# General Session

## EIS Program Advisory Committee Conference

**Wednesday, October 25, 2017**

# WELCOME


**$1.2 BILLION – WRITTEN PREMIUM**

**$1.0 BILLION – PAID CLAIMS**

# Agenda

- Welcome
- ECM & EIS Operational Review
  - Domicile Report
  - 2017 Audit & SOC 1
  - Tax Update
- Cyber Security and Reputation – A Perfect Storm
- Captive Optimization
- Wrap-Up

ENERGY CAPTIVE MANAGEMENT

E I S

# ECM Review

**Overview – Tobias Burke**

**Domicile Report – Jay Branum, Director-Captive Division, SCDOI**

**Audit and SOX 1 Report – Alex Murray, Johnson Lambert LLP**

**Tax Perspectives – Sarah Stubbs, Johnson Lambert LLP**

# Domicile Update

Jay Branum
Director of Captives
South Carolina Department of Insurance
October 25, 2017

# Overview

- Domicile Growth – Snapshots & Comments
- SCDOI Staffing Update
- Process Refinements
- Captive Statute Clean-up Bill
- Looking Ahead: Where next?

# Domicile Growth

- [A few numbers with a couple charts and/or graphs – to be provided later]

# SCDOI Captive Division Staffing Developments

- Departures:
  - Ron Krebs – retired fall 2016
  - Bobby Troutman – retired August 2017
  - Rachel Gibbs – left for job at PWC Consulting
- Role Changes:
  - Dan Morris – promoted to Deputy in charge of Agents' Licensing
  - Greg Delleney – promoted to Supervising Financial Analyst of Captive Division
  - Eva Conley – promoted to Business Plan Change Analyst
- Additions:
  - New Financial Analyst Frank Basnett
  - New Financial Analyst – vacancy recently posted
- Other:
  - Director Ray Farmer elected Secretary-Treasurer of NAIC

# Process Refinements

- Licensing Application Form & Instructions
- License Application Review Form  (internal tool)
- Actual-to-actual instead of Actual-to-projected
- Examinations - ***Stay tuned*** !

# Where next:  Looking ahead

- Captive Statute Clean-up Bill
  - Background & Impetus
  - Current Status
  - Expected Benefits – in general:  premature to release details – Stay tuned!
  - This will be a SCCIA-sponsored bill (not a DOI sponsored bill)
- Other Initiatives

Thank you for your attention!

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# Energy Insurance Services, Inc.

October 2017

General Meeting

# 2017 Audit and SOC-1 Engagement Team

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# ECM SOC-1 Report

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# ECM SOC-1 Type II Report

- Expresses an opinion on the fairness of the design and operating effectiveness of controls over:
  - Insurance services
  - Cash management
  - Financial reporting
  - Information technology
- Covers the period of 1/1/2017 – 10/31/2017
- Report will provide MBPs with additional comfort over the key controls in place at ECM which processes integral EIS cell activity
- Planning and review of the underlying controls has already begun and testing over the controls set to take place from October through December 2017

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# 2017 Audit

# 2017 Audit Plan
## Engagement Overview - Timetable

| | |
|---|---|
| December 2017 | Submit audit plan to Board of Directors |
| October – December 2017 | Interim audit procedures – planning and risk assessment |
| March – April 2018 | Receipt of audit evidence – trial balances and supporting schedules |
| March – April 2018 | Year-end audit procedures<br>Draft of audited financial statements to management |
| April – May 2018 | Audit sign-off<br>Issue audited financial statements and letters |
| May 2018 | Submit audit results to Board of Directors |

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# 2017 Audit Plan
## Engagement Overview – Planning and Risk Assessment

- Planning and risk assessment
- On-site MBP visits for review and testing over controls related to the underwriting and claims cycles
  - American Electric Power Service, Corp. (MBP 3)
  - DTE Energy (MBP 5)
- Testing procedures performed for all MBPs
  - Confirmation of cash and investment accounts
  - Review of actuarial reports and related loss schedules
  - Substantive testing over large loss payments and over premium activity
  - Review of all tax provisions

