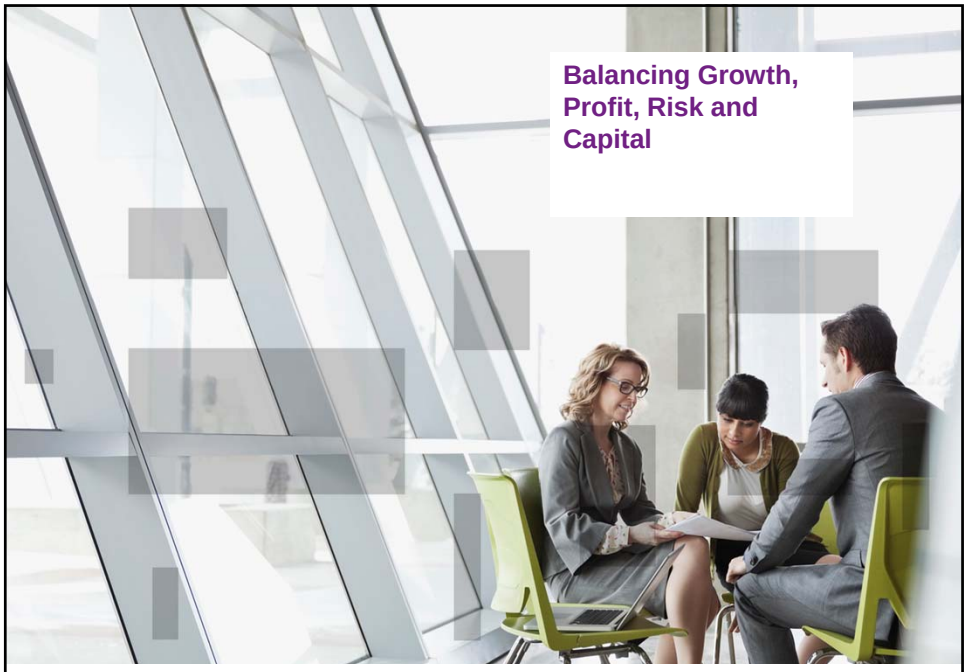


Six Insurer Strategies

Strategy	Examples
Affiliation/Proximity	Farm Bureaus, Prof Liability
Judgment & Experience	Casualty, Specialty
Scale	Largest companies
Segmentation	Personal Lines, Small Commercial Lines
Service	WC State Funds, Medicaid/Medicare
Technical – Analytics & Models	Natural Catastrophe, Reinsurance

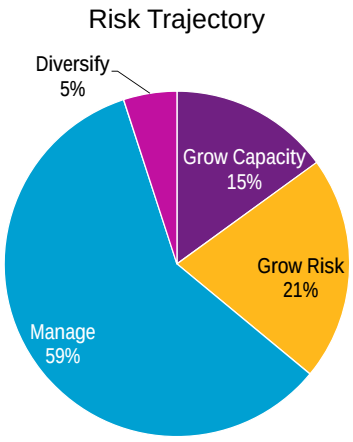
ERM Objective: Risk Trajectory

Many different ways of looking at risk strategy

- Focus first on growth…
  - Grow Risk – increase risks faster than capital
  - **Manage – balance risk growth and surplus growth**
  - Grow Capacity – increase capital faster than risk
  - Diversify – if you cannot be sure which of the above is best

Survey

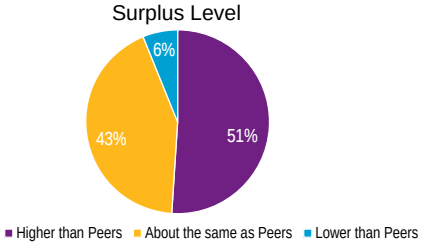
WTW Strategy & ERM Survey



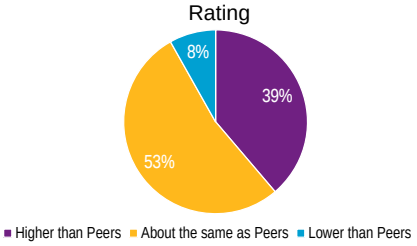
Company Targets (relative to peers)

