DIRECTORS' BOOTCAMP 2.0

# Reinsurance Overview

*Tuesday, May 9, 2017, 1:00 p.m.*

*Gary Myers, CPCU, ARe*
*Lost Woods Re, LLC*
*Centralia, Mo.*

Gary Myers is a familiar figure to many in the property/casualty insurance industry. Starting out as an independent agent 42 years ago, Gary's progressed through various company ranks. He held executive positions at Employers Reinsurance Corporation from 1980 until 2001, focusing specifically on treaty reinsurance marketing, production, underwriting, and management. From 2001 until 2009, he served as executive vice president at Shelter Mutual Insurance Company, with responsibility for reinsurance ceded and assumed, underwriting, customer communications, and life insurance operations to name a few. In November 2009, he was named president and CEO of Cameron Mutual Insurance Company. He retired Dec. 31, 2014.

Gary supplemented his corporate experience and success through association membership. He is a lifetime member of the Society of CPCU. For five years, he served as an active member of the advisory committee for The Institutes' Associate in Reinsurance exam series.

He is also an active member of NAMIC, having served on various NAMIC boards and committees since 1996, including serving as chairman of the Property Casualty Conference board of directors. He has been a member of the NAMIC Directors' Education faculty since 2008.

He holds the Chartered Property Casualty Underwriter and Associate in Reinsurance designations.

## Session Description:

This session will provide an introduction and broad overview of the world of reinsurance. It will explore various types and structures of reinsurance, key principles and terminology, and the numerous reinsurance markets. We will discuss important issues necessary for company management to assemble an appropriate, successful reinsurance program. The session will provide board members with the key oversight issues to monitor for reinsurance.

