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# Captive Insurance Hot Topics

## Expected Adverse Deviation as a Measure of Risk Distribution

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- Managing Principal at Pinnacle
- Member of CAS, AAA and CERA
- Have worked with captives over 30+ years both of all types, off-shore and onshore
- Extensive interaction with captive managers, auditors, brokers, TPAs, regulators, lawyers and company management
- Frequent speaker at CAS, captive domicile meetings

# Overview

- Introduction
- Background
- Potential Risk Distribution Measures
  - Criteria for evaluating tests
  - Potential methods (and drawbacks)
- Solution – EAD Ratio
- Simple Example
- When is a test necessary?
- What is the correct threshold?
- Additional Examples
- Additional Considerations
- Conclusions

# Introduction

- Risk Distribution - Prerequisite for an insurance transaction
- Growth of Captive Insurers (ties between insured & insurer)
- How much risk distribution is enough to qualify as insurance?
- Qualitative View vs Quantitative View
  - Risk distribution is at its core a statistical and therefore actuarial issue

# Background – 4 Prong Test

- Requirements to be an insurance company
  - Insurance Risk
    - Must have underwriting risk and timing risk
  - Risk Transfer
    - Looks at the arrangement from the perspective of the insured (i.e., has a risk faced by the insured been transferred)
  - Risk Distribution
    - Looks to the insurer to see if the risks acquired by the insurer are distributed among a pool of risks such that no one claim can have an extraordinary effect on the insurer
    - "The (actuarially credible) premiums of the many pay the (expected) losses of the few. This is the essence of insurance."
  - Commonly Accepted Notions of Insurance

# Background - Risk Transfer

- Case Law
- Reinsurance risk transfer has been codified in accounting standards (FASB 113 and SSAP 62)
  - While accounting standards for reinsurance contracts are not always applicable in a captive setting, reinsurance risk transfer testing can help understand what is required
- Risk Transfer
  - Looks at the arrangement from the perspective of the insured (i.e., has a risk faced by the insured been transferred)
  - Must involve shifting of "insurance risk" (timing and amount)
  - Did the contract shift a real risk that the enterprise faced?
  - Must involve a reasonable chance of a significant loss to the insurer

# Background - Case Law

- How has the US Tax Court Defined Risk Distribution?
  - Case Law / IRS guidance
    - Le Gierse - Focused on the number of insured parties
    - Humana - Brother-sister captive model
    - Gulf Oil - Stated in dicta that "risk transfer and risk distribution occur only when there are sufficient unrelated risks in the pool for the law of large numbers to operate"
    - Harper – Defined 4-Prong Test
    - Kidde – Relates risk distribution to the law of large numbers
    - Rent-a-Center – More than 64% of risk coming from one subsidiary, but sufficient number of statistically independent risks
    - Securitas – Reinforced the concepts presented in Rent-a-Center, specifically citing the number of employees and insured vehicles
    - Avrahami – Reinsurance was not bona fide insurance

# Background –Case Law (Kidde)

- Kidde discusses risk distribution and the law of large numbers by stating:

- "Risk distribution addresses the risk that over a short period of time claims will vary from the average. Risk distribution occurs when particular risks are combined in a pool with other, independently insured risks. By increasing the total number of independent, randomly occurring risks that a corporation faces (i.e., by placing risks into a larger pool), the corporation benefits from the mathematical concept of the law of large numbers in that the ratio of actual to expected losses tends to approach one. In other words, through risk distribution, insurance companies gain greater confidence that for any particular short-term period, the total amount of claims paid will correlate with the expected cost of those claims and hence correlate with the total amount of premiums collected."

# Background - Case Law (Rent-a-Center and Securitas)

- Rent-a-Center – more than 64% of risk coming from one subsidiary but sufficient number of statistically independent risks
  - 14,000 Employees, 7,100 Vehicles 2,600 Stores

- Securitas
  - "As a result of the large number of employees, offices, vehicles, and services provided by the U.S. and non-U.S. operating subsidiaries, (Securitas) was exposed to a large pool of statistically independent risk exposures."