# Impact of ASU 2015-09 – Enhanced Loss Disclosures

- EIS will only implement  limited disclosure within the footnotes of the audited financial statements
  - Total incurred and paid losses for all MBPs by accident year
  - Total IBNR by accident year
  - Total claim counts
  - Not required to produce detailed RSI schedules
- All information is readily available and your management team has already begun to accumulate the necessary information

# Thank you!

# Questions?

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# EIS GENERAL MEETING
# TAX COMPLIANCE UPDATE

2017 PAC CONFERENCE

# The Evolving "Definition" of Insurance

Comfortable View

- Risk Shifting – balance sheet approach
  - An insured shall not pay for his own losses
- Risk Distribution – based on # of insured taxpayers
  - Safe harbor A – 12 brother/sister entities (Rev Rul 2002-90)
  - Safe harbor B – 7 owns <15% each (Rev Rul 2002-91)
- Uneven premium distribution – bad fact!
- Parental guarantee – bad fact!

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# The Evolving "Definition" of Insurance

…Enter Securitas and Rent-A-Center…

Emerging View

- Risk Shifting – balance sheet approach maintained
- Risk Distribution – based on # of insured risks
  - RAC: 15subsidiaries, but 90% total risk comes from 4 subs
- Facts and circumstances become key consideration for all other items
  - Uneven premium distribution may be okay – focus on covered risks rather than covered entities
  - Why was parental guarantee established? Was it drawn on?

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# A New Court Case

Avrahami v. Commissioner (August 21, 2007)

- Insurance as it relates to a micro-captive
- Fact pattern not as relevant, but the Court's logic is
  - Arm's length contracts and premium setting
  - Insurance company financially capable of satisfying claims
  - Sufficiency of risk distribution based on risk pool and statistically independent risks
  - Facts and circumstances dictate
  - References Humana, Le Gierse, RAC, Securitas

# A New Court Case

- No new precedent, but -
- Tax Court re-affirms evolving “definition” of insurance

“It’s even more important to figure out the number of independent risk exposures.”

(Avrahami, 149 TC 7 at 64)

- What does this mean to EIS?

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# Application to EIS

- Reassurance of principles is always welcome
  - Especially, where bright-line tests do not exist
- MBPs may be separate, but each contributes to overall tax position of EIS
  - Risk shifting, distribution first assessed at MBP level
  - Insurance for tax purposes then assessed at EIS level
- The principles applied to determining tax treatment continue to be sound
  - But let us not hastily move on!
  - Consider the comfortable view vs emerging view

# Strengthening the EIS Tax Position

- What could MBPs, EIS do to strengthen tax position?
  - Consider including a list of covered risks
  - Consider identifying the varying geographic locations of risks
  - Risk shifting, distribution first assessed at MBP level
  - Insurance for tax purposes then assessed at EIS level
- Additive, rather than replacement, documentation

# Questions?  Contact me…


| | |
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# BREAK

## 10 Minutes - Please


# Cyber & Reputation – A Perfect Storm

**Lorraine Cichowski**

# Cyber Security and Reputation: The Perfect Storm

**Energy Insurance Services Conference**
**Oct. 25, 2017**
**Lorraine Cichowski**
**lcichow@gmail.com**

# What is Cyber Crime?

**Definition**: Any illegal activity that involves a computer and a network

- Fraud
- Identity Theft
- Extortion
- Terrorism

# Types of Cyber Crime

- **Spam:** Junk email
- **Hacking:** Unauthorized access to a computer or network
- **Malware:** An umbrella term for malicious code – such as computer viruses, ransomware and spyware – that can copy itself and corrupt a system or destroy data
- **Denial-of-service attacks:** Flooding of servers and networks with traffic to prevent access by legitimate users

# Who Fights Cyber Crime?

The FBI


is the lead

federal agency for investigating cyber attacks by criminals, foreign adversaries and terrorists