WTW Strategy & ERM Survey

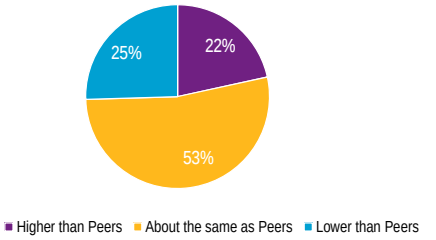
Surplus Level



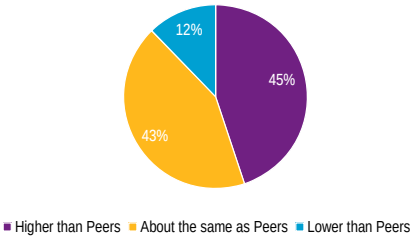
Rating



Reinsurance Usage



Business Growth

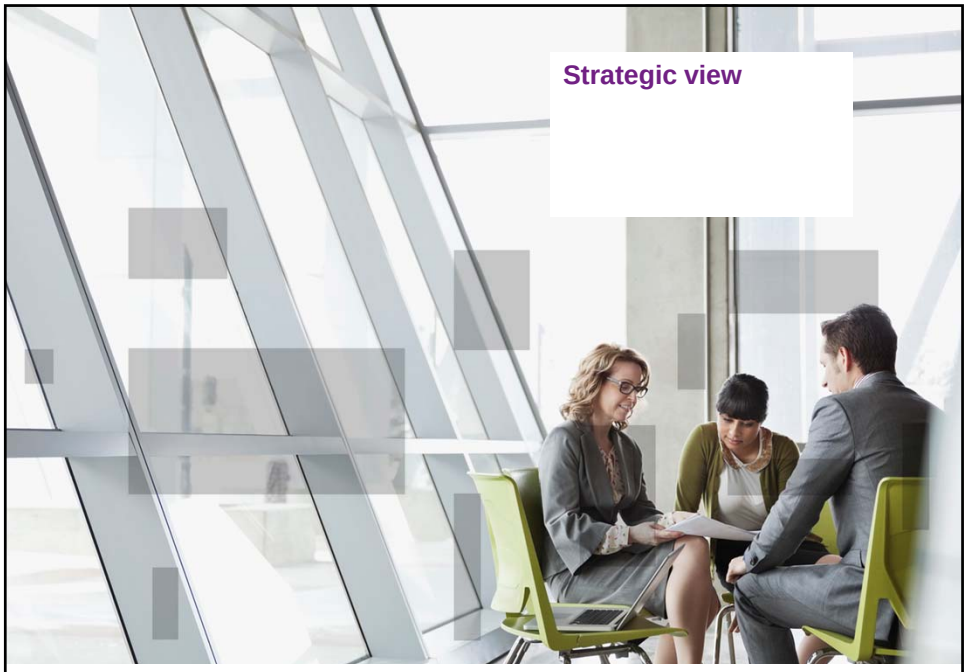


Today's Agenda

1. Strategic View of Balancing Risk and Capital
2. Balancing by the Numbers – Quantitative View
3. Case Studies of Managing Risk and Capital Balance
   a. Large Insurer
   b. Small Insurer

Today's Speakers

- Dave Ingram, EVP, Willis Re, Willis Towers Watson
- Barry Franklin, CRO, Zurich NA, Zurich
- Bob Wolf, Chief Actuary, Stonetrust Commercial Insurance Company



Strategies for Individual Risks

Exploit	Manage
Minimize	Avoid

WTW Strategy & ERM Survey

	Insurance	Investment	Reserves	Operational	Enterprise
Exploit	**18%**	10%	0%	2%	9%
Manage	**61%**	**52%**	**58%**	**53%**	**70%**
Minimize	14%	**26%**	**32%**	**36%**	14%
Avoid	6%	12%	11%	9%	7%

Definition of Risk Strategy

For an individual risk, the Risk Strategy is the choice to either Exploit, Manage, Minimize, or Avoid, the risk.

