Structured Reinsurance

CAS Seminar on Ratemaking

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Outline
Structured Risk Transactions

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- Brief History of Reinsurance Terminology
- Reinsurance Market Today
- Key Characteristics
- Motivations for Purchase
- Benefits for Customer
- Examples of Transactions
- Accounting and Disclosure of Structured Reinsurance Transactions
- Summary

A Brief History of Reinsurance Terminology

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1980s reinsurance was very expensive and companies wanted alternatives

Hurricane Andrew

SSAP

FASB 113

EITF 93-6

Time & Distance Covers

Financial Reinsurance

1992 / 1993

Finite Reinsurance

9/11

ENRON

Arthur Anderson

Finite Reinsurer Withdrawals

2001 / 2002

- **Reinsurance Solutions**
- **Non-Traditional Reinsurance**
- **Alternative Risk Transfer**
- **Hybrid Coverage**
- **Advanced Solutions**
- **New Solutions**

Reinsurance Market Today

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- 15 years later, Traditional Reinsurance has changed dramatically
  - Unlimited liability is a thing of the past
  - Willingness/ability of reinsurers to pay is a major issue
  - Adverse development from 1997-2001, and low investment returns, keeps reinsurers focused on underwriting discipline
- All reinsurance can be categorized as ‘earnings smoothing’
- Products spread on the risk/reward continuum with concentrations to the middle (i.e. blended products) and few, if any, on the ends

Key Characteristics of Structured Risk

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"In exchange for putting a limit on our liability, we offer our clients the possibility of sharing in the profitability of a contract"

Centre Re, 1989 Annual Report

Motivations for Purchasing Structured Risk

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- Customer motivations for use of structured reinsurance include:
  - Retain portfolio effect rather than destroy embedded value
  - Recognize economics of long-tail lines of business
  - Company experience is much better than average, making reinsurance "too expensive"
  - Company wants to increase writings or take larger retention in favorable underwriting environments
  - Company historic experience is much worse than average, making "reasonably" priced reinsurance unavailable
  - Company wants to exit lines of business
- In all these cases, structured reinsurance gives customers options to purchase protection, often when traditional coverage is unavailable but also to continue to participate in the underlying economics