- Shift to exposures, not corporate structure
  - Exposures must produce claims to distribute risk!
  - It's also an actuarial issue…

# Background – Case Law (Avrahami)

- KEY – Insurance deductions were disallowed:
  - "The absence of risk distribution is enough to sink (the captive)."
  - Because the captive insurance company failed to have risk distribution
  - Because the reinsurance company providing unrelated risk failed to be a bona fide insurance company
- Lots of additional concerns
- Discussion of risk distribution
  - Both sides had experts opine on number of entities necessary – taxpayer failed to meet either standard
  - "We also want to emphasize that it isn't just the *number* of brother-sister entities that one should look at in deciding whether an arrangement is distributing risk. It's even more important to figure out the number of independent *risk exposures*."

# Background

How much risk distribution is enough to qualify as insurance?

> "To be deductible as an insurance premium, a payment must relate to some shifting and pooling of risk … This requirement can be met even if the insurance is within an affiliated group, so it's possible for a captive insurance company ("captive") to distribute risk by insuring only its brother-sister businesses. But the captive must still have a large enough pool of unrelated risks, so the question is whether a risk pool is large enough. It isn't just the number of brother-sister entities that are considered in deciding whether an arrangement is distributing risk. It's even more important to figure out the number of independent risk exposures." RISK-SHIFTING AND RISK-DISTRIBUTION BY CAPTIVE INSURANCE COMPANIES IN AN AFFILIATED GROUP, Fed. Tax Coordinator ¶ L-3521 (2d.)

But, really –

Risk distribution is at its core a statistical and therefore actuarial issue.

# Background - Problem

- Problem: No single, objective way to determine risk distribution
  - Some IRS Guidance – Mostly corporate structure
  - Tax Court Decisions – Sometimes inconsistent findings
  - Subjective in Nature

- An actuarial measure of risk distribution created by an insurance vehicle should focus on:
  - Pool of statistically independent risk exposures
  - The reduction in the variability between expected losses and actual losses as a result of aggregating these risks

# Potential Risk Distribution Measures

- Criteria for Evaluating Metrics and Tests
  - One-sided Tests Preferable (Exclude Speculative Risk)
  - Transparency - Easy to Explain
    - Lawyers, Accountants, Judges, Regulators, Captive Owners
  - Acceptability
    - Actuaries, Accountants, Lawyers, Judges, Regulators
  - Less Open to Manipulation

# Potential Risk Distribution Measures (Cont.)

- Measures considered:
  - Value at Risk (VaR)
  - Tail Value at Risk (TVaR)
    - Rigorous one-sided tests
    - Tests improvement in potential loss at a given percentile through risk distribution
    - Underlying math not easily explained
    - Reliance on loss distribution could lead to manipulation
  - Coefficient of Variation (CV)
    - Easy to explain measure of volatility
    - Reduces as the amount of independent exposures increases
    - More easily manipulated than other tests
    - Reflects all risk – not one-sided
  - Expected Policyholder Deficit (EPD) Ratio
    - One-sided and transparent
    - Focuses on NPV of underwriting loss
    - Reliance on premiums leads to issues

# Solution: Expected Adverse Deviation (EAD)

- EAD represents the average amount of loss that the insurance company incurs in excess of the expected losses or the expected amount of adverse deviation an insurer is exposed to

- Similar to EPD
  - One-sided and transparent
  - No premiums – not as easily manipulated

- Definition:
  - $EAD = E[\max(X - E(X), 0)]$

# More Specifically: EAD Ratio

- Definition:
  - $EAD\ Ratio = \frac{EAD(X)}{E(X)}$
- To test for risk distribution we need to normalize the EAD value by dividing by the expected losses
- This EAD ratio measures how much volatility or risk an insurance company is taking on relative to their expected losses
- The higher the EAD ratio is, the riskier the insurance company is
- As an insurance company diversifies its risk we should expect to see the EAD ratio decrease
- The EAD ratio has a max value of 100% and a minimum value of 0% so it is easier to compare different types of insurance and exposures

# EAD Simple Example

- How much of the adverse loss potential of one risk unit needs to be diversified away by the overall insurance program?
- Consider a trucking insurance product with a 10% chance of a $1M loss per truck
- Expected losses are $100,000 per truck
- BUT 10% of the time the losses are $1M (10 times the expected losses)

- If it insures 100 trucks, is this enough risk distribution?