For a firm, the Risk Strategy will be:

- The methods used to determine which of the four approaches would be applied to each risk that the firm might be exposed to, and,
- The process the firm will use to make their future decisions to continue with or change their choice of approach, considering changes in the firm's needs and an evolving risk environment.
- The recurring manner that the interaction among risks has an impact on risk trajectory and risk strategy decisions

Mixed Risk Strategy Examples

Risk category	Sample risk strategy
Catastrophe	Tight control of aggregate
Underwriting risk	Calibrated pricing
Reserve	Conservatism in reserve setting
Credit	Minimize exposure
Equity	Take when there is excess capacity
Interest rate	ALM with intention to minimize
Operational	Minimize via Cost/benefit analysis
Strategic	Maintain A.M. Best rating

Risk strategy examples

Grow risk

Risk category	Sample risk strategy
Catastrophe	**Stretch Expected Profit Growth Target. Accept high risk high margin business.**
Underwriting risk	**Flexible pricing – high discretion to underwriter.**
Reserve	**Reserves set to follow pricing**
Credit	**Investment Income goals must be met. Plan to reduce credit quality to increase spread.**
Equity	**Max equity limit set well above current level**
Interest rate	**Investment Income goals must be met. Plan to increase duration of bonds to increase spread.**
Operational	**First priority is budget**
Strategic	**Grow profits by writing as much profitable business as possible and driving down expense ratio with increased volumes**

Risk strategy examples

Shrink risk (compared to capital)

Risk category	Sample risk strategy
Catastrophe	Tight control of aggregate. Strict limits to high risk business.
Underwriting risk	Calibrated pricing. No exceptions.
Reserve	Conservatism in reserve setting
Credit	Minimize exposure. Only high quality.
Equity	Take limited amount when there is excess capacity to help grow surplus
Interest rate	ALM with intention to minimize
Operational	Minimize via Cost/benefit analysis
Strategic	Grow Surplus. Improve BCAR score.

Balanced Risk strategy examples

Step 1 – Identify drivers of surplus growth

Risk category	
Catastrophe	
Underwriting risk	← Driver of Surplus Growth
Reserve	
Credit	
Equity	← Driver of Surplus Growth
Interest rate	
Operational	
Strategic	

Balanced Risk strategy examples

Step 2 – Identify drivers of risk growth

Risk category	
Catastrophe	← Driver of Risk Growth
Underwriting risk	← Driver of Surplus Growth
Reserve	← Driver of Risk Growth
Credit	
Equity	← Driver of Surplus Growth
Interest rate	
Operational	
Strategic	

Balanced Risk strategy examples

Step 3 – Pick risk strategies

Risk category		Risk Strategy
Catastrophe	← Driver of Risk Growth	**Manage**
Underwriting risk	← Driver of Surplus Growth	**Exploit – Grow**
Reserve	← Driver of Risk Growth	**Avoid – Minimize**
Credit		**Manage** – Minimize
Equity	← Driver of Surplus Growth	**Manage**
Interest rate		**Manage** – Minimize
Operational		Avoid – Minimize
Strategic		Manage – Balance

Balancing Risk and Surplus

By the numbers

- Risk and surplus will be in balance if:

$$\text{Growth rate of Business} = \text{Surplus Growth Rate}$$

Where:

$$\text{Suplus Growth Rate} = \frac{\text{Net Income}}{\text{Surplus}}$$

So:

$$\text{Net Income} = \text{Growth Rate of Business} \times \text{Surplus}$$

Balancing Risk and Surplus

By the numbers – long term plans

$$\text{Net Income} = \text{Growth Rate of Business} \times \text{Surplus}$$

Solve for Combined Ratio Needed

- Net Income = Underwriting Income + Investment Income
- Investment Income = (Reserves + Surplus) x Earnings rate
- Underwriting Income = Premiums x (1- Combined Ratio)
- Net Income = Premiums x (1- Combined Ratio) + (Reserves + Surplus) x Earnings rate
- Growth Rate of Business x Surplus = Premiums x (1- Combined Ratio) + (Reserves + Surplus) x Earnings rate

