No measurement w/o reference point

Global Market Stats & Benchmarking



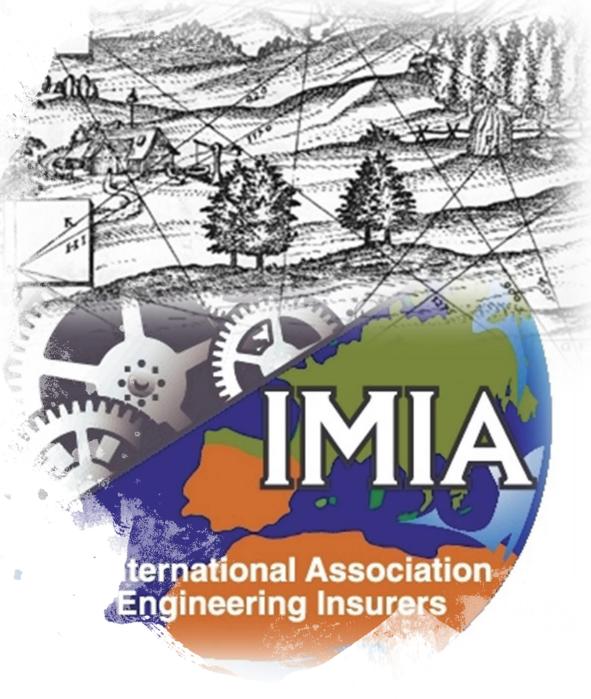


Why benchmarking is important

We invest a lot in:

- education
- gathering know-how
- spreading best practices ...

BUT we do not measure the effectiveness of our efforts!!!





Engineering Market is **PROPORTIONAL**

- Most risks are proportionally co-insured & FAC reinsured
- Most portfolios are proportionally reinsured
- Each market participants holds proportional fraction of the total



Engineering Market is GLOBAL (brokers live on transactions)

- Many risks are atomized & spread over the globe
- Most if not all portfolios are globally reinsured
- > Local stats provide only **small part of entire picture**



- *in accordance with antitrust law*



The International Association of Engineering Insurers

Amm

... well – nice idea – but is it legally compliant ...???

CLYDE&CO

Memorandum - Legally Privileged and Confidential

- То Olivier Hautefeuille, Simon Dejung (IMIA)
- сс Paul Lowrie Clyde & Co
- From John Milligan
- Date 1 October 2019 EU competition law information exchange

Dear Olivier, Simon, colleagues

1. Background

Re

IMIA is an international association whose members are national insurance associations around the world, individual insurers, reinsurers, and associate members who are loss adjusters consultants and brokers operating within the engineering insurance market

IMIA collects data from national associations, reproducing the data, and publishes them to its members.

2. Safeguards on IMIA handling of information

If IMIA receives any individualised data directly from insurers, if that data could be regarded as commercially sensitive, then it should not be viewed by members within IMIA who are employees of insurers.

I understand from Simon Dejung's email of 17 September that IMIA may collect certain information direct from insurers eq it lists guestions 1, 2 3.1, 3.2, with yellow and green boxes, such as: what is the size of your engineering portfolio, what is your typical position in a placement?

If this information is commercially sensitive or 'strategic' to use the European Commission's terminology, it should not be seen by competitors. Information will not be commercially sensitive if, for example, it is already in the public domain, or is sufficiently historic as to have no impact on competition, say 2-3 years old). We can discuss if necessary whether the questions asked seek information that could be viewed as commercially sensitive.

3. Data on combined ratios

Data is processed to produce figures on the average performance of the market. This is for benchmarking purposes, so insurers can measure their performance against the market and does not raise competition issues.

I note your comment that you are aware of companies producing to the financial market their combined ratio as a KPI of their overall performance, but not publishing their combined ratio per line of business

I do not see that there should be a competition difficulty with an insurance association disseminating combined ratio per business line information - subject to all the safeguards of anonymity, aggregation, independent secretariat handling information to the extent it relates

415306/111 37800995.1

Clydf&Co

to other insurers. I would add one caveat - that the level of detail in aggregated figures must not be such as to identify the conduct/performance of any individual insurer.

