

GUY CARPENTER



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Seizing the Reins *Communicating Capital Allocation*

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Agenda


1. Communication
2. Design
3. Sensitivity Testing
4. Conclusion

1. Communication

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Liposuction Vs. Body Contouring

Seizing the Reins

- Find ways to increase understanding among **key opinion leaders**
 - CFO, CUO, CRO, Profit Center Leaders, Board members, ...
- Facilitate usage and adoption
 - How will they agree to **voluntarily** use it in critical business decisions if they don't understand it?
- Further the actuarial profession's position as the experts who can understand **and communicate** both the technical and business aspects

A Leadership Opportunity...Yes?

Four Ways to Sell

You – Yes, You – Must Sell on Your Job

- Yes, SELL—not your soul
- Convince someone of the validity of your actuarial work product—the capital model and its results
- Not quite as simple as “Here is the truth—get it?”
- Sales research has shown that different people have different core criteria driving decisions—one such framework:

Who else uses it?

Why is this best?

What does it do?

How will it help me?

Four Ways to Sell

Who else uses it?

- Accord or Camry owner
- Staying with the pack
- Risk averse

Why is this best?

- BMW or Audi owner
- Leading the pack
- Due diligence / CYA

What does it do?

- Restored GTO owner
- They are the pack
- Convinced they are above cheap sales tactics

How will it help me?

- Public transportation user
- Middle of the pack
- Execution and implementation responsibility

How Most Actuaries Approach a Capital Allocation Discussion



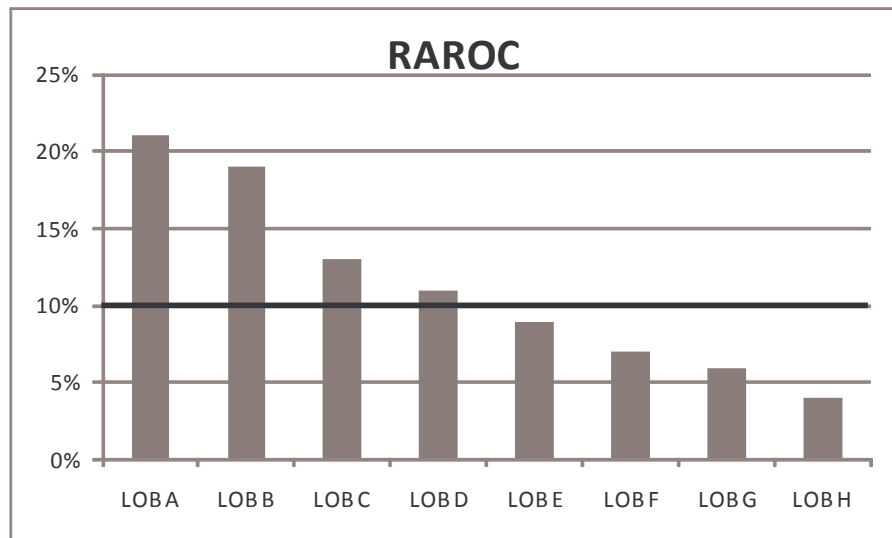
How Most Actuaries Should Approach a Capital Allocation Discussion



Why a Battle?
Livelihoods are at Stake

“Never ____ with another man’s livelihood”
– Joe Pantoliano, *Risky Business*

Your capital allocation puts some LOBs above the line and some below



Capital Allocation on Trial

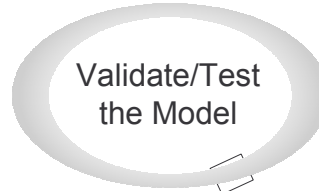
- Powerful, capable profit center leaders will not
 - Objectively observe the truth of your work and agree to “the right thing to do”
 - Roll over and accept the RAROC chart
- If challenged on:
 - Consistency of underlying data
 - Credibility of indications
 - Due diligence regarding alternative methods considered
 - Sensitivity of method choice
 - Purity of method in application—i.e., degree of intervention
- ...how will you respond?