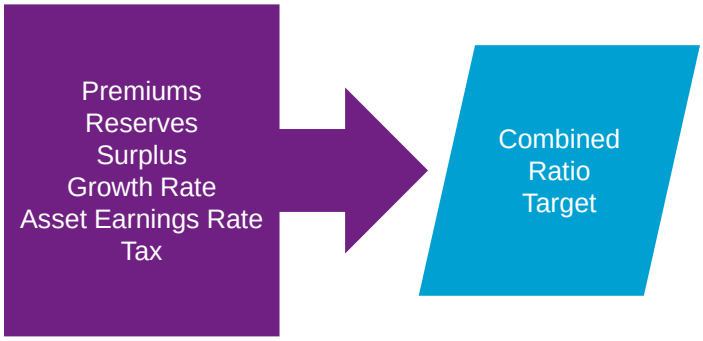
$$\text{Combined Ratio} = \frac{\text{Premiums} - (\text{Growth rate} - \text{Earnings rate}) \times \text{Surplus} + \text{Earnings rate} \times \text{Reserves}}{\text{Premiums}}$$

Balancing Risk and Surplus
By the numbers

$$\text{Combined Ratio} = \frac{\text{Premiums} - (\text{Growth rate} - \text{Earnings rate}) \times \text{Surplus} + \text{Earnings rate} \times \text{Reserves}}{\text{Premiums}}$$

- Formula shows how to adjust Target CR for
  - Surplus Growth from investment earnings that are less than business growth
    - Reduces CR Target
  - Surplus Growth from earnings on reserves
    - Increases CR Target
  - Tax drag on asset earnings and contribution of underwriting earnings to surplus
    - Reduces CR Target

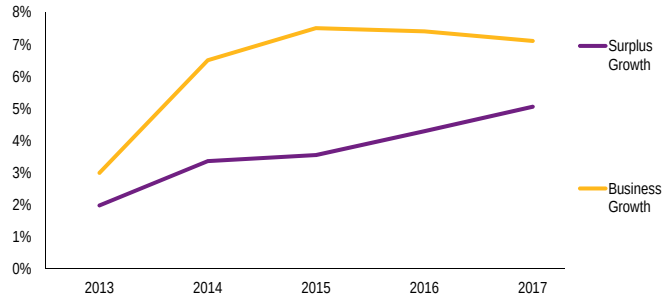
Balancing Risk and Surplus
By the numbers



In theory, this same formula works for all insurers

Balancing Risk and Surplus
By the numbers

Company A has been growing Business Faster than Surplus

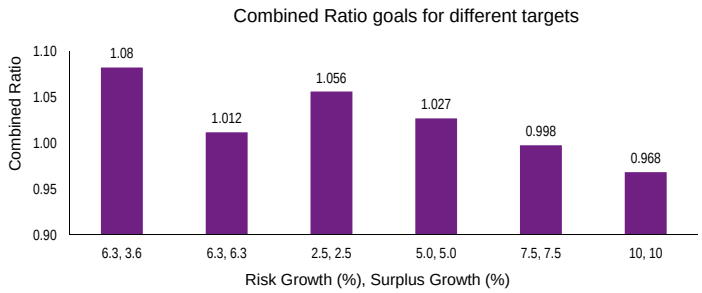


- They are happy with their current surplus position.
- Now they want to shift to balancing.

Balancing Risk and Surplus
By the numbers

Company A – Multiple Lines Commercial

- Over the past 5 years
  - Avg Business Growth rate = 6.3%
  - Avg Surplus Growth rate = 3.6%
  - Avg Combined Ratio = 108
- Starting point for Planning
  - Premiums 100
  - Reserves 167
  - Surplus 117