## Top Three Session Ideas

*Tools or tips you learned from this session and can apply back at the office.*

1. ________________________________________

2. ________________________________________

3. ________________________________________

# TABLE OF CONTENTS

## Reinsurance Overview

# Reinsurance Overview

Gary Myers, CPCU, ARe

DIRECTORS' BOOTCAMP 2.0

## Gary Myers, CPCU, ARe

Lost Woods Re, LLC
Centralia, Missouri
lostwoodsre@yahoo.com

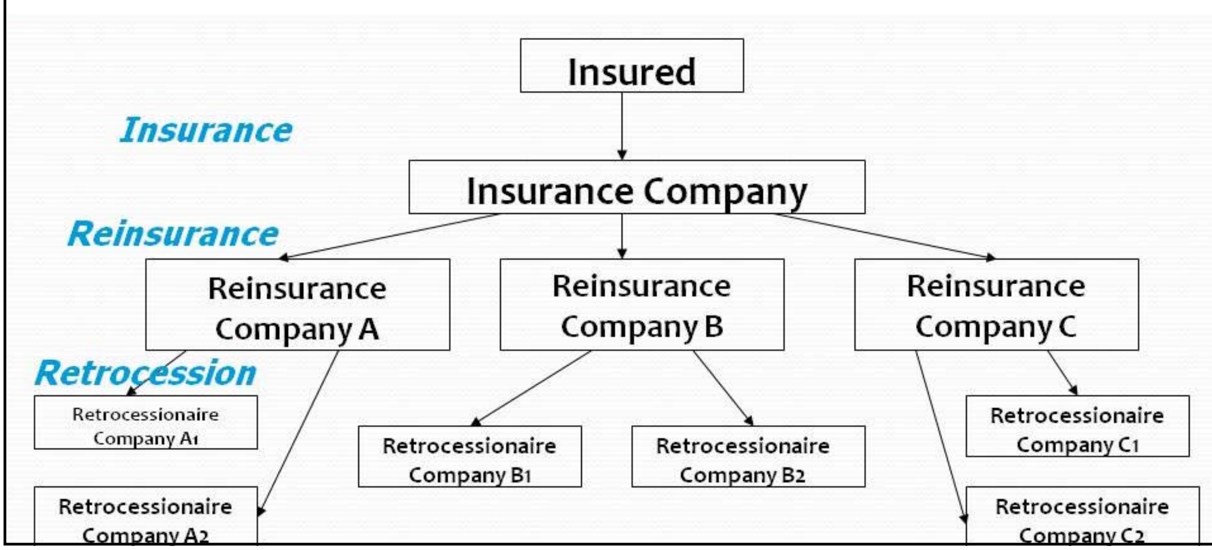
DIRECTORS' BOOTCAMP 2.0

## What is Reinsurance?

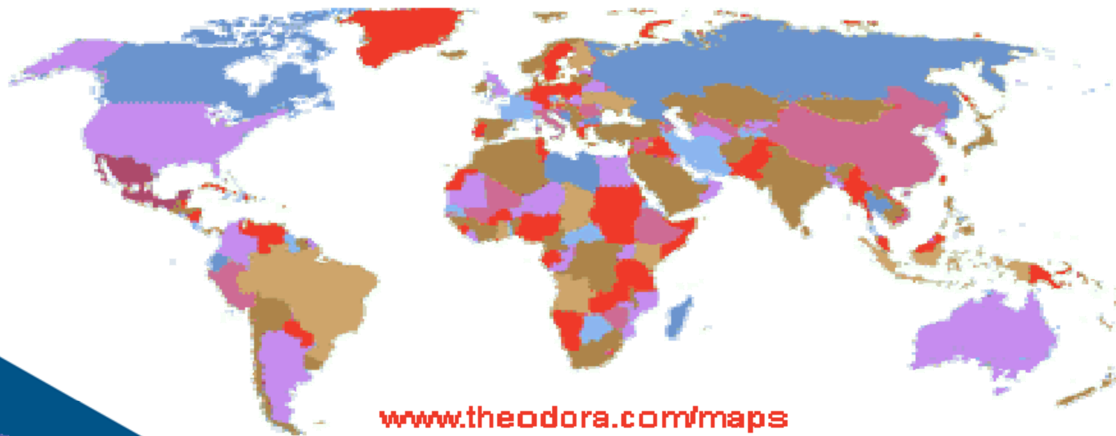
- Primary company issues policy
- Reinsurer assumes risk from primary company
- Insurance of insurance
- Reinsurance is a contract where the reinsurer, for a premium, indemnifies a primary company for losses paid under its policies

BC DIRECTORS' BOOTCAMP 2.0

## Risk Sharing via Reinsurance



# Reinsurance – A Global Business




BC DIRECTORS' BOOTCAMP 2.0

# Functions of Reinsurance

- Capacity
- Stability
- Catastrophe Protection
- Surplus Relief
- Services
- Withdrawal from a Territory or Line of Business

BC DIRECTORS' BOOTCAMP 2.0

# Capacity

- **Large line capacity—Ability to write large risks**
  - ✓ **Empire State Building**
  - ✓ **Regulations**

- **Premium capacity**
  - ✓ **Surplus supports Premium writings**
  - ✓ **Leverage ratio NPW 3:1**
    **Surplus**
  - ✓ **Regulators, Rating Agencies (AM Best's)**

BC DIRECTORS' BOOTCAMP 2.0

# Stability

- Reinsurance smoothes loss results, takes out peaks
- Makes risks more homogenous

BC DIRECTORS' BOOTCAMP 2.0

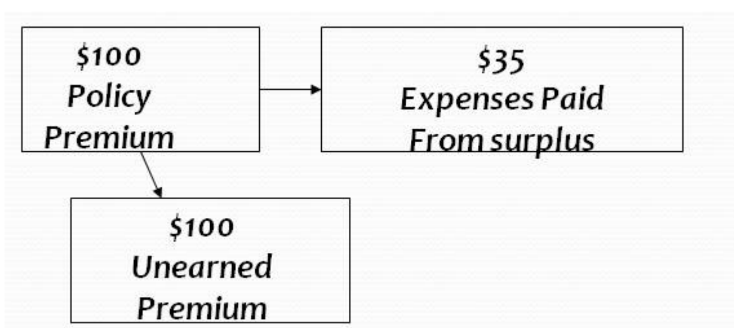
# Catastrophe Protection

- Aggregation of losses from a single event
  - ✓ Wind
  - ✓ Hail
  - ✓ Hurricane
  - ✓ Earthquake
  - ✓ Brush Fire
  - ✓ Winter Storm
- Limit adverse financial effects to a primary company arising from an event

BC DIRECTORS' BOOTCAMP 2.0

# Surplus Relief

- Premium and Unearned premium growth
- Leverage
- Affects capacity




BC DIRECTORS' BOOTCAMP 2.0

# Services

- Underwriting reviews and advice
- Claims reviews and advice
- New product development ( e.g. cyber liability)
- Actuarial Reviews
- Investment and financial advice
- Accounting advice