# Hacks, Leaks and Breaches: 2017 (so far)

***Ransomware***

- **WannaCry (May):** Crippled thousands of companies and public utilities (UK National Health Service)
- **Petya, NotPetya (June):** Hit 100+ countries (Merck, Maersk, Ukrainian infrastructure)

# Hacks, Leaks and Breaches: 2017 (so far)

*Breaches*

- **Equifax (May-July):** Exposed personal and sensitive records of 145.5 million
- **SEC (September):** Opened access to Edgar electronic filings system, possibly leading to use of company information to do insider trading

# Common Themes

- **Outdated computer systems**
  - Microsoft discontinued Windows XP security updates in 2014
- **Unprotected computer systems**
  - Companies were slow in patching vulnerabilities
- **Employee carelessness**
- **Low spending on cyber security**
  - Britain’s NHS spent nothing in 2015

# Financial Side of Cyber Crime

- Cyber crime cost the global economy more than **$450 billion** in 2016. The cost could exceed $2 trillion by 2019
- Lloyd's of London says a major cyber attack of a major cloud provider could be more costly than a natural disaster

# What About Reputation?

- Corporate reputation is a “soft,” intangible concept
- It’s hard to identify who is responsible for “reputation” in a company
- Managers often are forced to prioritize more-immediate operational issues

# What About Reputation?

- Research finds that a good reputation increases company worth and provides sustained competitive advantage
  - Customers may choose you over a competitor that has similar prices and quality
  - Stakeholders may stick with you in times of controversy
  - Government regulators may trust you more

***A favorable corporate reputation is a valuable, yet intangible, asset***

# What About Reputation?

- There is a high price to pay for losing reputation
  - A badly handled crisis can strip a big chunk off a company's stock price
  - Stakeholders flee
  - Top executives lose their jobs

***A favorable corporate reputation is a valuable, yet intangible, asset***

# Reputational Side of Cyber Crime

- Data breaches are a PR disaster
  - Companies often spot the intrusion too late and respond inadequately
- Data breaches have a direct impact on reputation
  - Impact is up there with poor customer service and environmental disasters

***A favorable corporate reputation is a valuable, yet intangible, asset***

# Cyber Attacks at AP

- **April 2013:** Twitter market-moving attack
  - Tweet claimed explosions at the White House; More than 4,000 re-tweets in 5 minutes
  - Dow plunged 150 points; S&P declined nearly 1%, wiping out more than $136 million in stock value

***Why it matters: AP is one of the few untainted news sources, with unmatched reach on the web and on social media***

# Cyber Attacks at AP

- **October 2016:** Hack of U.S. elections systems
  - DHS secretary called AP president to review AP's election-day reporting process, including system safeguards. Offered DHS help.

***Why it matters: AP is one of the few untainted news sources, with unmatched reach on the web and on social media***

# Cyber Attack at Equifax

- What happened:
  - Hackers exploited unpatched software used at Equifax to develop Java web applications and infiltrated the Equifax network this spring through a web app
  - Security tools that routinely scan the network did not detect the intrusion for months
  - The hack exposed names, addresses, birthdays and Social Security numbers of 145.5 million consumers

*The breach compromised Equifax's reputation as a trusted steward of consumer data*

# Equifax Botched its Response

- Breach wasn't announced for months
- Support website didn't work; Twitter account posted a phishing link – four times
- Equifax proposed to charge consumers for a credit freeze
- Website initially included a clause that would have prevented consumers from suing the company

*The breach compromised Equifax's reputation as a trusted steward of consumer data*

# The Fallout at Equifax

- Equifax stock dropped 40%
- CEO, CIO, CSO lost their jobs
- Dozens of class-action suits were filed
- Congress called hearings, challenged the business model of the credit-reporting industry and threatened new regulations
- IRS suspended a $7.25 million contract

*The breach compromised Equifax's reputation as a trusted steward of consumer data*

# Some Good Polices

- Make cyber security a priority
  - Evaluate your security readiness
  - Train staff to avoid phishing
  - Have an incident response plan, crisis management plan, full media training for spokespeople and war games exercises to test resiliency
- Update systems. And then update them again.
  - Out-of-date software creates incalculable risk
  - Audit systems regularly. Complex systems complicate regular updating

