

I Used to Price Mortality; Now I Price Chaos

Oregon Public Risk Management Association

Karl Anderson – April 10, 2026

Contents

Topics

- TCOR
- Funding
- Allocation
- Solvency

Analytical Traps

- Unclear definitions & assumptions
- Ignoring Pareto Principle
- Forgetting GEPO (good enough press on)
- Ignoring Illusions of Precision

Karl Anderson

Current

- 6 years in risk budget role. State of Oregon.
- Centralized. Property, liability and WC
- Tension? Funding & health of Insurance Fund

Past

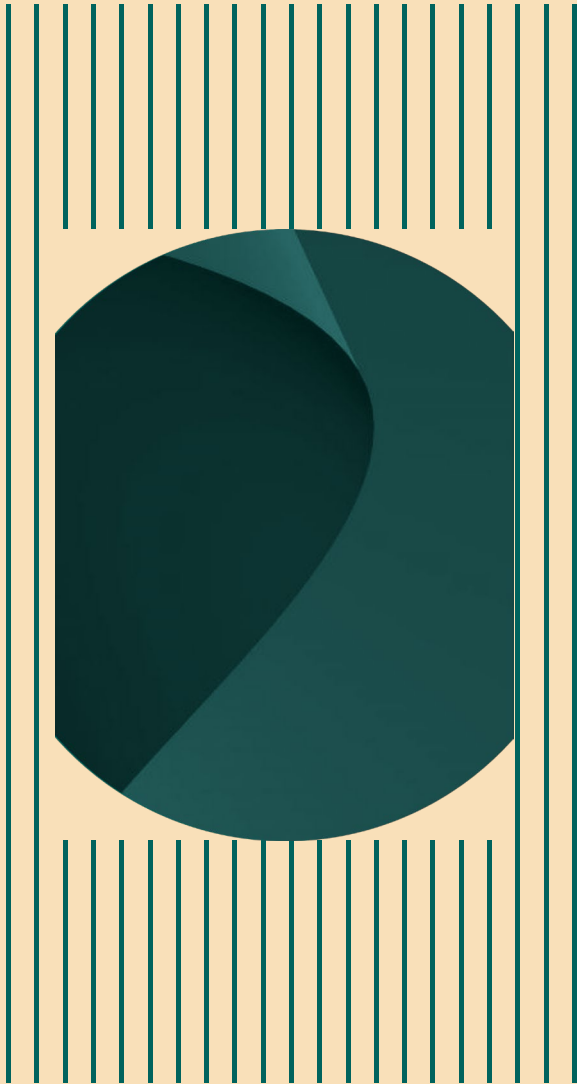
- Individual life & health insurance actuary
- Tension? Competitiveness & Profitability

Hope for Today

- Discuss relevant topics
- Consider why our jobs feel hard
- Feel pride in the work we do

Question

- Are you a technical **producer** or **receiver**?



Total Cost of Risk (TCOR)

Total Cost of Risk (TCOR)

- Why Important?

- *You can't set a price if you don't understand the underlying cost*

- Life Insurance vs Public Risk Programs

- Homogeneous
- Underwritten
- Chosen Risks
- Statistically Stable

versus

- Heterogenous
- Volatile
- Legal/Political
- Social Trends

My Definition

TCOR is

- a chosen
- estimate of the
- present value needed to cover
- all expenses related to risk for
- activities and claims
- incurred during the period.

Challenges with a definition of TCOR?

Know
the
Nuances

Helpful Questions

- What is most likely nuance to be misunderstood?
- If TCOR is a chosen estimate, when should it be updated?
- When do we know what TCOR actually was?
- How can I avoid the illusion of precision?

Presentation of TCOR

1. Update when necessary
2. Round thoughtfully
3. Eliminate unnecessary detail
4. Highlight important pieces

Be thoughtful about the presentation.

How can readers understand more, just by what you include and exclude?