# EAD Simple Example

- A liability policy with a 90% chance of no loss and a 10% chance of a $1M loss.
  - E(X) = 10% x $1M = $100K.
  - EAD(X) = 10% x ($1M - $100K) = $90K.
  - EAD ratio = $90K / $100K = 90%
- Insurance company writes two policies
  - E(X) = $200K.
  - EAD(X) = $162K.
  - EAD ratio = $162K / $200K = 81%
- Consider Multiple Policies

| Polices | E(X) | EAD(X) | EAD Ratio |
|---|---|---|---|
| 1 | 100,000 | 90,000 | 90.0% |
| 2 | 200,000 | 162,000 | 81.0% |
| 10 | 1,000,000 | 350,600 | 35.1% |
| 50 | 5,000,000 | 827,300 | 16.5% |
| 100 | 10,000,000 | 1,203,100 | 12.0% |
| 1000 | 100,000,000 | 3,785,600 | 3.8% |

# When is a test necessary?

- Current “safe harbors” require no further testing
- Risk distribution is not readily apparent
- Not feasible to have a bright line indicator test that works for all situations
- For situations where EAD Ratio Test fails, further testing and documentation is needed and may still demonstrate risk distribution
- Risk units assessments from auditors and lawyers are valuable parts of an overall approach

# What is the correct threshold?

- Focused on how well an insurance company can reduce their risk through the increase of independent exposures
  - Range: 0% < EAD Ratio < 100%
  - In testing, base exposure EAD ratio usually > 90%
  - Increased exposure to satisfy risk distribution
    - Found EAD ratio typically reduced by 2/3
- Threshold - EAD ratio of 30%

# What is the correct threshold?

| Coverage | Exposure Type | Exposures | Claim Frequency | Expected Claims | Claim Severity | EAD Ratio | EAD Reduction |
|---|---|---|---|---|---|---|---|
| Homeowners | # of Homes | 1 | 3.0% | 0.03 | $12,000 | 96.9% | |
| | | 100 | 3.0% | 3.00 | $12,000 | 48.6% | 49.8% |
| | | 500 | 3.0% | 15.00 | $12,000 | 27.5% | 71.6% |
| | | 1,000 | 3.0% | 30.00 | $12,000 | 20.7% | 78.7% |
| Auto Liability | # of Cars | 1 | 2.0% | 0.02 | $15,000 | 98.2% | |
| | | 100 | 2.0% | 2.00 | $15,000 | 48.0% | 51.1% |
| | | 500 | 2.0% | 10.00 | $15,000 | 25.7% | 73.8% |
| | | 1,000 | 2.0% | 20.00 | $15,000 | 18.7% | 81.0% |
| Workers Compensation | # of Employees | 1 | 3.0% | 0.03 | $13,000 | 97.1% | |
| | | 100 | 3.0% | 3.00 | $13,000 | 52.1% | 46.3% |
| | | 500 | 3.0% | 15.00 | $13,000 | 30.9% | 68.2% |
| | | 1,000 | 3.0% | 30.00 | $13,000 | 23.6% | 75.7% |
| Professional Liability | # of Employees | 1 | 1.0% | 0.01 | $300,000 | 98.9% | |
| | | 100 | 1.0% | 1.00 | $300,000 | 64.0% | 35.3% |
| | | 500 | 1.0% | 5.00 | $300,000 | 33.6% | 66.0% |
| | | 1,000 | 1.0% | 10.00 | $300,000 | 23.6% | 76.1% |