BC DIRECTORS' BOOTCAMP 2.0

# Withdrawal From a Territory or Line of Business

- Portfolio reinsurance
- 100% Quota share reinsurance
- Assume risk until policies runoff/expire

BC DIRECTORS' BOOTCAMP 2.0

# Types of Reinsurance

- Facultative → Prorata
- Facultative → Excess of Loss
- Treaty → Prorata
- Treaty → Excess of Loss

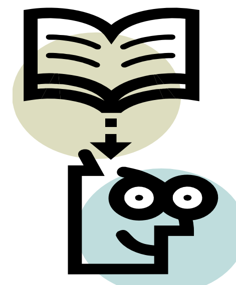


# Facultative

- Present individual risks to Reinsurance
- Underwriter
- Select and price risks individually
- Customized terms and conditions
- Sometimes “automatic” with predetermined pricing and qualifications or classes (e.g. retail stores, churches etc.)

# When to use Facultative

- Build capacity
- Excluded from automatic treaties
- Protect treaties from unique or high hazard risks
- Access Underwriting expertise



DIRECTORS' BOOTCAMP 2.0

# Treaty

- Automatically reinsures portfolios or blocks of business
- Treaty Contracts outline
  - ✓ Predetermined price
  - ✓ Acceptable risk qualifications
  - ✓ Terms and conditions of coverage

DIRECTORS' BOOTCAMP 2.0

# Prorata Reinsurance

| Quota Share | Limit | Premium | Loss |
|---|---|---|---|
| | $100,000 | $100 | $50 |
| 60% Retention | $60,000 | $60 | $30 |
| 40% Cession | $40,000 | $40 | $20 |

# Prorata Reinsurance

- Surplus Share
  - ✓ Dollar threshold determines percentage split
  - ✓ $40,000/$200,000 = 20% retn/80% cession
  - ✓ Line Guide can set the retention by class
  - ✓ After retention and cession determined, same prorata sharing of premium, losses
- ✓Ceding commissions offset primary company
- Ceding commissions offset primary company expenses and determine reinsurance "price"

# Excess of Loss—Property Cat

- Property Catastrophe Per Occurrence
- Usually limited to 2 occurrences per term, reinstated at a price when first loss occurs
- Purchased in Layers
- Often involves multiple reinsurers on one Layer/Contract
- Hours clauses

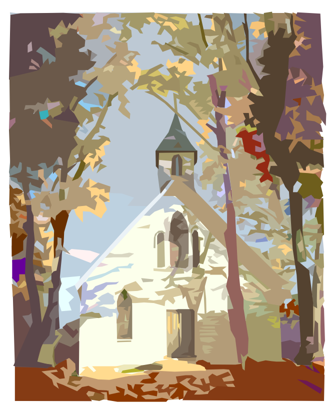
| | |
|---|---|
| 70 xs 30 | $100 million |
| 20 xs 10 | $30 million |
| Retention | $10 million |

BC DIRECTORS' BOOTCAMP 2.0



# Excess of Loss—Individual Risk

- Property Per Risk
- Define Risk (e.g. Farmowners)



| | |
|---|---|
| 600 xs 400 | $1,000,000 |
| Retention | $400,000 |

BC DIRECTORS' BOOTCAMP 2.0

# Excess of Loss—Aggregate Protection

- Aggregate excess—coverage for an accumulation of loss over a period of time
- Various forms based upon loss ratio, aggregation of excess losses
- Stop Loss ratio excess of a 75% net annual loss ratio
- Aggregation of Catastrophe losses greater than$2 million dollars but less than $15 million that accumulate greater than $75 million in one year
- Challenging to place at an acceptable cost