Two Sample Presentations of TCOR

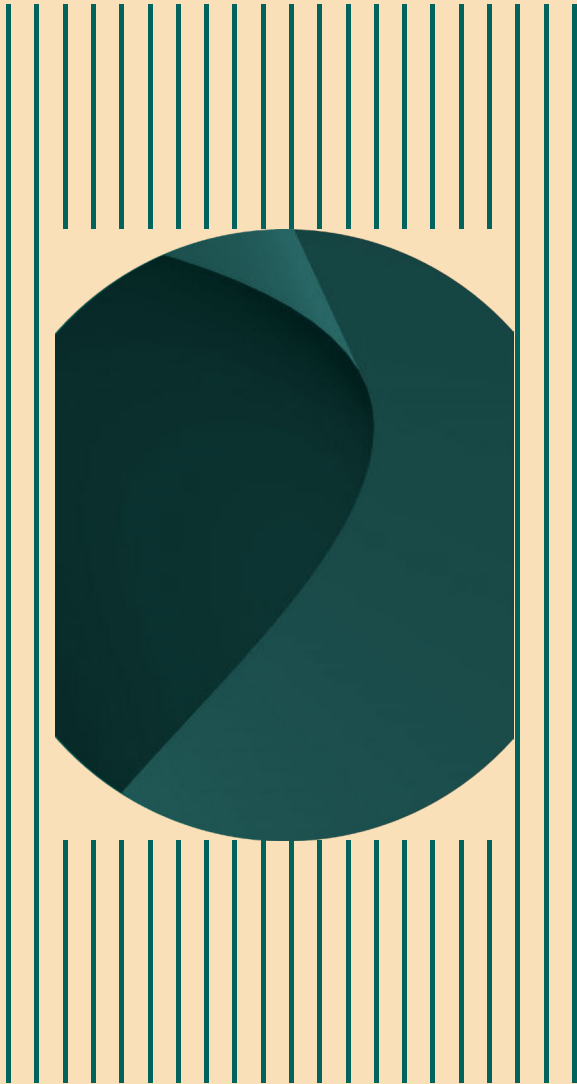
65% Confidence for Actuarial Estimates			
	<u>25-26</u>	<u>26-27</u>	<u>Comments</u>
General Liability	74,116,720	81,096,713	1% Discount, 65% Confidence
Auto Liability	2,480,930	2,667,704	1% Discount, 65% Confidence
General Property	3,780,936	4,066,999	0% Discount, 65% Confidence
Auto Property	2,326,517	2,504,273	0% Discount, 65% Confidence
Commercial	21,618,681	23,462,016	0% Discount, 50% Confidence
Resulting Cost WC Claims	34,095,255	36,327,135	Mult of prior two lines
DAS RM Ops	7,413,018	7,413,018	
DAS RM Misc POP	258,516	258,516	
GRAND TOTAL	146,090,573	157,796,374	
GRAND TOTAL 25-27		303,886,947	

Total Cost of Risk for 25-27 Biennium (in millions of dollars, updated fall 2024)

<u>Coverage</u>	<u>25-27</u>	<u>Comments</u>
General Liability	\$ 175.9	1% Discount, 65% Confidence
Auto Liability	4.6	1% Discount, 65% Confidence
General Property	7.1	0% Discount, 65% Confidence
Auto Property	5.4	0% Discount, 65% Confidence
Commercial Premiums & TPA Fees	31.9	0% Discount, 50% Confidence
Worker's Comp	86.8	2% Discount, 65% Confidence
DAS Risk Management Operations	15.3	0% Discount, 50% Confidence
Total	\$ 327.0	

Summarizing – TCOR

- Tend to TCOR Definition
 - Clarity
 - Nuances
 - Know your customer
- GEPO
 - Improve efficiency by updating (only) when necessary
 - Avoid confusion...
- Illusion of Precision
 - Aid understanding through thoughtful presentation
- Pareto Principle
 - Aid understanding...
 - Improve effectiveness of your team