# IT Systems Security Assessment

National Institute of Standards and Technology guide to tests and procedures needed to check that security controls are in place and functioning

http://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-53Ar4.pdf

# IT Systems Security Assessment

**CP-9 INFORMATION SYSTEM BACKUP**

**ASSESSMENT OBJECTIVE:**

*Determine if the organization:*

**CP-9(a)** **CP-9(a)[1]** *defines a frequency, consistent with recovery time objectives and recovery point objectives as specified in the information system contingency plan, to conduct backups of user-level information contained in the information system;*

**CP-9(d)** *protects the confidentiality, integrity, and availability of backup information at storage locations.*

Thank you!


# Captive Optimization

**Jim Swanke**

**Ann Conway**

# Energy Insurance Services Conference

## Optimizing Captive Decision Making

Ann Conway & Jim Swanke

October 25, 2017




Willis Towers Watson

# History of captive decision making

## 1970–1990: Siloed approach for studying captive risks

- Captive decision making done by coverage line
- Additive process overstates annual premium and capital requirements
  - Process fails to recognize diversification effect
- Complexity of diversification calculations make captive optimization difficult
- Not uncommon for captives to be set up and let run for years without refinement
- Few tools available to model interaction of risk in real time

# History of captive decision making (cont.)

## 2000–2010:  European Commission initiates Solvency II process

- Moves away from financial ratio testing to monitor insurance company solvency
- Replaces with confidence interval testing of losses across all lines of coverage
- Requires calculation on holistic basis not by coverage siloes
- Requires measuring diversification effect from non-correlated risks

# Coverage line dependencies (correlations) are critical in the modeling process

| | Property | Auto Liability | Workers Compensation | Cyber | Wage & Hour |
|---|---|---|---|---|---|
| Property | | | | | |
| Auto Liability | 0.25 | | | | |
| Workers Compensation | 0.25 | 0.25 | | | |
| Cyber | 0.25 | 0.10 | 0.25 | | |
| Wage & Hour | 0.25 | 0.10 | 0.25 | 0.10 | |

# History of captive decision making (cont.)

## Today

- Actuarial software now available to model dependencies in real time plus study alternate captive structures to better optimize captive decision making
  - Adding/subtracting coverage lines
  - Changes in company deductibles and captive retentions
  - Changes in reinsurance attachment points
  - Diversification effect of non-correlated risks
- Modeling allows you to measure:
  - Impact to annual premiums
  - Impact to capitalization amounts
  - Impact on surplus position
- For Willis Towers Watson, actuarial software is called Igloo
  - Models both sides of balance sheet
  - Measures diversification effect and impact on capital and premiums
  - Facilitates “what if” scenarios in real time
  - Results in better captive decision making or what we describe as Captive Optimization

# Captive optimization case study

## Company description

- Investment bank with a broad portfolio of owned assets requiring insurance solutions
- Multi-line captive domiciled in US
- Captive capital of $80 million

## Goals and objectives

- Minimize cost
- Secure broadest possible coverage
- Achieve year-to-year stability
- Avoid trapping capital
- Leverage diversification effect

# Captive optimization involves a number of steps

- Measuring the loss exposure – using existing actuarial reports, developing new actuarial analyses
- Understanding the key financial metrics of both the captive and its owner
- Quantifying the impact of risk diversification
- Creating a process to systematically deploy these analytics in the risk financing strategy