# Homeowners Example Incl. Catastrophe

| Input | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Example 1 - No Reinsurance | | | Example 2 - Reinsurance | | | Example 3 - Reinsurance | | |
| Index | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Coverage | Homeowners | Homeowners | Homeowners | Homeowners | Homeowners | Homeowners | Homeowners | Homeowners | Homeowners |
| Loss Type | Non-Hurricane | Hurricane | Combined | Non-Hurricane | Hurricane | Combined | Non-Hurricane | Hurricane | Combined |
| Exposure | 10,000 | | | 10,000 | | | 10,000 | | |
| Frequency Distribution | Poisson | Discrete * | | Poisson | Discrete * | | Poisson | Discrete * | |
| Frequency | **3.0%** | | | **3.0%** | | | **3.0%** | | |
| Claim Count | 300.00 | | | 300.00 | | | 300.00 | | |
| Severity Distribution | LogNormal | Discrete * | | LogNormal | Discrete * | | LogNormal | Discrete * | |
| Expected Value | 12,000 | | | 12,000 | | | 12,000 | | |
| Standard Deviation | 48,000 | | | 48,000 | | | 48,000 | | |
| Deductible | 0 | | | 0 | | | 0 | | |
| Limit | 500,000 | | | 500,000 | | | 500,000 | | |
| Retention | | | | | 5,000,000 | | | 10,000,000 | |
| Quota Share | | | | **50.0%** | **50.0%** | | **50.0%** | **50.0%** | |
| Simulated Output | | | | | | | | | |
| Frequency | 300.00 | | | | | | | | |
| Standard Deviation | 17.32 | | | | | | | | |
| Limited Mean | 3,464,523 | 1,400,000 | 4,864,523 | 1,732,261 | 150,000 | 1,882,261 | 1,732,261 | 275,000 | 2,007,261 |
| Standard Deviation | 608,631 | 8,752,009 | 8,777,581 | 304,316 | 550,028 | 629,583 | 304,316 | 1,089,492 | 1,132,619 |
| EAD | 241,738 | 1,280,000 | 1,290,629 | 120,869 | 135,000 | 193,855 | 120,869 | 247,500 | 281,341 |
| Standard Deviation | 387,685 | 8,554,935 | 8,559,535 | 193,842 | 513,859 | 526,925 | 193,842 | 1,028,427 | 1,031,273 |
| EAD Ratio | 7.0% | 91.4% | 26.5% | 7.0% | 90.0% | 10.3% | 7.0% | 90.0% | 14.0% |

# Workers' Comp Example

| Coverage | Workers Compensation - Unlimited | | | Workers Compensation - Limited | | | Workers Compensation - Excess | | |
|---|---|---|---|---|---|---|---|---|---|
| Example | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Loss Type | Unlimited | Unlimited | Unlimited | Limited | Limited | Limited | Excess | Excess | Excess |
| Payroll | 25,000,000 | 50,000,000 | 100,000,000 | 25,000,000 | 50,000,000 | 100,000,000 | 25,000,000 | 50,000,000 | 100,000,000 |
| Number of Employees | 500 | 1,000 | 2,000 | 500 | 1,000 | 2,000 | 500 | 1,000 | 2,000 |
| | | | | | | | | | |
| Frequency Distribution | Poisson | Poisson | Poisson | Poisson | Poisson | Poisson | Poisson | Poisson | Poisson |
| Frequency ($100 of payroll) | 0.0060% | 0.0060% | 0.0060% | 0.0060% | 0.0060% | 0.0060% | 0.0060% | 0.0060% | 0.0060% |
| Claim Count | 15.00 | 30.00 | 60.00 | 15.00 | 30.00 | 60.00 | 15.00 | 30.00 | 60.00 |
| | | | | | | | | | |
| Severity Distribution | LogNormal | LogNormal | LogNormal | LogNormal | LogNormal | LogNormal | LogNormal | LogNormal | LogNormal |
| Mean | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 | 13,000 |
| CV | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Standard Deviation | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 |
| | | | | | | | | | |
| Limit | | | | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 |
| | | | | Simulated Output | | | | | |
| Frequency | 15.00 | 30.00 | 60.00 | | | | | | |
| Standard Deviation | 3.87 | 5.48 | 7.75 | | | | | | |
| | | | | | | | | | |
| Limited Mean | 194,883 | 390,376 | 780,406 | 170,464 | 341,702 | 682,648 | 24,419 | 48,674 | 97,758 |
| Standard Deviation | 253,730 | 352,207 | 514,321 | 120,930 | 171,574 | 241,569 | 193,413 | 265,179 | 396,863 |
| | | | | | | | | | |
| EAD | 62,695 | 98,423 | 148,499 | 46,604 | 68,078 | 95,862 | 22,649 | 42,295 | 75,307 |
| Standard Deviation | 231,026 | 309,705 | 441,006 | 89,225 | 118,522 | 159,025 | 190,709 | 258,132 | 379,695 |
| | | | | | | | | | |
| EAD Ratio | 32.2% | 25.2% | 19.0% | 27.3% | 19.9% | 14.0% | 92.8% | 86.9% | 77.0% |