Funding

Funding

- **Why Important?**

- **All programs must be paid for, by someone, sometime. Or...**

Life Insurance vs Public Programs

- Regulatory capital requirements
- Solvency oversight
- Pricing discipline; dividends
- Rapid financial feedback

versus

- No regulatory funding requirement
- Competing priorities
- Delayed feedback – claim tails
- Political/budget cycle pressure

Range of Arrangements

Life Insurance – Funded at 100% to 120% of actuarial liabilities; RBC requirements; solvency monitoring; virtually no pretending

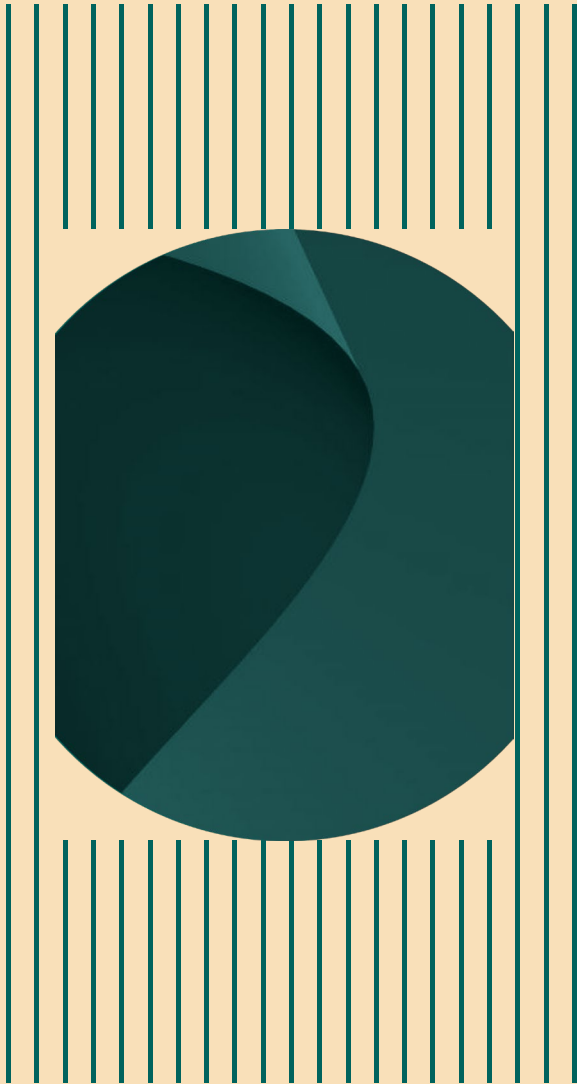
Pensions – Goal is 100% of actuarial liabilities; can slip to ~70%; actuarial funding requirements well defined; some pretending

Social Security – Effectively pay-as-you-go with trust fund buffer; moderate pretending

State Risk Funds – Perhaps 25% to 90% funded; actuarial reports; budget appropriations; philosophies vary

Summarizing – Funding

- Funding Context/Definition
 - Maintain focus – avoid introducing other issues (especially allocation)
 - Know customer and the current context
- GEPO
 - GEPO with TCOR helps with funding
- Illusion of Precision
 - Avoid disagreements over immaterial differences
 - Maintain credibility by being clear about precision
- Pareto Principle
 - Maintain focus – any distraction can paralyze decisionmakers



Allocation of Costs

Allocation

- **Why Important?**

- **It connects cost to the activities that generate risk!**
Who pays the bill?

