



IUMI webinar
25 August 2026

Marine Underwriters' Financial Fundamentals – Technical core concepts



International Union of Marine Insurance

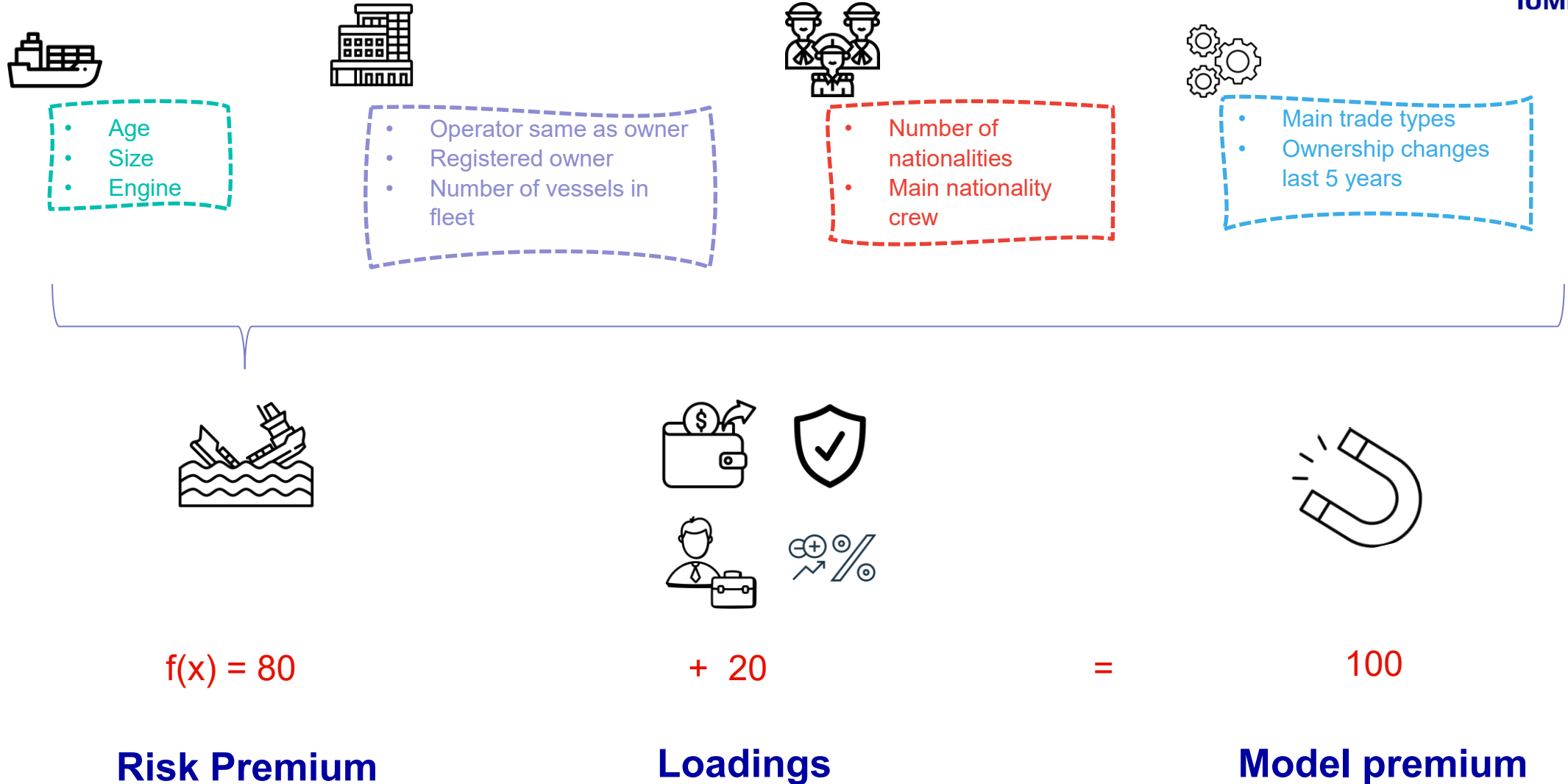


Pricing Adequacy

From model premium to final price

25th August 2025
Veith Huesmann, IUMI

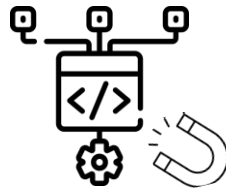
The job of a rate tool – A hull example



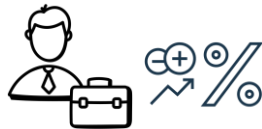
From data to street price – Still a hull example