# Modeling Approach Overview

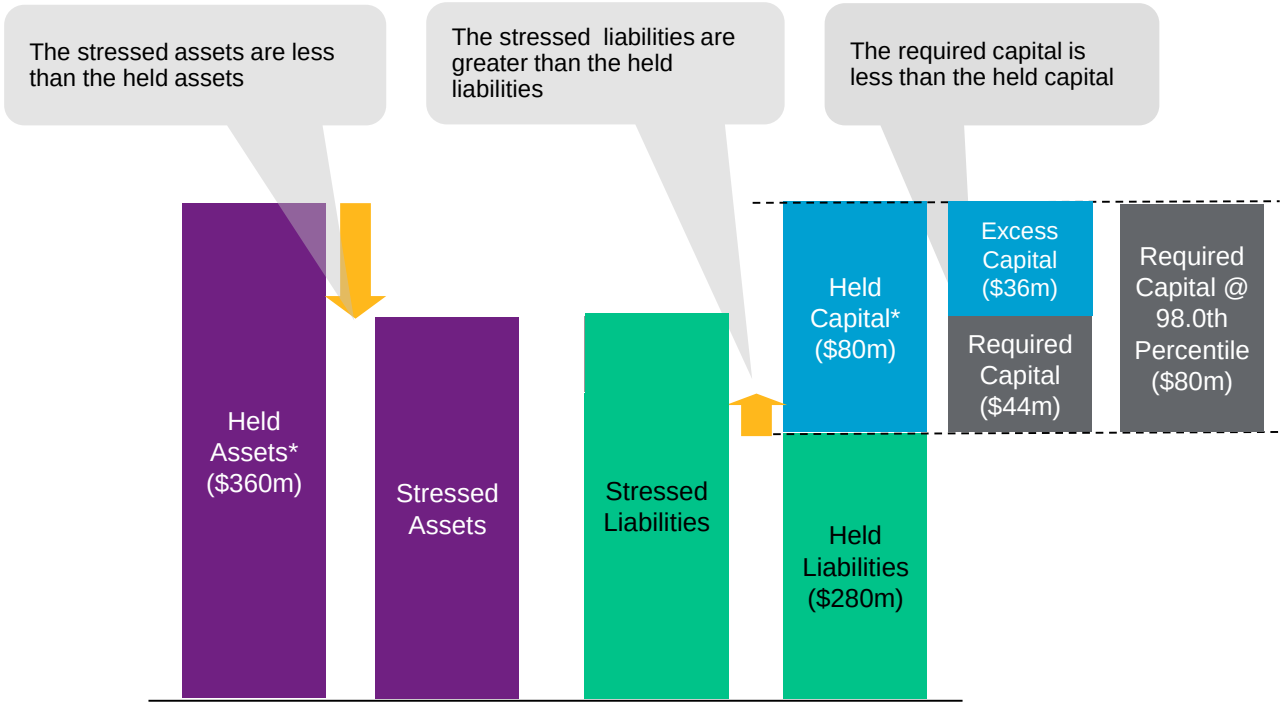
- Use Igloo model to project prospective financial statements and capital requirements
- Consider multiple risks, including:
  - Broad range of risks – traditional property/casualty, employee benefits
  - Reserve Risk – deterioration in reserve estimate
  - Premium Risk – shortfall in expected profit from new business
  - Asset Risk – adverse impact of interest rate, equity and currency risk
- Reflects correlations/diversification among coverages and risk types
- Capital adequacy considers higher confidence levels (for example, 90$^{th}$ percentile confidence interval (1 in 10 event))
- Produce alternative scenarios – for example:
  - Additional new coverages
  - Change in deductibles or aggregate cover

# A starting point in the modeling process is the opening financial statements

| Opening Balances | $ in Millions |
|---|---|
| Total Assets | $360 |
| Total Liabilities | 280 |
| Held Capital | 80 |
| Required Capital at 90$^{th}$ Confidence Interval | 44 |
| Surplus Capital at 90$^{th}$ Confidence Interval | 36 |
| Expected Net Income | -4 |

# A key outcome of the modeling process is determining "surplus" capital

The captive requires $44 million of capital to protect against adverse events at the 90th percentile