I would mention that in its 2007 Business Insurance Sector Report, the European Commission published country by country combined ratios for the years 2000-2005, with reference to lines of business. It may be assumed this was not anticompetitive.1 We can discuss this further if required

4. Your bullet point guidance (Simon Dejung's email 17 September)

I do not disagree with this.

I understand from speaking to Simon that the 66% limit is based on German guidance and that it is in any event not controversial from IMIA's point of view.

John Milligan Consultant EU & Competition Clyde & Co LLP

COMMISSION STAFF WORKING DOCUMENT Accompanying the COMMUNICATION FROM THE COMMISSION Sector Inquiry under Article 17 of Regulation (EC) No 1/2003 on business insurance (Final Report) 2007

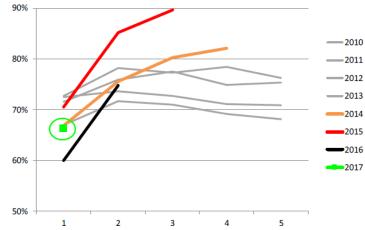
See eg pages 8-9: https://ec.europa.eu/competition/sectors/financial services/inquiries/final report annex.pdf The EC stated 'In order to investigate profitability, an economic measure was used which is simple and in widespread use in the industry: the so-called "combined ratio". It is calculated by dividing the sum of incurred losses net of reinsurance and expenses by earned premium net of reinsurance; Claims (net of reinsurance) + Expenses incurr

Earned premiums (net of reinsurance)

This therefore measures the amount that an insurer must pay out to cover claims and expenses per euro of earned premium 415306/111 37800995.1

Gross* loss ratios Cargo Europe (& partly US) **

Underwriting years 2010 to 2017, as reported at 1, 2, 3, 4, 5 years Gross premiums, paid+outstanding claims



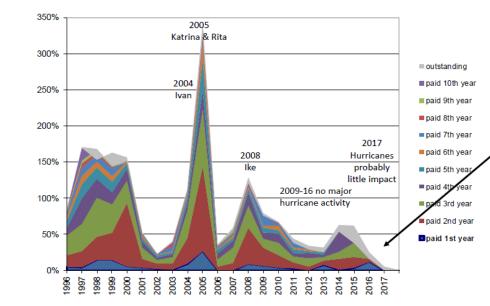
2014, 2015, 2016: Each year extraordinary increase in loss ratios. Change in typical pattern. The new normal?

2017 starts at 2014 level. With a 'normal' pattern (grey lines), 2017 would end around 70%. With recent pattern, 2017 ends around 80%.

Offshore Energy – Gross Loss Ratios



Underwriting years 1996 to 2017 / incl. liability / data from UK, Nordic, US/ reported as of Dec. 2017



Youngest underwriting years still develop, will deteriorate over time.

Other lines of business communicate transparently about settled claims – why not engineering?

Good examples



Method



Format: undeveloped triangulation (entries yearly)

Currency: US\$

Period: UWY 2008-2015

Premium: aggregated booked gross premium retained per uwy (aggregated across the portfolio) – *no indication of deductions and/or commissions allowed!*

Losses: incurred & retained losses per uwy (aggregated across the portfolio) – *large losses & attritional losses combined*

Basis: premium/losses on same basis -

retained

Fictitious outcome

| | ¢ | | | Yearly Development of incurred LR on carned premium basis | | | | | | | | |
|-------|------|---------|---------|---|---------|---------|---------|---------|---------|------------|----------|--|
| | | Dev 12m | Dev 24m | Dev 36m | Dev 48m | Dev 60m | Dev 72m | Dev 84m | Dev 96m | Dev 108m D | Dev 120m | |
| | 2008 | 1% | 5% | 23% | 53% | 54% | 60% | 59% | 64% | 63% | 69% | |
| | 2009 | 0% | 5% | 13% | 29% | 25% | 34% | 50% | 49% | 52% | | |
| | 2010 | 0% | 1% | 33% | 54% | 68% | 70% | 70% | 88% | 1 | | |
| | 2011 | 0% | 3% | 5% | 23% | 21% | 54% | 61% | | | | |
| LBADY | 2012 | 0% | 0% | 9% | 16% | 25% | 47% | | | | | |
| UWY | 2013 | 0% | 11% | 27% | 32% | 69% | | | | | | |
| | 2014 | 1% | 7% | 12% | 32% | | | | | | | |
| | 2015 | 0% | 3% | 9% | | | | | | | | |
| | 2016 | 0% | 7% | 1 | | | | | | | | |
| | 2017 | 0% | | | | | | | | | | |