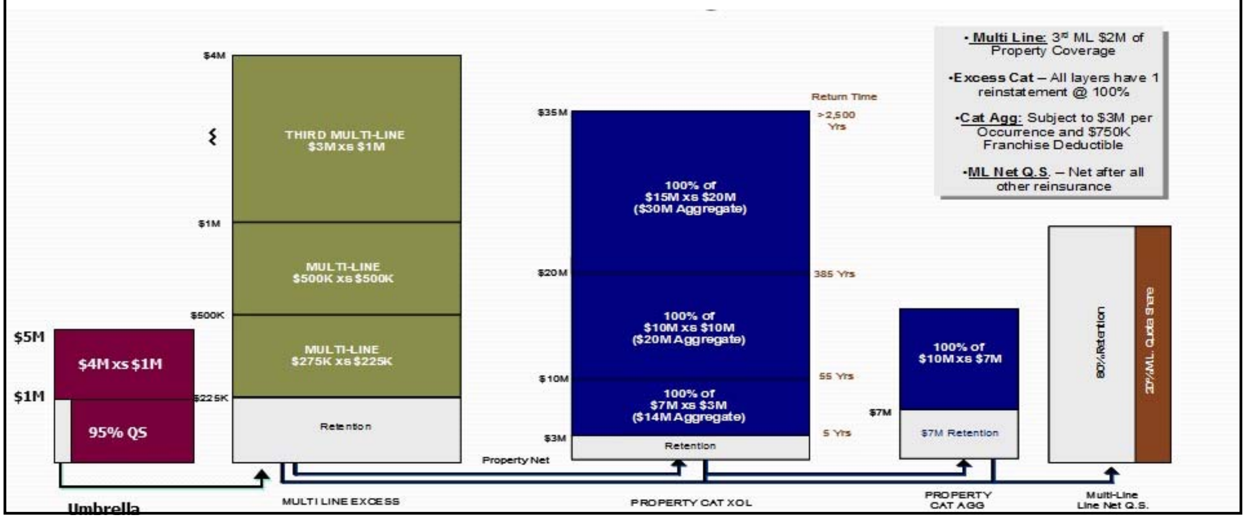
BC DIRECTORS' BOOTCAMP 2.0

# Setting Reinsurance Limits & Retentions

- Lines of business written
- Size of Company
- Financial strength
- Loss Experience
- Policy limits profile
- Modeling results

BC DIRECTORS' BOOTCAMP 2.0

# Hypothetical Reinsurance Program




# Types of Reinsurers

- Professional Reinsurers (e.g. American Ag, Swiss Re, Munich Re, Hannover Re, SCOR, Berkshire Hathaway, General Re)
- Primary Company reinsurance department/company

(e.g. Employers Mutual Casualty, Shelter Mutual/Shelter Reinsurance Company)

- Lloyds of London (104 syndicates in 2017)
- Bermuda/International (e.g. XL, AXIS, Arch, Renaissance Re, Partner Re)
- Pools
  - ✓ Intercompany
  - ✓ Voluntary (Nuclear, Aviation)
  - ✓ Involuntary (Fair Plans, Coastal Pools)

BC DIRECTORS' BOOTCAMP 2.0

# Largest Reinsurers

| Reinsurer | Assumed Premiums |
|---|---|
| Munich Re | $41 b |
| Swiss Re | $29 b |
| Hannover Re | $19 b |
| SCOR | $15 b |
| Berkshire Hathaway | $15 b |
| Lloyds of London (combined) | $14 b |

Life and Non-Life premiums combined

(July 2015, SNL Financial, taken from public records)



# Reinsurance Marketing

- Broker/Intermediary Market
  - ✓ Broker produces business for reinsurer(s)
  - ✓ Compensated by reinsurer
  - ✓ Subject to NY Regulation 98—reinsurer retains credit risk
  - ✓ Often a subscription reinsurance program
  - ✓ Some larger brokers include Aon/Benfield, Guy Carpenter, Willis/Towers Watson, Holborn, BMS

# Reinsurance Marketing

- Direct Writers
  - ✓ Salaried employees produce business
  - ✓ May assume all of a reinsurance program
  - ✓ Provide services and negotiate directly with ceding companies
  - ✓Far fewer in number and less Direct market share; many now assume business both directly and through intermediaries (Munich, Swiss, General Re, Transatlantic)

BC DIRECTORS' BOOTCAMP 2.0



# Choosing a Quality Reinsurer or Broker

- Financial strength
- Ratings—Best's, S&P, Moody's
- Service capability
- Culture/fit with primary company
- Depth and strength of representatives/brokers
- Product knowledge, experience, access to data
- Accessibility
- Industry reputation
- Claims paying ability
- Price

BC DIRECTORS' BOOTCAMP 2.0

# Attracting a Reinsurer to a Program

- Quality management
- Well crafted business plan
- Verification of execution of the business plan through underwriting/claims reviews
- Strength of capital base
- Consistently good financial operating results