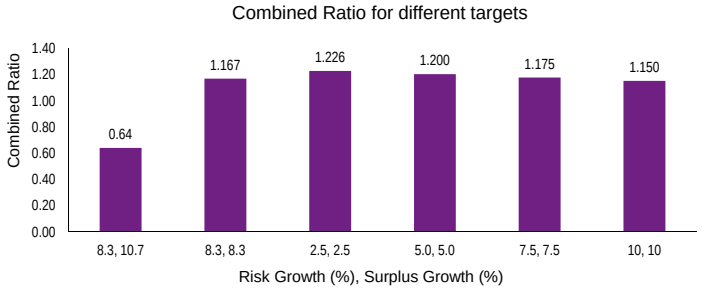


Balancing Risk and Surplus

By the numbers

Company B – Homeowners – Nat Cat

- Over the past 5 years
  - Avg Business Growth rate = 8.3%
  - Avg Surplus Growth rate = 10.7%
  - Avg Combined Ratio = 64
- Starting point for Planning
  - Premiums 100
  - Reserves 102
  - Surplus 15



Balancing Risk and Surplus

By the numbers

Sample Comparison

	Company A	Company B	Company C	Company D
Premiums	100	100	100	100
Surplus	117	90	204	68
Reserves	167	117	226	21
Historical CR	108	104	134	90

Growth Rate	Required CR	Required CR	Required CR	Required CR
2.5%	106	104	113	101
5.0%	103	102	108	99
7.5%	100	99	103	98
10.0%	97	97	98	96

- Small variations in the required CR for different situations

Balancing Risk and Surplus

By the numbers

In reality, this process is much more complicated

- Above we used Premium Growth as a proxy for Risk Growth
  - Major risk drivers include:
    - Amount of Premiums ***and***
    - Mix of business, Location of Business, Nature of risk covered, Concentration of business
    - Amount & structure of reinsurance
    - Asset Mix, investment market changes

- The point, however, is that
  - Planning to Balance Risk and Capital Growth means that:

Plans for business growth and combined ratio must be linked

Examples

		Company									
Calculated Combined Ratio		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
NPE Growth	**Surplus Growth**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**
-2.50%	-2.50%	**131.9**	**114.1**	**151.2**	**144.4**	**141.1**	**140.2**	**121.0**	**124.8**	**120.4**	**129.6**
0%	0%	**112.2**	**101.0**	**138.7**	**133.0**	**129.7**	**129.3**	**110.7**	**115.1**	**110.8**	**120.8**
2.5%	2.5%	**92.6**	**87.8**	**126.1**	**121.6**	**118.4**	**118.5**	**100.4**	**105.3**	**101.1**	**112.0**
5.0%	5.0%	**72.9**	**74.6**	**113.6**	**110.2**	**107.0**	**107.7**	**90.1**	**95.6**	**91.5**	**103.2**
7.5%	7.5%	**53.3**	**61.4**	**101.0**	**98.8**	**95.7**	**96.9**	**79.8**	**85.9**	**81.8**	**94.4**
10.0%	10.0%	**33.7**	**48.2**	**88.4**	**87.4**	**84.3**	**86.0**	**69.5**	**76.1**	**72.2**	**85.6**
15.0%	15.0%	**-5.6**	**21.8**	**63.3**	**64.6**	**61.6**	**64.4**	**49.0**	**56.7**	**52.9**	**67.9**
25.0%	25.0%	**-84.2**	**-30.9**	**13.1**	**19.0**	**16.2**	**21.1**	**7.8**	**17.7**	**14.3**	**32.7**
Five year Average											
	Combined Ratio	**103**	**114**	**107**	**94**	**83**	**90**	**100**	**108**	**106**	**130**
	Surplus/Premiums	**7.66**	**5.20**	**4.16**	**4.00**	**4.21**	**3.02**	**3.61**	**3.14**	**3.83**	**3.41**