Template for anonymized entries

| | Aggregated net retained Po | rtfolio Pr Yearly a | remium (bo ggregated r | o <i>ked)</i> let retaine | ed premi | um deve | elopmen | t per uw | / | | |
|---------------|------------------------------|------------------------|---------------------------|------------------------------|-----------|---------|---------|----------|--------|---------|--------|
| | | (on book | ked premiur | n) | | | | | | | |
| | | Dev 12 | Dev 24 | Dev 36 | Dev 48 | Dev 60 | Dev 72 | Dev 84 | Dev 96 | Dev 108 | Dev 12 |
| | 2008 | | | | | | | | | | |
| | 2009 | | | | | | | | | | |
| | 2010 | | | | | | | | | | |
| ≥ | 2011 | | | | | | | | | | |
| M | 2012 | | | | | | | | | | |
| | 2013 | | | | | | | | | | |
| | 2014 | | | | | | | | | | |
| | 2015 | | | | | | | | | | |
| - | Incurred net retained losses | | | | | | | | | | |
| | incurred het retained losses | | evelopment | on net re | tained ir | ourred | losses | | | | |
| | | Dev 12 | | | | | | Dev 84 | Dev 96 | Dev 108 | Dev 12 |
| | 2008 | | 20121 | 201 00 | 001 10 | 201 00 | 00112 | 20101 | 201 30 | 201 100 | 001 12 |
| 8- | 2009 | | | | | | | | | | |
| <u> </u> | 2010 | | | | | | | | | | |
| ר צ | 2011 | | | | | | | | | | |
| ₩ N | 2012 | | | | | | | | | | |
| 21 - - | 2013 | | | | | | | | | | |
| 1 | 2014 | | | | | | | | | | |
| | 2015 | | | | | | | | | | |
| _ | Incurred net retained LR | | | | | | | | | | |
| | incurred net retained Erc | Yearly d | evelopment | on net re | tained ir | ourred | losses | | | | |
| | | Dev 12 | | | | | | Dev 84 | Dev 96 | Dev 108 | Dev 12 |
| | 2008 | | #DIV/0! | ######## | ###### | ###### | ###### | ###### | | #DIV/0! | |
| | | #DIV/0! | | | ###### | ###### | | | | #DIV/0! | |
| | 2010 | #DIV/0! | #DIV/0! | ####### | ###### | ###### | ###### | ###### | ###### | #DIV/0! | · |
| ` ≿ | | #DIV/0! | #DIV/0! | ######## | ####### | ###### | ###### | ###### | ###### | | • |
| M | | #DIV/0! | #DIV/0! | ######## | ####### | ####### | ###### | ###### | | | |
| | | #DIV/0! | #DIV/0! | ######## | ####### | ####### | ###### | | r | | |
| | | #DIV/0! | | ######## | ###### | ###### | | | | | |
| - | 2015 | | #DIV/0! | K uunnun | | | F | | | | |

iLR & booked premium range to 3rd party

| 0 | < 5 Mio | Values in \$[US] |
|--------|-------------------|------------------|
| 0 | 5 Mio to 20 Mio | |
| 0 | 20 Mio to 50 Mio | |
| 0 | 50 Mio to 100 Mio | |
| \cap | more than 100 Mio | |