BC DIRECTORS' BOOTCAMP 2.0



# State of the Reinsurance Marketplace

- Consolidation in recent years—rapid and extensive
  - ✓ Aon/Benfield; Willis/TowersWatson
  - ✓ Swiss Re/Employers Re; Munich Re/American Re
  - ✓Partner/AXIS; XL/Catlin; Ren Re/Platinum; Montpelier/Endurance; Sompo/Endurance; Argo/Ariel; Liberty/Ironshore; Fairfax/Allied World
  - ✓Canada Pension Plan/Ascot
- Growth of Bermuda market (1992, 2001, 2005)
- Lloyds Marketplace--27.7 billion euros 2016 official capacity
  - (6% increase from 2015 to 2016)

BC DIRECTORS' BOOTCAMP 2.0

# State of the Reinsurance Marketplace

- Driving factors for 2017
  - ✓ $595 billion of reinsurance capacity, up from $340 billion in 2008, increase of 5.3% 2016-2017
  - ✓ Traditional +4.7%; Alternative capital +9.6%
  - ✓ Alternative capital saw smallest growth in 5 years
  - ✓ Average catastrophe year in 2016 after 3 light years
  - ✓ Insurer capital strength around $3.5 trillion globally
  - ✓ Cat modeling and BCAR revisions continue, push demand
  - ✓ Growth of Casualty lines predictability lowers demand
  - ✓ Amount of Catastrophe bonds leveled off at $20b in 2016; alternative capital growth more in collateralized area

BC DIRECTORS' BOOTCAMP 2.0



# Alternative Capital in Reinsurance

- Cat Bonds, Sidecars, ILWs, Collateralized contracts, Hedge Funds
- 12% of reinsurance marketplace in 2014; stabilized in 2016
- Bond loss—2011 Japanese earthquake, $300m cat bond payment to Zenkoren
- Bond loss—2011 Tornados, $200m cat bond payment to American Family
- Largest Cat Bond—Florida Citizens Insurance, $1.5b limit, 7.5% interest rate, 3 year term
- Investors prefer parametric loss triggers (e.g. Cat 5 hurricane)
- Investor Desirability—non-correlation with financial markets
- Spreads with Treasuries (increasing interest rates will affect desirability and capital supply)

BC DIRECTORS' BOOTCAMP 2.0

# Alternative Capital in Reinsurance

Some potential downsides of using capital markets

- Will investors (non-reinsurance professionals) remain after significant loss payments?
- No reinstatements after Cat loss, once and done
- Rely on accuracy of models for risk assessment, pricing
- Primary company loses a source of broad-based insurance expertise and knowledge for underwriting assistance

BC DIRECTORS' BOOTCAMP 2.0



# State of the Reinsurance Marketplace

- 2017 renewals
  - ✓ Property and Casualty reinsurance pricing steady
  - ✓ Good supply; some increase in demand from Best's BCAR & modeling
  - ✓ Aggregate reinsurance coverage available
  - ✓ Improvement in Reinsurance coverage (hours clauses, terrorism)

BC DIRECTORS' BOOTCAMP 2.0

# Catastrophe Modeling (continuous evolution)

- Mechanics
  - ✓ Geographic distribution of TIV
  - ✓ Construction type
  - ✓ Insurance features—deductible, policy form
  - ✓ Stochastic event sets
  - ✓ Statistical probability of event occurrence
- Industry standard to manage to 1% probability for wind events and 0.4% probability for EQ
- Regulators, rating agencies, Cat Bond marketers
- Quality and accuracy of data, geocoding

BC DIRECTORS' BOOTCAMP 2.0



# EP Overview-Exposure as of June 30, 200X with Current Model Gross Losses, In Thousands

**All Perils (excluding Winterstorm)**

| Probability of Non-Exceed | Avg Return Time (Years) | AIR CLASIC/2 v11.0 | RMS RiskLink v9.0 |
|---|---|---|---|
| 99.90% | 1000 | 32,461 | 19,111 |
| 99.80% | 500 | 26,959 | 16,056 |
| 99.60% | 250 | 20,563 | 13,107 |
| 99.00% | 100 | 14,701 | 9,384 |
| 98.00% | 50 | 10,556 | 7,093 |
| 96.00% | 25 | 7,790 | 5,286 |
| Insurance in Force | | 9,145,869 | 9,145,869 |
| Premium | | 35,073 | 35,073 |
| Risks (ones) | | 78,825 | 78,825 |
| Annual Avg. | | 4,494 | 5,229 |
| PML:Premium - 100 yr | | 0.4:1 | 0.3:1 |
| PML:Premium - 250 yr | | 0.6:1 | 0.4:1 |
| Loss Ratio (%) | | 12.8% | 14.9% |
| Loss Cost (%) | | 0.049% | 0.057% |