Examples

Choices if min CR is 90%

		Company									
Calculated Combined Ratio		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
NPE Growth	**Surplus Growth**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**
-2.50%	-2.50%	**131.9**	**114.1**	**151.2**	**144.4**	**141.1**	**140.2**	**121.0**	**124.8**	**120.4**	**129.6**
0%	0%	**112.2**	**101.0**	**138.7**	**133.0**	**129.7**	**129.3**	**110.7**	**115.1**	**110.8**	**120.8**
2.5%	2.5%	**92.6**		**126.1**	**121.6**	**118.4**	**118.5**	**100.4**	**105.3**	**101.1**	**112.0**
5.0%	5.0%			**113.6**	**110.2**	**107.0**	**107.7**	**90.1**	**95.6**	**91.5**	**103.2**
7.5%	7.5%			**101.0**	**98.8**	**95.7**	**96.9**				**94.4**
~~10.0%~~	~~10.0%~~										
~~15.0%~~	~~15.0%~~										
~~25.0%~~	~~25.0%~~										
Five year Average											
	Combined Ratio	**103**	**114**	**107**	**94**	**83**	**90**	**100**	**108**	**106**	**130**
	Surplus/Premiums	**7.66**	**5.20**	**4.16**	**4.00**	**4.21**	**3.02**	**3.61**	**3.14**	**3.83**	**3.41**

Or if you know the CR that you can achieve

Growth Rate = $\frac{\text{Premium}*(1 - \text{Combined Ratio}) + \text{Earnings Rate} \times (\text{Reserves} + \text{Surplus})}{\text{Surplus}}$

= Income / Surplus

So for those 10 companies, how much can they grow at 100% CR?

Growth Rate = Earnings rate x (Reserves + Surplus) / Surplus

		Company									
Calculated Combined Ratio		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
NPE Growth	**Surplus Growth**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**	**CR**
-2.50%	-2.50%	**131.9**	**114.1**	**151.2**	**144.4**	**141.1**	**140.2**	**121.0**	**124.8**	**120.4**	**129.6**
0%	0%	**112.2**	**101.0**	**138.7**	**133.0**	**129.7**	**129.3**	**110.7**	**115.1**	**110.8**	**120.8**
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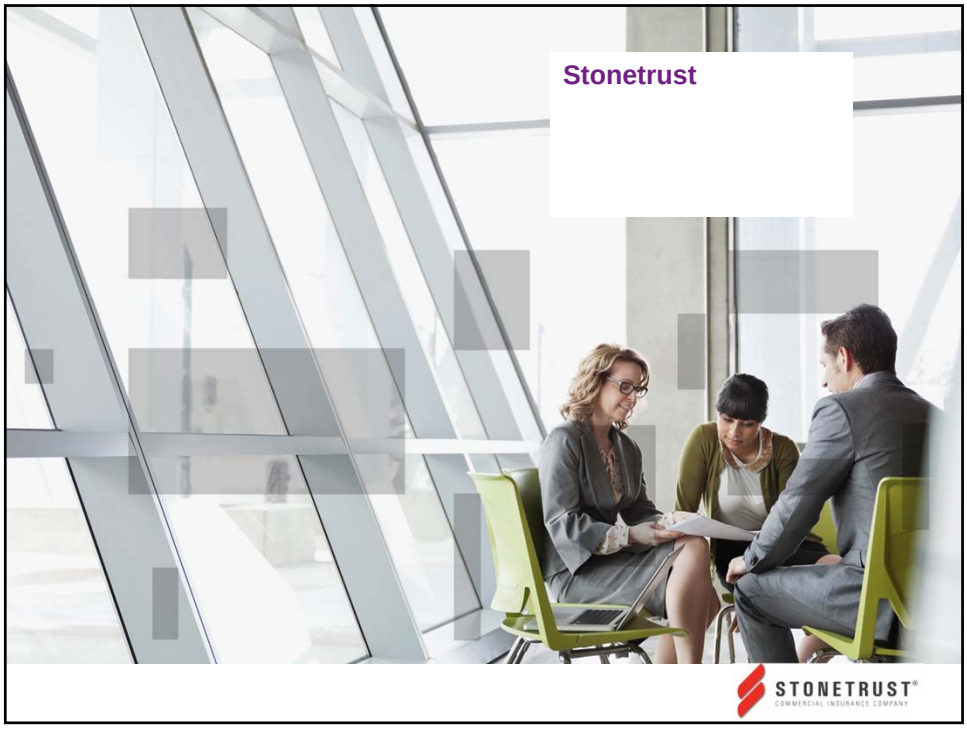
Five year Average											
	Combined Ratio	**103**	**114**	**107**	**94**	**83**	**90**	**100**	**108**	**106**	**130**