Rate tool



$$f(x) = 100$$



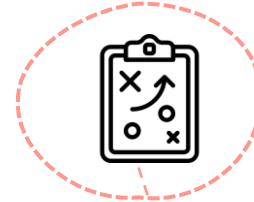
Quality adjustment



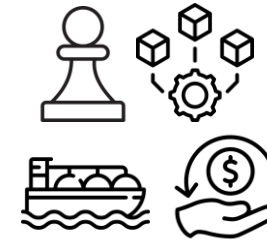
$$100 + 4 = 104$$



Tactical adjustment



$$-10$$



Proposal to client



The adequate price



—Rate tool: 100 

—Technical price: 104 

—Final price to client: 94 

—Model adequacy

$$\begin{aligned} &= \text{Rate tool} / \text{technical price} \\ &= 100 / 104 = 96\% \end{aligned}$$

Model adequacy

- Reflects soft factors
- Challenges the model

—Rate adequacy

$$\begin{aligned} &= \text{Final price} / \text{technical price} \\ &= 94 / 104 = 90\% \end{aligned}$$

Rate adequacy

- Measures the commercial decisions
- Portfolio management and steering

An individual premium for an individual purpose



Model premium



- the “average” risk
- covers expected claims and expenses
- good if you have little information

Technical price



- relevant for model + rate adequacy
- captures unstructured information
- long term steering tool

Final price



- relevant for rate adequacy
- impacted by market condition and competitor considerations



Thank you



Elements of a Technical Rate

IUMI Webinar – Marine Underwriters' Financial Fundamentals

Tobias Gütschow
Treaty Underwriter – Global Marine, Energy & Specialty
August 2026

A rate and the rating base

Is a rate of 0.2% high or low?

It depends on:

- Rating base
- What the premium is expected to fund

A rate and the rating base

A rate links a premium to a defined rating base

$$\text{rate} = \frac{\text{premium}}{\text{rating base}}$$

Premium

- Annual / voyage
- Gross or net of brokerage

Rating base

- Insured value / agreed value
- Annual turnover
- Declared shipment value
- A clearly defined limit

A rate and the rating base

Marine products use different exposure measures

Hull & Machinery

Insured value / agreed value

$$\frac{\text{annual premium}}{\text{agreed value}}$$

Cargo open cover

Declared annual turnover

$$\frac{\text{annual premium}}{\text{annual turnover}}$$

Single shipment (Cargo)

Declared shipment value

$$\frac{\text{voyage premium}}{\text{shipment value}}$$

A rate and the rating base

Marine products use different exposure measures

Hull & Machinery

Annual premium = USD 125k

Agreed value = USD 50m

Rate = 0.25%

Cargo open cover

Annual premium = EUR 250k

Annual turnover = EUR 500m

Rate = 0.5 ‰

Single shipment (Cargo)