Key Characteristics of Structured Risk

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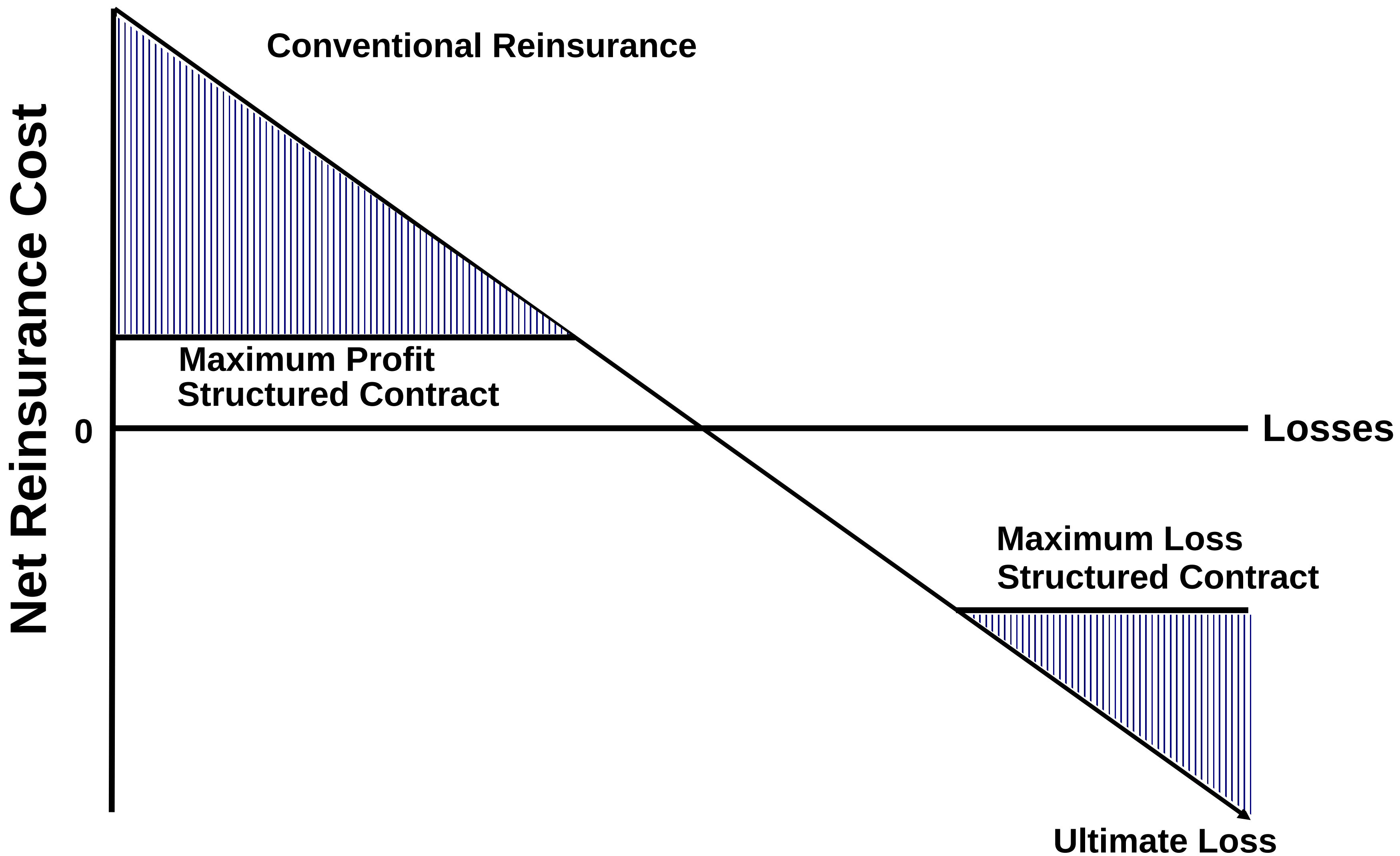
- **Aggregation of Risk**
  - Multiple year and multiple line
  - Allows for more accurate determination of limit to be purchased due to reduced volatility i.e. portfolio effect works for the customer
  - Removes uncertainty from planning process since limit is guaranteed
  - Tailored to customer's business, including "difficult to protect risks"
- **Aggregate Limit of Liability**
  - Allows customer to determine amount of coverage purchased
  - Aggregate limit allows reinsurer to provide more attractive terms to customer and preserves reinsurer's ability to pay
- **Explicit Recognition of the Time Value of Money**
  - Substantial part of overall economics of the transaction
  - With funds withheld, investment income can be generated at a more realistic rate than Reinsurer's risk free (or below) pricing rate
- **Alignment of Interests**
  - Potential for substantial profit sharing in the event of favorable experience
  - Last thing either customer or reinsurer wants is for losses to exceed contractual limit.

Profit / Loss Distribution



The Benefits of Structured Risk Transactions

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- **Structured reinsurance provides a number of benefits to customers**
  - **Cost of reinsurance dictated by customer results, not market price**
  - **Aggregation of risk (multiple year and multiple line) gives customer stable terms and conditions**
  - **Funds withheld structure, where only margin is paid to reinsurer, allows for:**
    - Recognition of reasonable investment returns in the Funds Withheld Account (FWA), resulting in higher loss payment capacity
    - Reduction in unsecured reinsurance recoverable balances
    - Improved cash flow
  - **Potential for profit sharing with favorable experience**
- **Result is stronger balance sheet for customers**

Specific Types of Structured Risk Transactions

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Structured transactions provide cost effective alternatives to traditional covers. Can be either Retrospective or Prospective. Examples include:

- **Adverse Development Cover / Loss Portfolio Transfer**
  - addresses old year liabilities, and permits management to focus on ongoing business. Can include transfer of claims management
- **Structured Quota Share**
  - allows access to traditional pro rata protection while allowing the customer to retain a share of the positive economics
- **Catastrophe Excess**
  - uses multiple years of coverage to reduce reinsurers' risk charge
- **Aggregate Stop Loss**
  - provides whole account protection against both frequency and severity of loss, a.k.a the "Ultimate Cat Cover" for management