νγ

| ncurred net reta | ined LR | | | | | | | | | |
|------------------|----------|----------|-----------|------------|---------|---------|---------|---------|---------|---------|
| | Yearly d | evelopme | nt on inc | urred loss | es | | | | | |
| | Dev 12 | Dev 24 | Dev 36 | Dev 48 | Dev 60 | Dev 72 | Dev 84 | Dev 96 | Dev 108 | Dev 120 |
| 2008 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| 2009 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |
| 2010 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | |
| 2011 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | |
| 2012 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | |
| 2013 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | |
| 2014 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | |
| 2015 | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | | | | | |

independent 3rd party (not IMIA)

Recall - Fictitious outcome «

| | Yearly Development of incurred LR on carned premium basis | | | | | | | | | | |
|------|---|---------|---------|---------|---------|---------|---------|---------|---------|------------|----------|
| | | Dev 12m | Dev 24m | Dev 36m | Dev 48m | Dev 60m | Dev 72m | Dev 84m | Dev 96m | Dev 108m [| Dev 120m |
| | 2008 | 1% | 5% | 23% | 53% | 54% | 60% | 59% | 64% | 63% | 69% |
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| LBAD | 2012 | 0% | 0% | 9% | 16% | 25% | 47% | | | | |
| UWY | 2013 | 0% | 11% | 27% | 32% | 69% | | | | | |
| | 2014 | 1% | 7% | 12% | 32% | | | | | | |
| | 2015 | 0% | 3% | 9% | 1 | | | | | | |
| | 2016 | 0% | 7% | | | | | | | | |
| | 2017 | 0% | | | | | | | | | |

IMIA Benchmarking

ASK!

- Is this of interest & Will you contribute?
 - Anonymization Confidentiality & Data

protection guaranteed

- Submitted to independant party
- Aggregated retained premium & losses
- Raw data deleted after having retrieved the LR

Large Losses

The International Association of Engineering Insurers

Let's get out of the clouds

MARSH REPORT March 2018

| FIGURE 4 | FIGURE 4 LARGEST LOSSES 2016-2017 Source: Marsh Research | | | | | | | | | | |
|------------|---|----------------------|----------------------------|-------------------------|--------------------------|--|--|--|--|--|--|
| DATE | PLANT TYPE | EVENT TYPE | LOCATION | COUNTRY | PROPERTY LOSS (US\$M) | | | | | | |
| 02/11/2016 | EXPLORATION AND PRODUCTION (E&P) OFFSHORE | MECHANICAL DAMAGE | JUBILEE FIELD | GHANA | 450 | | | | | | |
| 12/01/2016 | REFINERY | FIRE | SANNAZZARO DE' BURGONDI | ITALY | 250 | | | | | | |
| 01/11/2017 | REFINERY | FIRE | RUWAIS, ABU DHABI | UNITED ARAB EMIRATES | 1,000+ | | | | | | |
| 01/30/2017 | CHEMICAL | FIRE | PORI | FINLAND | 267 | | | | | | |
| 03/14/2017 | REFINERY | FIRE | FORTMCMURRAY, ALBERTA | CANADA | 220 | | | | | | |