Four Front Battle
Internal Model Validation

Digestible
"What Is This?"



Comfort-building
"What Can You
Live With?"



Pilot Test
"What Will the World
Look Like?"



Involves Change Management
Advance Understanding, Process, Opinion, and Technology



2. Design Example

Design Decisions

Begin with the End in Mind

- The CFO is operating an internal capital market
 - An unconstrained market of one capital supplier and numerous consumers
- Price access to this capital by any means necessary
 - What to reward and punish, emphasize and ignore
- Decide in that pricing policy whether (and how much) to reflect:
 - Time and history
 - Fact and intuition
 - Return periods
 - Risk factors
- **There is nothing inherently right or wrong about any approach**
 - Only the algorithmic expression of preferences

Desirable Features Of A Good Allocation Metric

Lean Six Sigma

1. Practical Issues:
 - Drill-Down And Roll-Up Capabilities
 - Strictly Positive Allocation Of Capital
2. Soft Issue:
 - Philosophically Palatable Methodology
3. Technical Requirements:
 - Measures Risk At Portfolio Level
 - Reflects Location, Dispersion, And Downside
 - Stable & Robust

Desirable Features Of A Good Allocation Metric Capital Consumption

- | | |
|------------------------------------------------|---------------------------------------------------------------------|
| 1. Drill-Down And Roll-Up Capabilities | 1. No – Interaction effects |
| 2. Strictly Positive Allocation Of Capital | 2. Yes, By Construction – Total Risk Charge Distributed To Segments |
| 3. Philosophically Palatable Methodology | 3. Yes - Charge Proportional To Contribution To Negative Outcomes |
| 4. Measures Risk At Portfolio Level | 4. Yes – Calibration With Overall Cost Of Capital |
| 5. Reflects Location, Dispersion, And Downside | 5. Yes – Derivation From Scenarios |
| 6. Stable & Robust | 6. No – Changes to one segment affect others |

Desirable Features Of A Good Allocation Metric = TVaR

- | | |
|------------------------------------------------|---------------------------------------------------------------------|
| 1. Drill-Down And Roll-Up Capabilities | 1. No – Interaction effects |
| 2. Strictly Positive Allocation Of Capital | 2. Yes, By Construction – Total Risk Charge Distributed To Segments |
| 3. Philosophically Palatable Methodology | 3. Yes – Gaining Support As Coherent Metric |
| 4. Measures Risk At Portfolio Level | 4. Yes – Calibration With Overall Cost Of Capital |
| 5. Reflects Location, Dispersion, And Downside | 5. Yes – Derivation From Scenarios |
| 6. Stable & Robust | 6. No – Changes to one segment affect others |

Desirable Features Of A Good Allocation Metric = Covariance

- | | |
|------------------------------------------------|---------------------------------------------------------------------|
| 1. Drill-Down And Roll-Up Capabilities | 1. Yes – additive |
| 2. Strictly Positive Allocation Of Capital | 2. Yes –Risk Charge In Proportion Of Contribution To Total Variance |
| 3. Philosophically Palatable Methodology | 3. \approx - Implicit risk preferences are buried |
| 4. Measures Risk At Portfolio Level | 4. Yes – Total variance |
| 5. Reflects Location, Dispersion, And Downside | 5. No – Dispersion only |
| 6. Stable & Robust | 6. No – Changes to one segment affect others |

Desirable Features Of A Good Allocation Metric = R2R

- | | |
|------------------------------------------------|-------------------------------------------------------------|
| 1. Drill-Down And Roll-Up Capabilities | 1. \approx – depends on simplifying assumptions |
| 2. Strictly Positive Allocation Of Capital | 2. Yes – based On Likelihood & Magnitude Of Downside |
| 3. Philosophically Palatable Methodology | 3. \approx – Good risk metric but not used for allocation |
| 4. Measures Risk At Portfolio Level | 4. No – Segment-level |
| 5. Reflects Location, Dispersion, And Downside | 5. Yes – Derivation From Scenarios |
| 6. Stable & Robust | 6. Yes – Robust to segment changes |