Voyage premium = EUR 10k

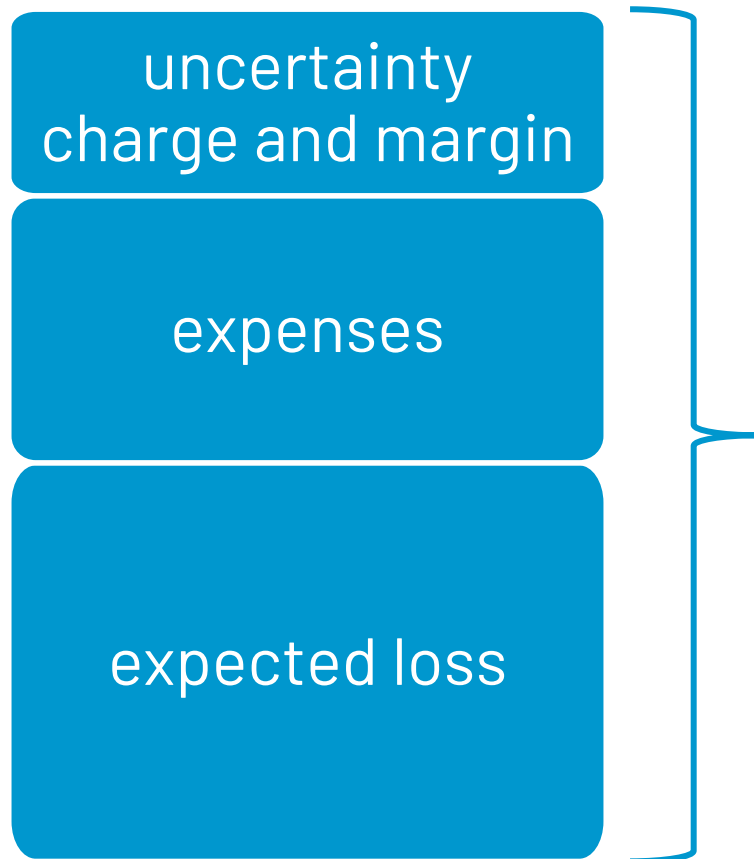
Shipment value = EUR 5m

Rate = 0.2%

A rate is only meaningful when you know the rating base

Pure risk rate, technical rate and quoted rate

The technical premium funds more than the expected loss



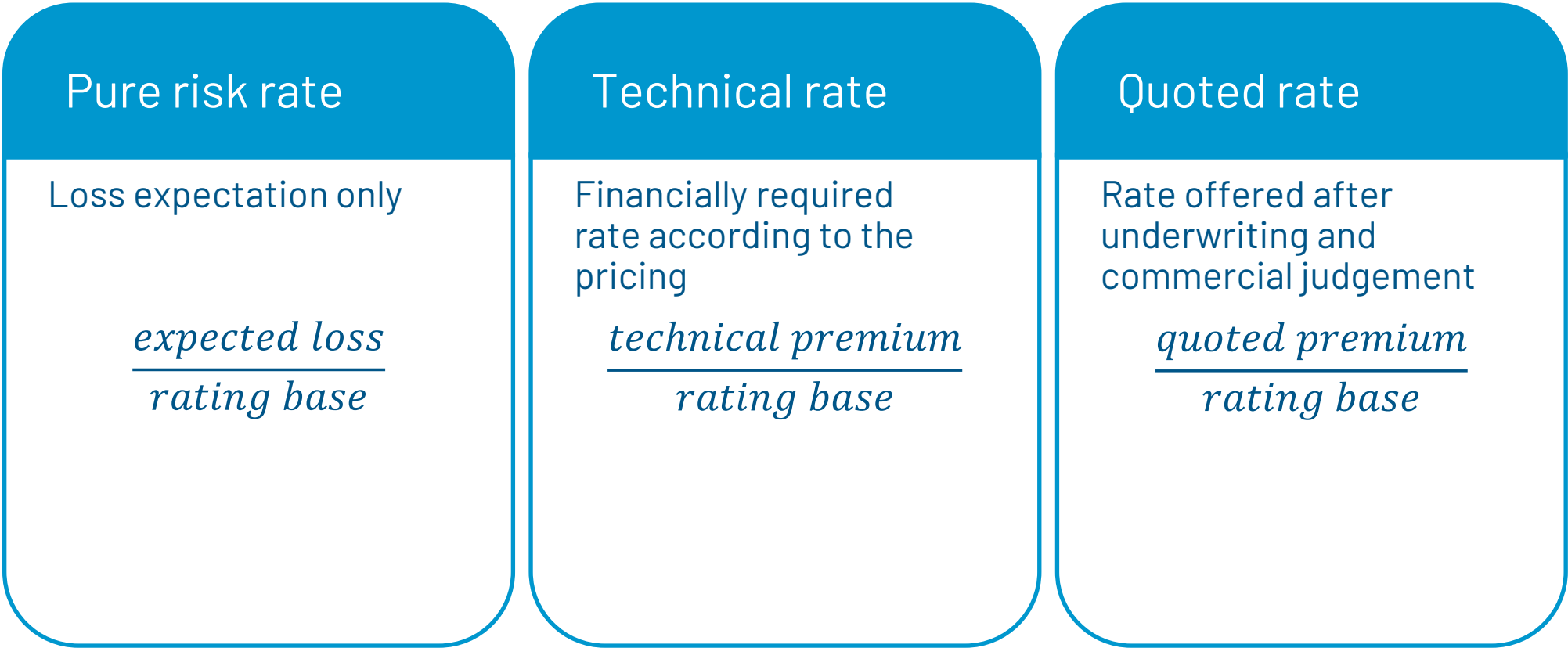
$$\text{technical premium} = \text{expected loss} + \text{expenses} + \text{uncertainty charge} + \text{margin}$$

* The exact calculation varies by company and pricing framework.