# Captive Example 1

| Input | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | LogNorm | LogNorm | LogNorm | Bernoulli | Bernoulli | Bernoulli | Discrete 1 | Discrete 2 | Total |
| Coverage | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Captive |
| Exposure | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 | |
| Frequency Distribution | Poisson | Poisson | Poisson | Bernoulli | Bernoulli | Bernoulli | Poisson | Poisson | |
| Frequency | 0.00700% | 0.00500% | 0.00250% | 0.00020% | 0.00025% | 0.00050% | 0.00250% | 0.00500% | |
| Claim Counts | 1.40 | 1.00 | 0.50 | 0.04 | 0.05 | 0.10 | 0.50 | 1.00 | 4.59 |
| Severity Distribution | LogNormal | LogNormal | LogNormal | Fixed | Fixed | Fixed | Discrete 1 * | Discrete 2 * | |
| Mean | 100,000 | 90,000 | 100,000 | 1,000,000 | 1,000,000 | 1,000,000 | 79,750 | 132,500 | |
| Standard Deviation | 400,000 | 270,000 | 600,000 | | | | 138,356 | 187,100 | |
| Aggregate | 1,000,000 | 1,000,000 | 1,000,000 | | | | | | |

| (A) Simulated Output - Single Captive | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency | 1.40 | 1.00 | 0.50 | 0.04 | 0.05 | 0.10 | 0.50 | 1.00 | 4.59 |
| Mean | 114,923 | 80,059 | 37,025 | 40,000 | 50,000 | 100,000 | 39,407 | 130,703 | 592,117 |
| EAD | 66,325 | 48,922 | 28,710 | 38,400 | 47,500 | 90,000 | 23,720 | 66,120 | 233,066 |
| EAD Ratio | 57.7% | 61.1% | 77.5% | 96.0% | 95.0% | 90.0% | 60.2% | 50.6% | 39.4% |

| (B) Pooled Captive (Assumes 51.0% of 8 Single Captives) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mean | 465,236 | 327,778 | 153,597 | 163,200 | 204,000 | 408,000 | 161,372 | 538,582 | 2,421,764 |
| EAD | 115,246 | 93,723 | 71,625 | 118,010 | 135,884 | 174,257 | 59,503 | 130,798 | 326,917 |
| EAD Ratio | 24.8% | 28.6% | 46.6% | 72.3% | 66.6% | 42.7% | 36.9% | 24.3% | 13.5% |

| Adjusted Single Captive = [49.0% x (A) + (B) / 8] | |
|---|---|
| Mean | 592,858 |
| EAD | 132,884 |
| EAD Ratio | 22.4% |

# Captive Example 2

| Input | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Coverage | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Captive |
| Exposure | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | |
| | | | | | | | | | |
| Frequency Distribution | Poisson | Poisson | Poisson | Bernoulli | Bernoulli | Bernoulli | Poisson | Poisson | |
| Frequency | 0.05000% | 0.02000% | 0.00250% | 0.00020% | 0.00025% | 0.00050% | 0.00250% | 0.00500% | |
| Claim Counts | 25.00 | 10.00 | 1.25 | 0.10 | 0.13 | 0.25 | 1.25 | 2.50 | 40.48 |
| | | | | | | | | | |
| Severity Distribution | LogNormal | LogNormal | LogNormal | Fixed | Fixed | Fixed | Discrete 1 * | Discrete 2 * | |
| Mean | 10,000 | 15,000 | 100,000 | 1,000,000 | 1,000,000 | 1,000,000 | 79,750 | 132,500 | |
| Standard Deviation | 40,000 | 45,000 | 600,000 | | | | 138,356 | 187,100 | |
| Aggregate | 1,000,000 | 1,000,000 | 1,000,000 | | | | | | |