Desirable Features Of A Good Allocation Metric = Shared Asset

- | | |
|------------------------------------------------|--------------------------------------------------------------|
| 1. Drill-Down And Roll-Up Capabilities | 1. No – Interaction effects |
| 2. Strictly Positive Allocation Of Capital | 2. Yes – Rental + Consumption charges |
| 3. Philosophically Palatable Methodology | 3. Yes – Intuitively Related To Opportunity Cost Of Capacity |
| 4. Measures Risk At Portfolio Level | 4. Yes – Similar to RMK Cap Consumption |
| 5. Reflects Location, Dispersion, And Downside | 5. Yes – Downside based |
| 6. Stable & Robust | 6. No – Changes to one segment affect others |



3. Sensitivity Testing Example

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Capital Allocation Using Co-TVAR Sensitivity Testing at Various Percentiles

Excluding Total Change in Reserves

	Gross Co-TVAR			Net Co-TVAR		
	95.00%	99.00%	99.60%	95.00%	99.00%	99.60%
Casualty	55.3%	42.9%	37.9%	69.6%	58.5%	48.5%
Property	44.7%	57.1%	62.1%	30.4%	41.5%	51.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Including Total Change in Reserves

	Gross Co-TVAR			Net Co-TVAR		
	95.00%	99.00%	99.60%	95.00%	99.00%	99.60%
Casualty	73.0%	65.0%	59.0%	83.6%	81.1%	77.9%
Property	27.0%	35.0%	41.0%	16.4%	18.9%	22.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Capital Allocation Using Co-TVAR Sensitivity Testing at Various Percentiles

Excluding Total Change in Reserves

	Gross Co-TVAR			Net Co-TVAR		
	95.00%	99.00%	99.60%	95.00%	99.00%	99.60%
Casualty	55.3%	42.9%	37.9%	69.6%	58.5%	48.5%
Property	44.7%	57.1%	62.1%	30.4%	41.5%	51.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

- Excluding Reserves, 100-Year Return Period
- Gross versus Net of reinsurance
- Cas / Prop split goes from 43/57 to 59/41
- “Sensitive”

Capital Allocation Using Co-TVAR Sensitivity Testing at Various Percentiles

Excluding Total Change in Reserves

	Gross Co-TVAR			Net Co-TVAR		
	95.00%	99.00%	99.60%	95.00%	99.00%	99.60%
Casualty	55.3%	42.9%	37.9%	69.6%	58.5%	48.5%
Property	44.7%	57.1%	62.1%	30.4%	41.5%	51.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

- Excluding Reserves, Gross of reinsurance
- 20-Year to 250-Year return period
- Cas / Prop split goes from 55/45 to 38/62
- “Sensitive”

Capital Allocation Using Co-TVAR Sensitivity Testing at Various Percentiles

Excluding Total Change in Reserves

	Gross Co-TVAR		
	95.00%	99.00%	99.60%
Casualty	55.3%	42.9%	37.9%
Property	44.7%	57.1%	62.1%
Total	100.0%	100.0%	100.0%

- 100-Year return period, Gross of reinsurance

- Excluding or Including Reserve Change

- Cas / Prop split goes from 43/57 to 65/35


Including Total Change in Reserves

	Gross Co-TVAR		
	95.00%	99.00%	99.60%
Casualty	73.0%	65.0%	59.0%
Property	27.0%	35.0%	41.0%
Total	100.0%	100.0%	100.0%

- "Sensitive"

4. Conclusion

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Liposuction Vs. Body Contouring

Personal Challenge to You

- Do not present to yourself
- Describe your work to your smart ten-year-old niece or nephew
 - Intelligent but unfamiliar
- Do not be condescending
 - NO JARGON
- Make it 10% new
- Base off known comparables
- Convince them they already know this

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