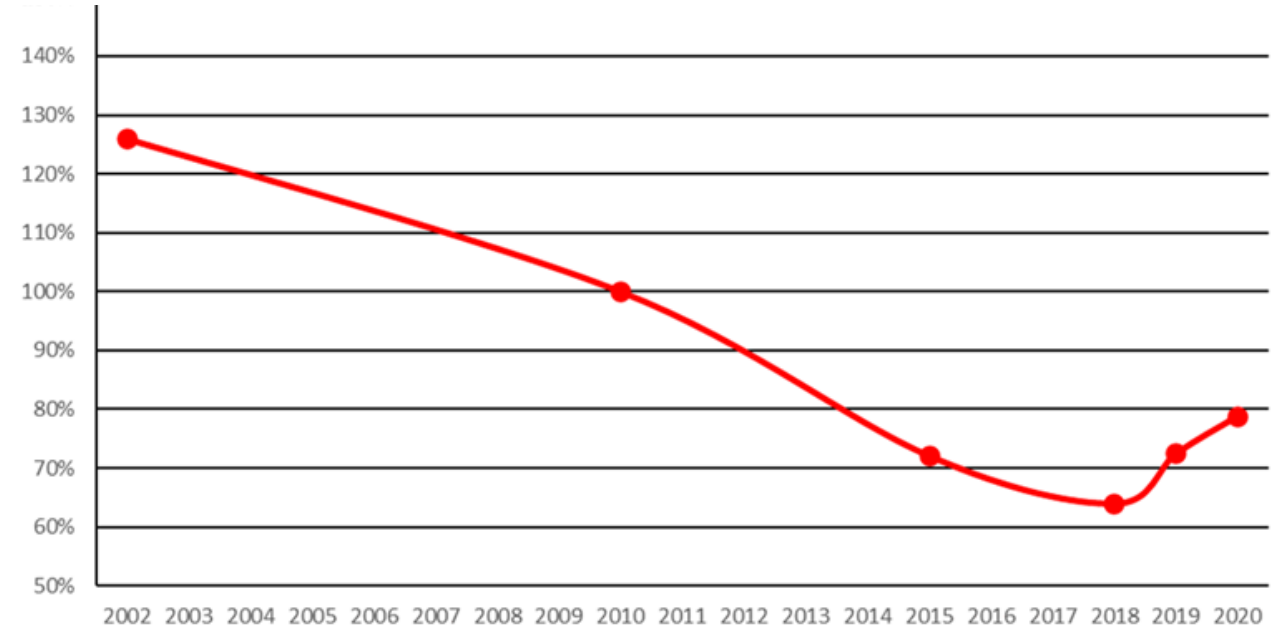
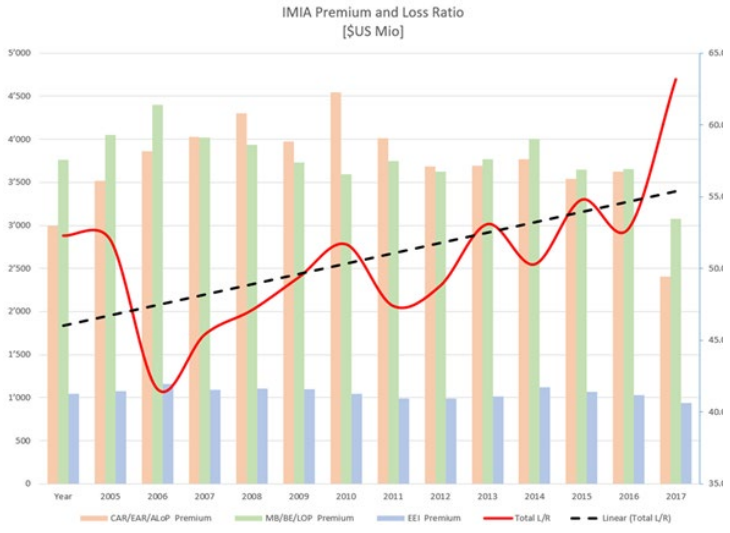
- Occurrence year 2018 coincides with rate turning point
- Ø IRCI level to date corresponds to uwy 2012/13
- uwy 2012/13 iLR to date 62-68%

*Pro memoria: CR = ULR + internal & external expenses*

- uwy maturity, i.e. ULR > 7 years  
(regional market > 3 years)

- Development to ULR of uwy's 2012-2019 depending on:
  - ✓ rates (attritionals)
  - ✓ LL activity (LR "jumps")





*Correlation IRCI-ILORI-  
Country stats?*

---

*correlation validates both indices mutually*

**Strong evidence of negative correlation  
BUT only provable with ULR (see  
volatility in ILORI rel. LR movement)**

## Summary

- **IRCI 2020:** global  $\emptyset$  on level of  $\sim$  uwy 2012/13
- **IRCI 2020:** +24%  $\emptyset$  growth since uwy 2018 (below level of capacity drop)
- **D&F** rate increase > **Local** rate increase
- **FY IMIA country stats** negatively correlated to **IRCI** since FY 2006 (strong evidences for ILORI correlation)
  
- **ILORI 2020:** Young uwy's iLR grow quicker
- **ILORI 2020:** Older uwy's show late jumps > 7 years (LL activity)
  
- **IMLI 2020:** ML activity in FY 2018 = global capacity drop
- **IMLI 2020** shows clear frequency & severity increase of ML xs \$50m driven by t&c
  
- **IRCI/ILORI/IMLI 2020:** ongoing LR development > uwy 2013 by rates (attritionals) & LL ("jumps") driven by t&c's
- **IRCI/ILORI/IMLI 2020:** Rates reacted massively on occurrence year 2018



# IRCI/ILORI/IMLI 2021 – Data call in spring 2021

**Please contribute**

**For 2021 – Thank you!**

**Training session Oct/Nov 2020**



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“IMIA makes the complex engineering insurance market tangible”

## Mission

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### PERILS

*Data collected, anonymized, validated, aggregated,  
handed over to IMIA (Antitrust & GDPR compliant)*



(Re-) Insurance  
Companies

IMIA Indices  
IRCI, ILORI, IMLI



# PERILS



# Questions ?