THE 201 ARGEST LOSSES 1978 - 2017

| FIGURE 5 | THE 20 LARGEST LOSSES 1978 - 2017 Source: Marsh Research | | | | | | | | |
|------------|---|---|---------------------------------|-------------------------|--------------------------------|--|--|--|--|
| DATE | PLANT TYPE | EVENT TYPE | LOCATION | COUNTRY | PROPERTY DAMAGE1 (US\$M) | | | | |
| 07/06/1988 | E&P OFFSHORE | EXPLOSION, FIRE | PIPER ALPHA, NORTH SEA | UNITED KINGDOM | 1,960 | | | | |
| 01/11/2017 | REFINERY | FIRE | RUWAIS, ABU DHABI | UNITED ARAB EMIRATES | 1,000+ | | | | |
| 10/23/1989 | CHEMICAL | EXPLOSION, VAPOR CLOUD EXPLOSION (VCE) | PASADENA, TEXAS | UNITED STATES | 1,520 | | | | |
| 06/08/2009 | E&P OFFSHORE | BUSINESS INTERRUPTION | NORTH SEA | NORWAY | 910 | | | | |
| 03/19/1989 | E&P OFFSHORE | EXPLOSION, FIRE | BAKER, GULF OF MEXICO | UNITED | 900 | | | | |
| 03/15/2001 | E&P OFFSHORE | EXPLOSION | RONCADOR FIELD, CAMPOS BASIN | BRAZIL | 850 | | | | |
| 09/25/1998 | GAS PROCESSING | EXPLOSION, VCE | SALE, LONGFORD, VICTORIA | AUSTRALIA | 810 | | | | |
| 04/24/1988 | E&P OFFSHORE | BLOWOUT | ENCHOVA, CAMPOS BASIN | BRAZIL | 760 | | | | |
| 09/21/2001 | FERTILIZER | EXPLOSION | TOULOUSE | FRANCE | 730 | | | | |
| 06/25/2000 | REFINERY | EXPLOSION, FIRE | MINA AL-AHMADI KUWAIT | | 720 | | | | |
| 05/04/1988 | CHEMICAL | EXPLOSION | HENDERSON, NEVADA | UNITED | 690 | | | | |
| 01/19/2004 | GAS PROCESSING | EXPLOSION, FIRE | SKIKDA | ALGERIA | 690 | | | | |
| 4/01/2015 | E&P OFFSHORE | FIRE | ABKATUN, BAY OF CAMPECHE | MEXICO | 690 | | | | |
| 05/05/1988 | REFINERY | EXPLOSION, VCE | NORCO, LOUISIANA | UNITED STATES | 670 | | | | |
| 03/11/2011 | REFINERY | EXPLOSION, FIRE | SENDAI | JAPAN | 650 | | | | |
| 04/21/2010 | E&P OFFSHORE | EXPLOSION, FIRE | GULF OF MEXICO | UNITED STATES | 640 | | | | |
| 07/27/2005 | E&P OFFSHORE | EXPLOSION, FIRE | MUMBAI, HIGH NORTH | INDIA | 520 | | | | |
| 11/14/1987 | CHEMICAL | EXPLOSION, VCE | PAMPA, TEXAS | UNITED | 520 | | | | |
| 12/25/1997 | GAS PROCESSING | EXPLOSION | BINTULU, SARAWAK | MALAYSIA | 510 | | | | |
| 02/04/2011 | E&P OFFSHORE | BUSINESS INTERRUPTION | NORTH SEA | UNITED KINGDOM | 500 | | | | |
| | | | | | | | | | |

. Losses

Figure 2 – Upstream losses excess of US\$100m, 2015 -17

| Туре | Cause | Region | PD US\$ | BI US\$ | Total US\$ |
|----------|-----------------------------|---------------|-------------|-------------|---------------|
| 2015 | | | | · · · · | |
| Platform | Fire + explosion/VCE | Latin America | 650,000,000 | | 650,000,000 |
| Platform | Misc | North America | 650,000,000 | | 650,000,000 |
| MOPU | Explosion no fire | Latin America | 382,000,000 | 112,500,000 | 494,500,000 |
| Plant | Terrorism | Africa | 455,000,000 | | 455,000,000 |
| Platform | Collision | Middle East | 260,000,000 | | 260,000,000 |
| Rig | Leg punch through | Latin America | 240,000,000 | | 240,000,000 |
| Pipeline | Ruptured pipeline | North America | 220,300,000 | | 220,300,000 |
| MOPU | Faulty work/operating error | Latin America | 143,000,000 | | 143,000,000 |
| Plant | Terrorism | Africa | 141,649,500 | | 141,649,500 |
| MOPU | Corrosion | Latin America | 100,000,000 | | 100,000,000 |
| 2016 | · | | · · · | | |
| MOPU | Mechanical failure | Africa | 620,000,000 | 900,000,000 | 1,520,000,000 |
| Rig | Mechanical failure | North America | 83,500,000 | 95,000,000 | 178,500,000 |
| Platform | Fire + explosion/VCE | Latin America | 150,000,000 | | 150,000,000 |
| Pipeline | Anchor/jacking/trawl | Africa | 100,000,000 | | 100,000,000 |
| 2017 | | | | · · · | |
| Vessel | Pipelaying/trenching | Latin America | 128,500,000 | | 128,500,000 |
| MOPU | Faulty work/operating error | Africa | 100,000,000 | | 100,000,000 |

Only two losses over US\$100m have recorded to date in 2017 - less than in 2016 and significantly less than in 2015

Source: WTW Energy Loss Database as of February 12 2018 (figures include both insured and uninsured losses)

Other lines of business communicate transparently about settled claims – why not engineering?