**Earthquake and Fire Following**

| Probability of Non-Exceed | Avg Return Time (Years) | AIR CLASIC/2 v11.0 | RMS RiskLink v9.0 |
|---|---|---|---|
| 99.90% | 1000 | 19,121 | 4,665 |
| 99.80% | 500 | 1,740 | 967 |
| 99.60% | 250 | 241 | 10 |
| 99.00% | 100 | 27 | 0 |
| 98.00% | 50 | 2 | - |
| 96.00% | 25 | - | - |
| Insurance in Force | | 310,638 | 310,638 |
| Premium | | - | - |
| Risks (ones) | | 34,596 | 34,596 |
| Annual Avg. | | 74 | 15 |
| PML:Premium - 100 yr | | NA | NA |
| PML:Premium - 250 yr | | NA | NA |
| Loss Ratio (%) | | NA | NA |
| Loss Cost (%) | | 0.024% | 0.005% |

**Other Wind**

| Probability of Non-Exceed | Avg Return Time (Years) | AIR CLASIC/2 v11.0 | RMS RiskLink v9.0 |
|---|---|---|---|
| 99.90% | 1000 | 27,024 | 18,493 |
| 99.80% | 500 | 23,227 | 15,618 |
| 99.60% | 250 | 18,982 | 12,796 |
| 99.00% | 100 | 14,330 | 9,202 |
| 98.00% | 50 | 10,307 | 6,995 |
| 96.00% | 25 | 7,677 | 5,235 |
| Insurance in Force | | 9,145,869 | 9,145,869 |
| Premium | | 35,073 | 35,073 |
| Risks (ones) | | 78,825 | 78,825 |
| Annual Avg. | | 4,420 | 5,214 |
| PML:Premium - 100 yr | | 0.4:1 | 0.3:1 |
| PML:Premium - 250 yr | | 0.5:1 | 0.4:1 |
| Loss Ratio (%) | | 12.6% | 14.9% |
| Loss Cost (%) | | 0.048% | 0.057% |

**Winterstorm**

| Probability of Non-Exceed | Avg Return Time (Years) | AIR CLASIC/2 v11.0 | RMS RiskLink v9.0 |
|---|---|---|---|
| 99.90% | 1000 | 4,313 | 22,542 |
| 99.80% | 500 | 3,647 | 15,544 |
| 99.60% | 250 | 3,011 | 10,548 |
| 99.00% | 100 | 2,134 | 5,892 |
| 98.00% | 50 | 1,423 | 3,658 |
| 96.00% | 25 | 951 | 2,142 |
| Insurance in Force | | 9,145,869 | 9,145,869 |
| Premium | | 35,073 | 35,073 |
| Risks (ones) | | 78,825 | 78,825 |
| Annual Avg. | | 238 | 497 |
| PML:Premium - 100 yr | | 0.1:1 | 0.2:1 |
| PML:Premium - 250 yr | | 0.1:1 | 0.3:1 |
| Loss Ratio (%) | | 0.7% | 1.4% |
| Loss Cost (%) | | 0.003% | 0.005% |

# Finite Reinsurance and Risk Transfer

- History of past abuses—Diminished risk through excessive commissions, funds held, multiple year covers with one limit, quota share w/deductible
- Established rules and regulations—SSAP 62, Statutory Statement disclosures
- Statutory statement interrogatories
- "Risk transfer reasonably considered to be self evident based upon loss activity, loss ratios"

DIRECTORS' BOOTCAMP 2.0



# Takeaways

1. How financially & operationally solid are our reinsurers?
2. Do our reinsurance contracts afford proper risk transfer?
3. Are we financially transferring/retaining the right amount of risk?
4. Do we purchase the right amount of coverage and limits to fit our risk profile?
5. Does the performance of our business force us to purchase more reinsurance than we can afford?

DIRECTORS' BOOTCAMP 2.0