Pure risk rate, technical rate and quoted rate

From loss expectation to the rate offered

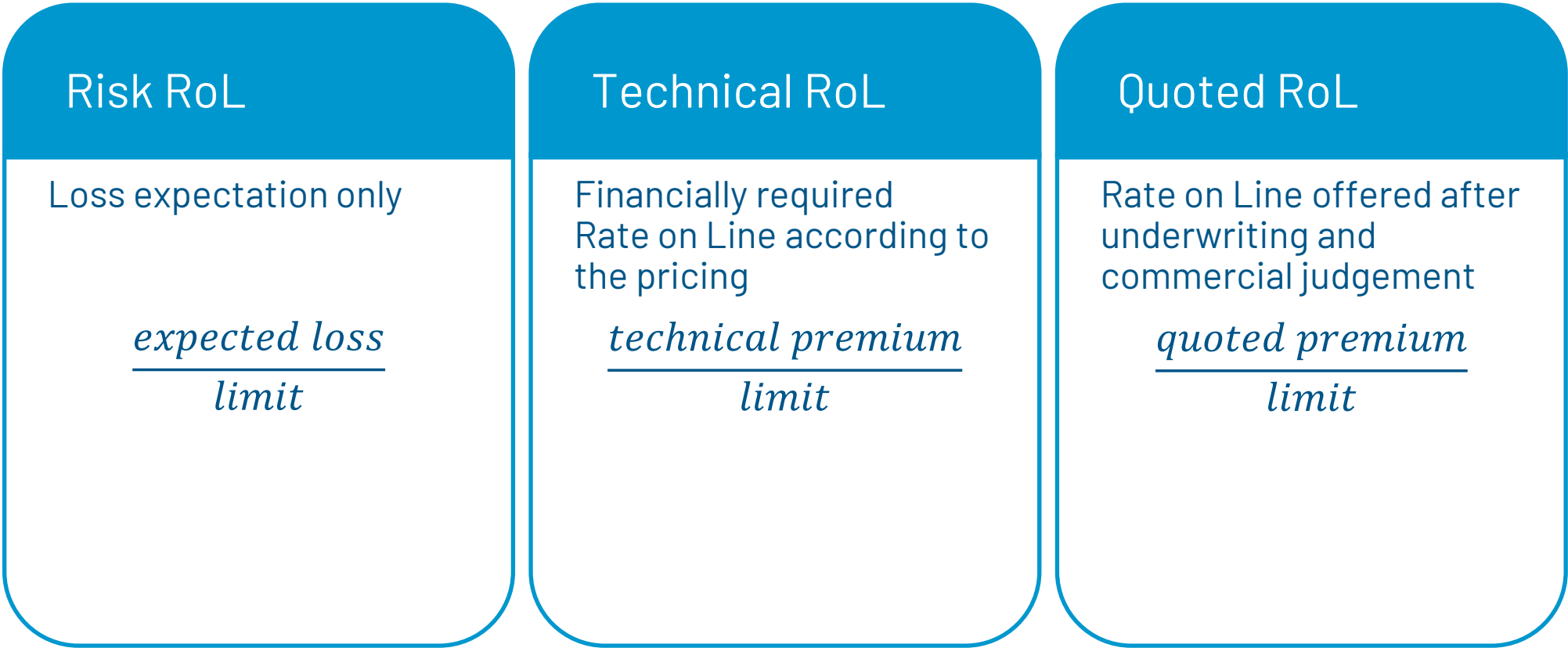
$$\text{rate} = \frac{\text{premium}}{\text{rating base}}$$



Rate on Line, payback and return period

Rate on Line: the rating base is the limit of the cover being rated

$$\text{rate} = \frac{\text{premium}}{\text{limit}}$$



The term Rate on Line is particularly common in reinsurance.

Rate on Line, payback and return period

Payback

- $payback = \frac{1}{RoL} = \frac{limit}{premium}$
- A price relationship
- If my RoL is 10%, my limit equals 10 years of premium.
- Ten annual premiums equal one full-limit loss, assuming no other losses and ignoring expenses.
- This simple interpretation compares premium with one full limit and ignores partial losses.