| (A) Simulated Output - Single Captive | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency | 25.00 | 10.00 | 1.25 | 0.10 | 0.13 | 0.25 | 1.25 | 2.50 | 40.47 |
| Mean | 245,525 | 148,889 | 90,767 | 100,000 | 125,000 | 250,000 | 98,699 | 329,305 | 1,388,185 |
| EAD | 57,278 | 43,654 | 55,980 | 90,000 | 109,375 | 187,500 | 50,637 | 129,497 | 317,645 |
| EAD Ratio | 23.3% | 29.3% | 61.7% | 90.0% | 87.5% | 75.0% | 51.3% | 39.3% | 22.9% |

| (B) Pooled Captive (Assumes 51.0% of 8 Single Captives) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Mean | 1,000,337 | 605,208 | 379,612 | 408,000 | 510,000 | 1,020,000 | 403,225 | 1,351,458 | 5,677,839 |
| EAD | 92,086 | 71,370 | 108,080 | 173,849 | 175,899 | 237,864 | 100,453 | 208,701 | 447,757 |
| EAD Ratio | 9.2% | 11.8% | 28.5% | 42.6% | 34.5% | 23.3% | 24.9% | 15.4% | 7.9% |

| Single Captive - Net of Reinsurance | |
|---|---|
| Mean | 1,389,940 |
| EAD | 182,333 |
| EAD Ratio | 13.1% |

# Additional Considerations

- Counterintuitive Results
- Positive Correlation Between Coverages
- Reinsurance Companies
- EAD ratio depends directly on the number of expected claims
- Evaluating the claims on a present value basis???

# Practical Application of EAD

# A Comprehensive Approach to Risk Distribution

- Deciding Whether a Pure Captive has Sufficient Internal Risk Distribution (or Statistically Independent Risk Units) Involves:

- Captive Owners
- Captive Managers
- Attorneys
- Accountants
- Actuaries
- More recently – Independent Tax Advisors

# How do CPAs Approach Risk Distribution?

- Risk pools – provide between 30% and 80% outside risk
  - Safe harbor – 50%
  - Analysis similar to Avrahami
    - Does the pool look like a “real insurance company?”
    - Risks being insured – insurance risks?
    - Actuary involved in pricing
    - Periodic review of pricing model

- Stand Alone
  - Safe harbor – 12 brother/sister entities – no entity accounts for more than 15% (Rule of 12)

# Stand Alone – Apartment Buildings

- 110 entities purchasing various coverages
- 1,008 apartment buildings
- More than 18,000 individual apartments
- 15.7 million square feet
- Clearly meets Rule of 12
- Should meet *Avrahami*

# Future Trends

## Causes

- More Tax Court Rulings (Reserve, Caylor, Wilson, Syzygy)
- Dynamic State/Domicile Environments (e.g. P.R., Native Amer.)
- Ongoing Scrutiny of Pricing Models & Actuaries
- Ongoing Scrutiny of Reinsurance Pools
- Path Act
- Tax Reform

## Effects

- Flight to Quality/Best Practices
- Shift from Pools to Internal Risk Distribution
- Addition of High Frequency-Low Severity Coverages
  - Medical Stop Loss
  - WC, Property, APD Deductibles
- Ongoing Innovation

# Conclusions

- Risk distribution is essential to establish a transaction as bona fide insurance
- A rigorous actuarial approach is needed as part of a comprehensive assessment of risk distribution
- EAD ratio is a straight–forward, understandable, one-tailed statistic for assessing risk distribution
- We believe a 30% threshold for the EAD ratio demonstrates sufficient risk distribution for most applications
- EAD is being used as part of an approach for large commercial enterprises with captives to demonstrate internal risk distribution