	Surplus/Premiums	**7.66**	**5.20**	**4.16**	**4.00**	**4.21**	**3.02**	**3.61**	**3.14**	**3.83**	**3.41**
Balancing Growth Rate at 100 CR		**1.6%**	**0.2%**	**7.7%**	**7.2%**	**6.5%**	**6.8%**	**2.6%**	**3.9%**	**2.8%**	**5.9%**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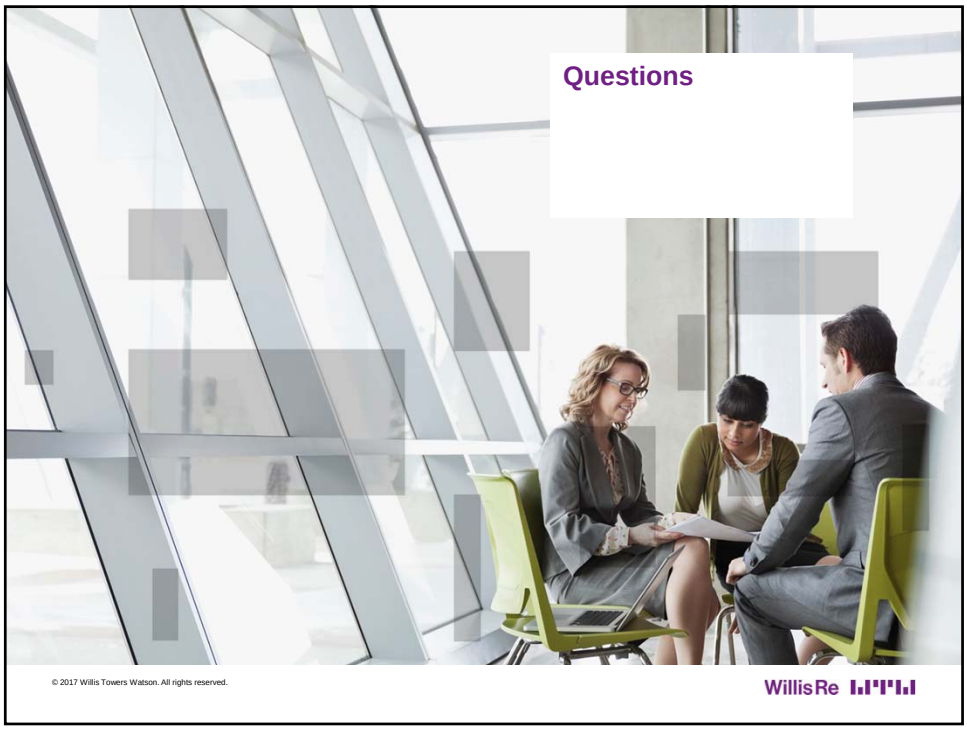
STONETRUST
COMMERCIAL INSURANCE COMPANY


Questions
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Discussion Questions

1. How do you reflect the external environment when establishing your plans, and [how] do you adjust if the external environment does not behave as expected?
2. Do you apply stress tests as part of your balancing efforts?
3. The insurance industry is widely viewed as over-capitalized (perhaps even after the 2017 hurricane season ends); how does this affect your approach to balancing risk, growth and capital?
4. It's generally held that every business plan has some "stretch" in it when it comes to growing profits in particular. How, if at all, does this affect your view of capital required to support planned growth, or the degree of risk associated with achieving that growth?
5. Which comes first - Risk, Capital, Growth?
6. How important is balancing when planning?
7. Do you check on the balance of your plan before, during after planning?

More Discussion Questions

8. What do you do if your plan is out of balance?
9. Do you worry about balancing as experience emerges during the year?
10. Are any particular sorts of imbalances more common for your organization?
11. Do you make mid-course corrections to achieve a better balance?
12. Do individual parts of you plan need to be in balance themselves or do you run (explicitly or implicitly) a BCG system (Cows, Stars and Dogs)?
13. Which parts of the company usually get their way and who has to "make up the difference"?
14. Is balancing 3 things too much? Do you end up fixing one or two? Which one(s)?

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