Good examples





Listing of settled claims

anonymized format

| | Country | Occurrence Year | Policy inception year 👻 | CAR; Operation al or E | USD Physical Damage F | Third Party Liability in USD | DSU / ALOP FGU in US | FGU Total in USD | Natural Cat | Type of Risk / Project Ty | Cause of Loss |
|---|-------------------|--------------------|-------------------------------|------------------------------|--------------------------|------------------------------------|-------------------------|---------------------|----------------|------------------------------|--------------------|
| | Mexico | 2012 | 2012 | | 34'500'000 | | | 34'500'000 | No | | Fire- Explosion |
| | Saudi Arabia | 2015 | 2011 | | 35'000'000 | | | 35*000*000 | No | Power Plant | |
| | United Kingdom | 2018 | 1900 | CAR | 40'500'000 | | | 40°500°000 | Yes | Building | Fire- Explosion |
| | France | 2015 | 2015 | CAR | 430000000 | | | 43000000 | No | Buildin <u>a</u> | |
| | Qatar | 2018 | 2015 | EAR | 45'000'000 | | | 45'000'000 | Yes | Power Plant | Rain-Flood |
| | South Africa | 2014 | 2012 | EAR | 45'400'000 | | | 45'400'000 | Yes | Building | Wind |
| | France | 2011 | 2008 | CAR | 46'700'000 | | 0 | 46'700'000 | No | Building | Fire |
| | İsrael | 2012 | 2006 | EAR | 47'171'860 | | | 47*171*860 | No | Power Plant | Fire- Explosion |
| | Germany | 2015 | 1900 | | 26'065'700 | | 21'700'711 | 47*766*411 | No | | Fire- Explosion |
| | Netherlands | 2015 | 2009 | EAR | 50'000'000 | | | 50°000°000 | No | Power Plant | T24 |
| - | Korea South | 2012 | 2011 | EAR | 51'662'400 | | | 51'662'400 | No | Power Plant | Fire |
| | Australia | 2012 | 2011 | | 52°551'882 | | | 52°551°882 | No | | |
| | USA | 2010 | 2008 | CAR | 54'290'664 | | 0 | 54*290*664 | No | Tunnel | Flood |



Above image is used for illustration purposes only / Credit: Shutterstock

IUMI proves concept for global large loss database

Speaking at this week's IUMI conference in Cape Town, Donald Harrell, chair of IUMI's Facts & Figures Committee, reported a successful conclusion to the Union's large loss database pilot project. IUMI has been running the project for the past year to understand if is feasible to collect, through its member associations, hull and cargo claims data for large losses. This is expected to be a unique database of large loss data for marine underwriters, who will not find this information anywhere else.

CASUALTIES | 17/09/18

The International Association of Engineering Insurers

IMIA Large Loss listing <u>– ASK!</u>

- collect <u>settled</u> engineering claims xs \$30m FGU
- Losses with DOL 2000 onwards (past 20 years)
- Publication of an updated large loss list twice a year
- Anonymization: NO involved parties will be mentioned
- Focus on:
 - Occupancy
 - Country
 - PD, DSU, TPL (amounts)
 - DOL (only calendar year)

Recap

- Market Stats, Benchmarking & Large Loss listing provide urgently needed reference points
- Common practice among sister associations
- Compliant with Anti-Competition Law

<mark>2 Asks!!</mark>

- Are you interested to be part of the benchmarking initiative?
- Will you support the anonymized Large Loss listing?



Questions

?

The International Association of Engineering Insurers