Life Insurance vs Public Risk Programs

- Individualized
- Risk characteristics
- Strong regulations
- Market discipline

versus

- Allocated to agencies/programs
- Policy driven
- Cross-subsidies
- Budget constraints

Range of Arrangements

Life Insurance – Each policyholder pays; risk characteristics drive

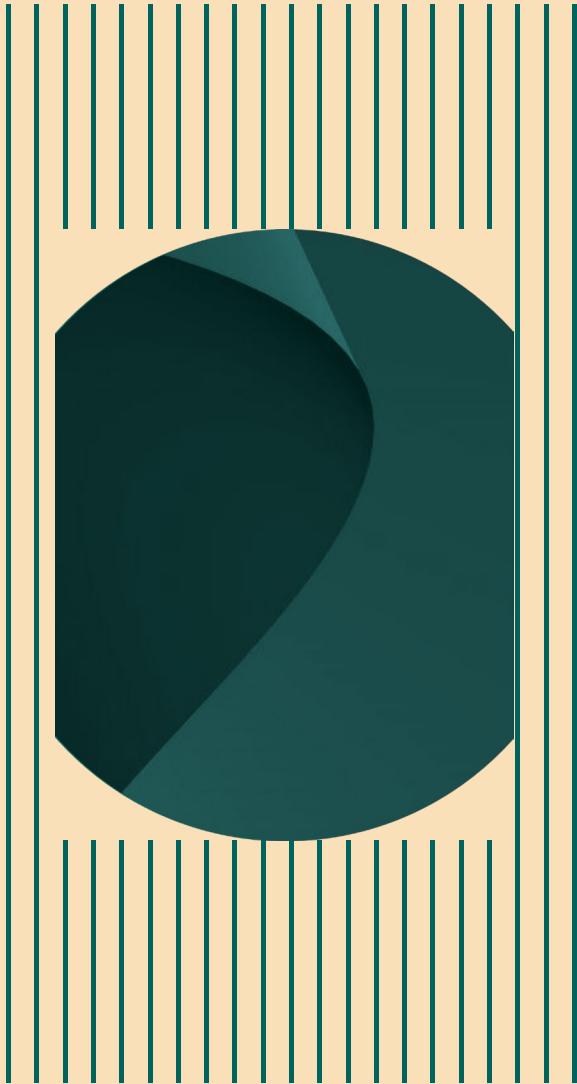
Pensions – Employers & employees fund based on demographics & characteristics; future taxpayers or sponsors absorb deficits

Social Security – current workers and employers pay now; redistribution to generations and income levels

State Risk Funds – agencies pay premiums/assessments; based on risk/exposure metrics

Summarizing – Allocations

- Allocation Context/Definition
 - Focus – avoid introducing other issues in allocation discussions
 - Know customers – attend to heterogeneous nature
- GEPO
 - Competing values make GEPO challenging
 - Do not chase perfect methodology; **consistency will pay off**
- Illusion of Precision
 - Necessity of allocating to the dollar allows IOP to persist
- Pareto Principle
 - Focus on major allocation drivers
 - Avoid complex explanations



Capital Requirements, Funded Percentage, Solvency

Capital Requirements, Solvency, Funded Percentage

- **Why Important?**

- Must understand program health;
want a buffer/plan

Life Insurance vs Public Risk Program

- Formal RBC requirements
- Regulators can intervene
- Solvency primary objective
- Failure very unlikely

versus

- Few formal capital requirements
- Policy decisions vs solvency tests
- Taxing authority allows lower reserves
- Shortfalls resolved politically

Range of Arrangements

Life Insurance – Strict RBC/solvency requirements; high confidence

Pensions – Funding ratio; shortfalls amortized over defined, but long, periods

Social Security – Not prefunded; depends on trust fund balance, projected taxes, demographics, and legislation

State Risk Funds – Moderate asset levels vs actuarial liabilities; no strict capital standards; deficits left to future

Summarizing – Solvency

- Choose appropriate measure of program health for the context
 - Assure message relevance
- Illusion of Precision
 - Picture is worth a thousand words and numbers
- GEPO
 - If trends are obvious, model refinements are costly and distracting
- Pareto Principle
 - Share (only) key assumptions and drivers of situation/trend
 - Outlier claims and volatility are always a major part of the story
 - Tend to that story!

Conclusion