A 10-year payback does not mean that a full-limit loss is expected to occur once every 10 years.

Rate on Line, payback and return period

Return period

- A return period translates an annual occurrence exceedance probability into years
- $$\text{Return period} = \frac{1}{\text{occurrence exceedance probability}} = \frac{1}{OEP}$$
- A return period always refers to a specified loss level x
$$RP(x) = \frac{1}{OEP(x)}$$
- A loss level can be:
 - A defined loss amount
 - An attachment point
 - A layer exhaustion point
- 10-year return period:
 - $OEP(x) = 10\%$
 - There is a 10% probability in each year that the specified loss level x is exceeded
 - Exceeding this loss level is often referred to a “one-in-10-year” event.
 - This is not a regular 10-year cycle. A “one-in-10-year” event may not occur for many years, or may occur more than once in the same year.

Rate on Line, payback and return period

Return period and payback compared

Payback	Return period
$\frac{limit}{premium}$	$\frac{1}{OEP}$
Price relationship	Probability concept
How many annual premiums equal the limit?	How likely is a specified loss level to be exceeded in a year?

A 10-year payback is not necessarily a 10-year return period. **Same number, different concepts.**

Takeaways

- A rate needs a clearly defined rating base
- A technical rate funds more than the expected loss
- Rate on Line uses the limit as its rating base
- Payback is a price relationship, return period is a probability concept

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Thank you



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Elements of the Expense Ratio.

Ehab Fawzy

1. Insurance Costs and Expenses Classification.

Before calculating any ratio, we must understand the components that drive insurance profitability.

A. Claims Costs

Net Incurred Claims =

- Claims Paid
- Outstanding Claims (OS) / Reported but Not Settled
- IBNR (Incurred But Not Reported)
- Surveyor and Loss Adjustment Expenses

B. Acquisition and Production Costs

- Commissions
- Broker remuneration / bonuses
- Advertising and marketing
- Business development activities
- Broker seminars, conferences and relationship events

Allocation Principle

Expenses that benefit multiple lines of business should be allocated using a reasonable basis.

1. Insurance Costs and Expenses Classification.

Before calculating any ratio, we must understand the components that drive insurance profitability.

C. General and Administrative Expenses

Direct Expenses

- Underwriters' salaries.
- Claims salaries
- Technical department direct costs

Indirect Expenses

- Electricity
- Water
- Rent
- IT infrastructure
- HR and Finance expenses

These should be allocated to lines of business based on predefined allocation keys.

2. From Costs to Performance Ratios.

The various cost components ultimately drive the key insurance performance indicators.

Loss Ratio

$$\text{Loss Ratio} = \frac{\text{Net Incurred Claims}}{\text{Earned Premium}}$$

where

$$\begin{aligned} \text{Net Incurred Claims} \\ = \text{Claims Paid} + \text{OS Reserve} + \text{IBNR} + \text{Loss Adjustment Expenses} \end{aligned}$$

Expense Ratio

$$\text{Expense Ratio} = \frac{\text{Acquisition Costs} + \text{G\&A Expenses}}{\text{Written or Earned Premium}}$$

Expense Ratio Components:

- Commissions
- Brokerage
- Production costs
- Administrative expenses

Combined Ratio

$$\text{Combined Ratio} = \text{Loss Ratio} + \text{Expense Ratio}$$

3. Why Classification Matters.

Accurate expense allocation leads to better business decisions.

- Which lines of business generate the highest profitability?
- Which products consume the largest share of overhead?
- Are commissions aligned with profitability?
- Are administrative expenses growing faster than premiums?
- Is our expense ratio competitive?

Key Takeaway

"The accuracy of the expense ratio depends not only on the amount of expenses incurred, but also on the proper classification and allocation of those expenses across lines of business."

Thank you!

- ✓ Feedback survey
- ✓ Masterclasses Cargo and Hull,
27-30 October 2026 in London
(limited seats available)
- ✓ Next in our webinar series
“Marine Underwriter’s Financial Fundamentals”:
 - 2. *Portfolio Steering* – 31 August, 12:00-13:00 CEST
 - 3. *Financial Basic Literacy* – 9 September, 15:00-16:00 CEST