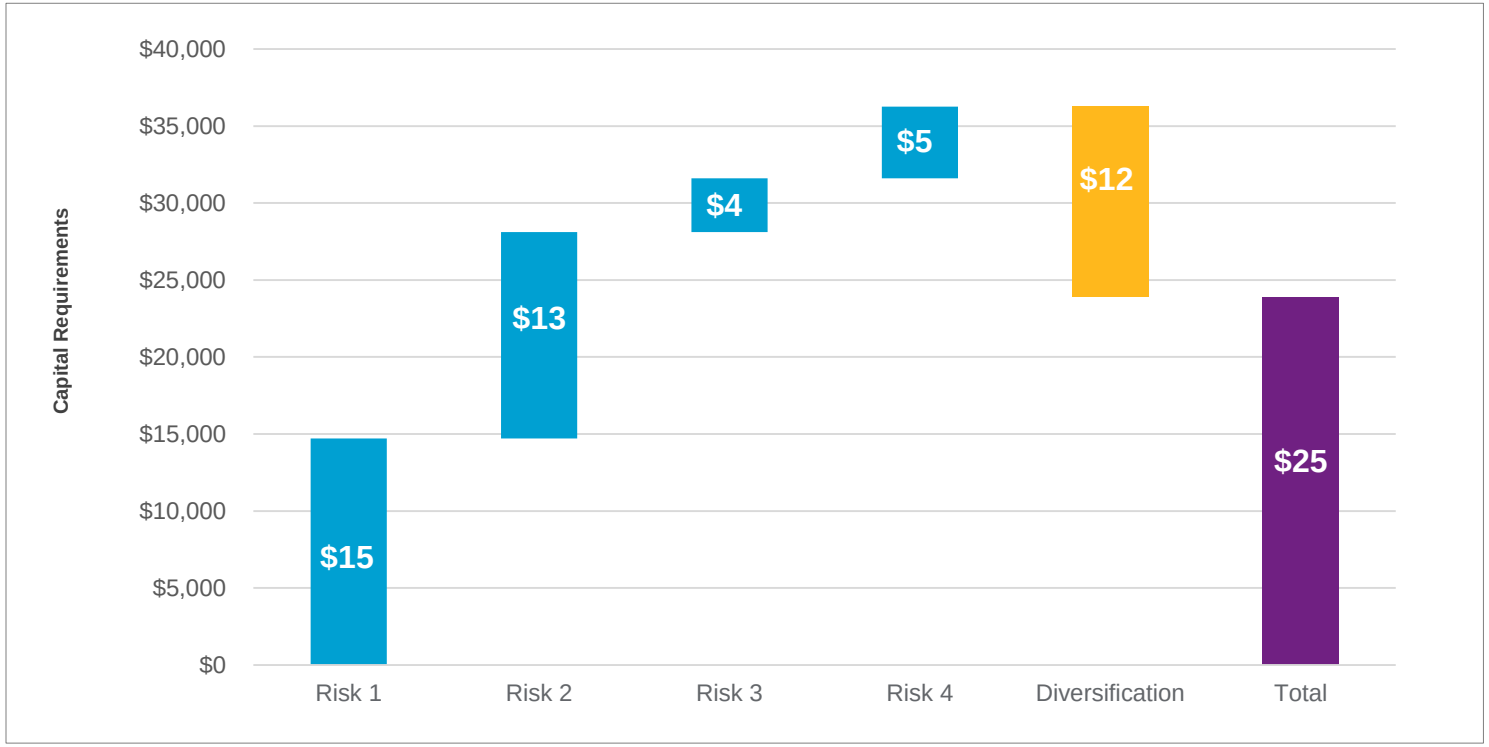
# Contributions to capital vary by risk types

| Capital Requirements At 90% Confidence Interval ($Millions) | |
|---|---|
| Premium Risk | $12 |
| Reserve Risk | 40 |
| Catastrophe Risk | - |
| Asset Risk | 8 |
| Undiversified Capital | 60 |
| Diversified Required Capital @90% Confidence Level | 44 |
| Diversification Credit | 16 |
| Diversification % | 37.5% |

# Dependencies are critical in the modeling process

| | Property | Auto Liability | Workers Compensation | Cyber | Wage & Hour |
|---|---|---|---|---|---|
| Property | | | | | |
| Auto Liability | 0.25 | | | | |
| Workers Compensation | 0.25 | 0.25 | | | |
| Cyber | 0.25 | 0.10 | 0.25 | | |
| Wage & Hour | 0.25 | 0.10 | 0.25 | 0.10 | |

# The diversification effect can mitigate additional capital requirements when adding new coverages




*Note: $ in Millions*

# A simulated balance sheet

| | | Mean | 1 in 5 | 1 in 10 |
|---|---|---|---|---|
| | Year-End | Projected | | |
| Total Investments | 240 | 228 | 220 | 212 |
| Cash and Cash Equivalents | 88 | 84 | 80 | 76 |
| Reinsurance Recoverables | | 4 | 4 | 8 |
| Other Assets | 36 | 36 | 36 | 36 |
| **Total Assets** | 364 | 352 | 340 | 332 |
| Losses and Loss Adjustment Expense | 240 | 224 | 244 | 252 |
| Unearned Premiums | 36 | 32 | 32 | 32 |
| Other Liabilities | 8 | 8 | 8 | 8 |
| **Total Liabilities** | 284 | 264 | 284 | 292 |
| **Total Capital** | 80 | 88 | 56 | 40 |
| Total Liabilities and Capital | 364 | 352 | 340 | 332 |

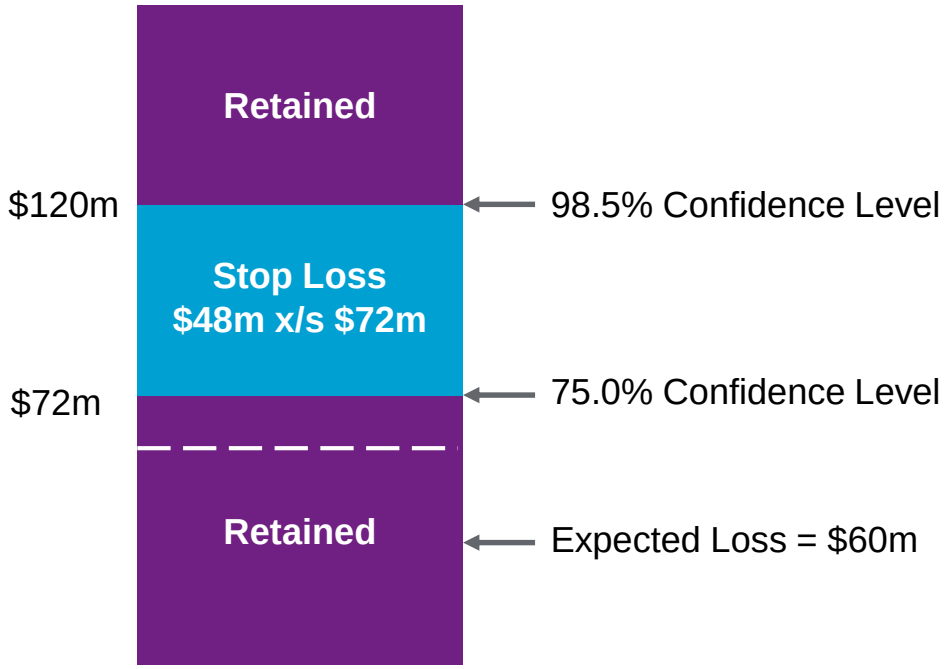
*Note: $ in Millions*

# A simulated income statement

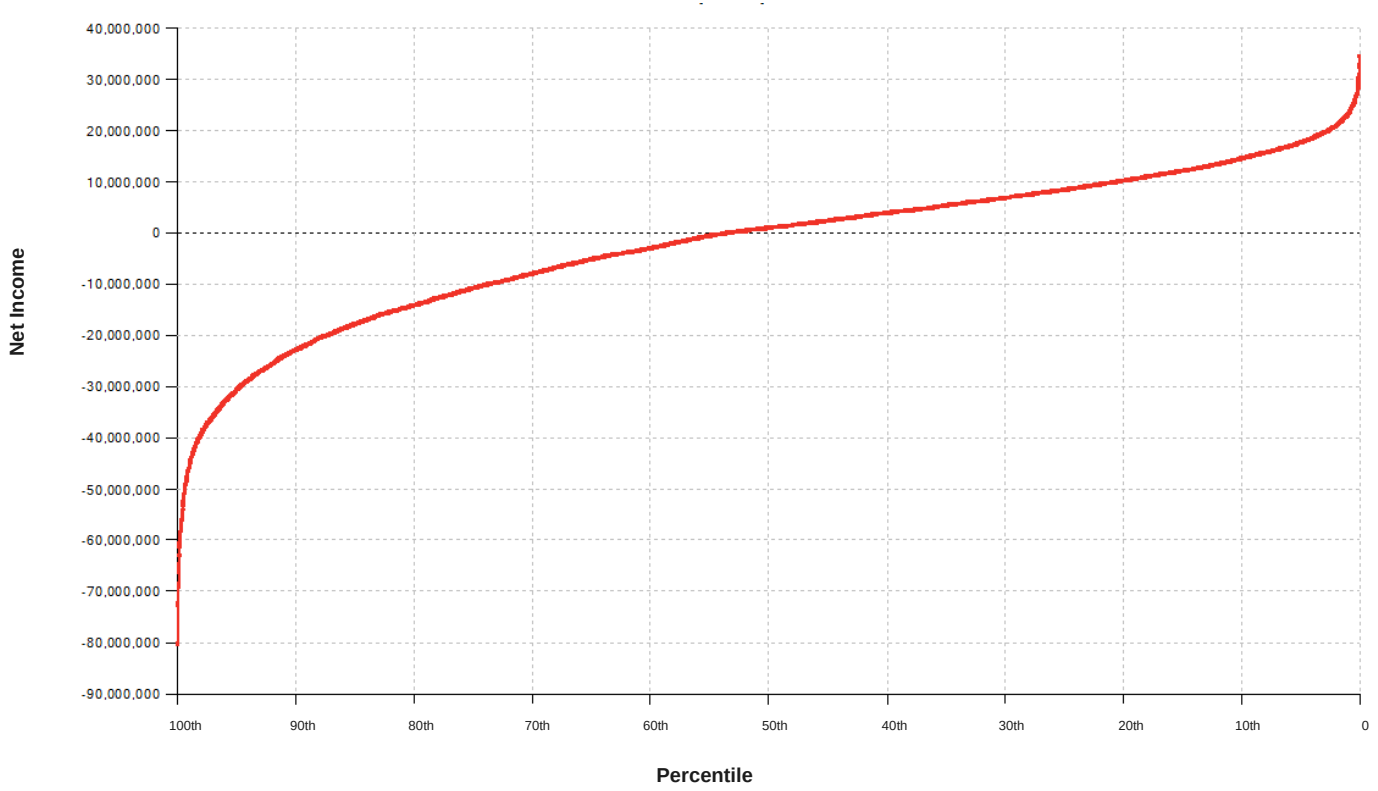
| | Mean | 1 in 5 | 1 in 10 |
|---|---|---|---|
| Gross Premiums Written | 60 | 60 | 60 |
| Net Premiums Earned | 56 | 56 | 56 |
| Net Investment Income | 8 | 8 | 8 |
| Total Revenue | 64 | 64 | 64 |
| Losses Incurred | 64 | 88 | 104 |
| Underwriting and Other Costs | 4 | 4 | 4 |
| Total Expenses | 68 | 92 | 108 |
| Income Before Federal and Foreign Income Tax | -4 | -28 | -44 |
| Total Federal and Foreign Income Tax | - | - | - |
| Net Income | -4 | -28 | -44 |

*Note: $ in Millions*

# Modeling allows you to evaluate reinsurance opportunities



# The model implies negative expected income



# Conclusion

- Historically, most captive decision-making done by coverage silo
- Solvency II Actuarial Software including Igloo a major breakthrough for captive owners
- Finding:  Most captives over capitalized and premiums excessive when diversification effect not considered
- New software tools allow for captive testing and optimization on an annual basis

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# Wrap-Up

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