Transaction Example 1

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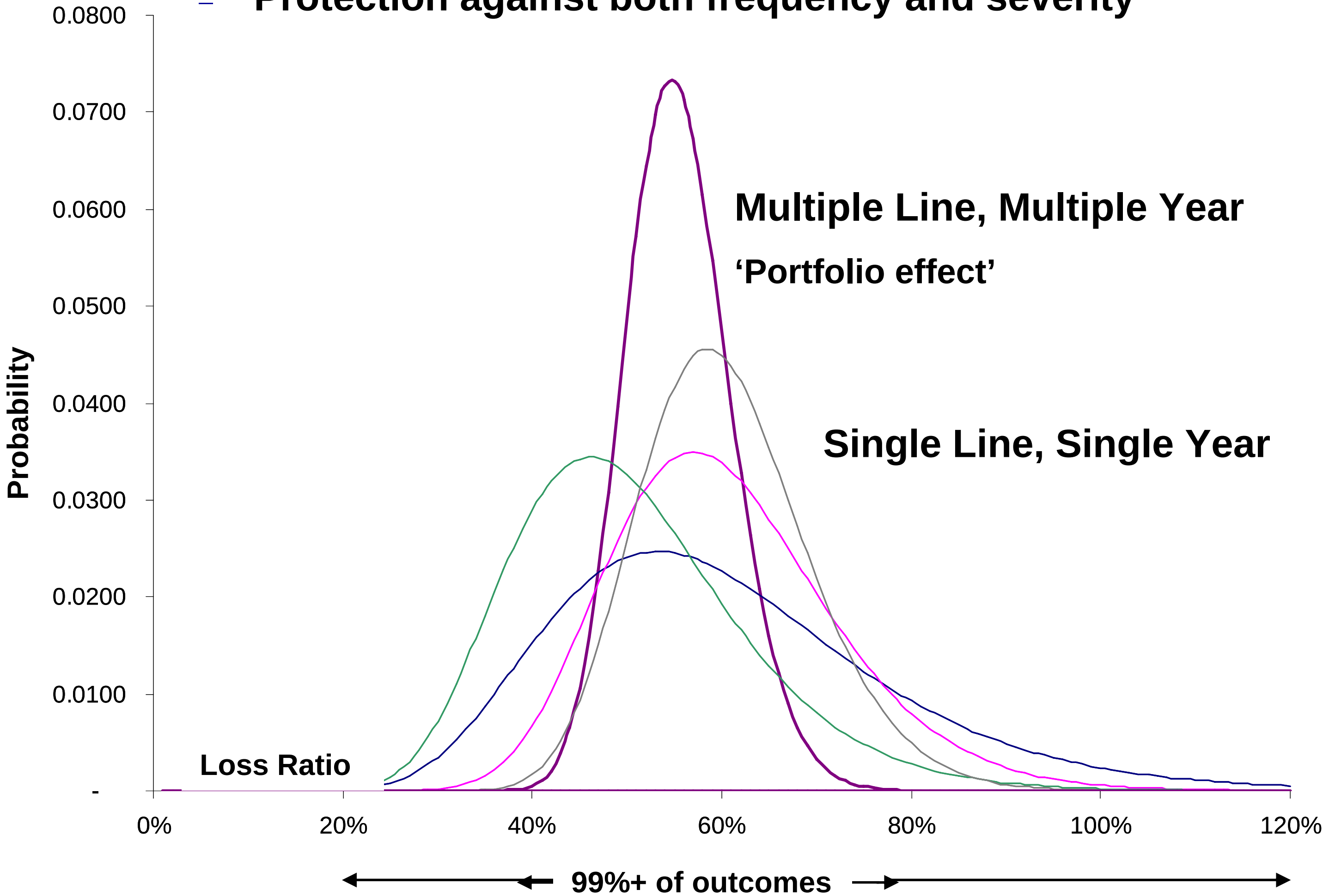
- **Whole Account Aggregate Stop Loss**
  - Multiple line and multiple year
  - Protection against both frequency and severity



Transaction Example 2

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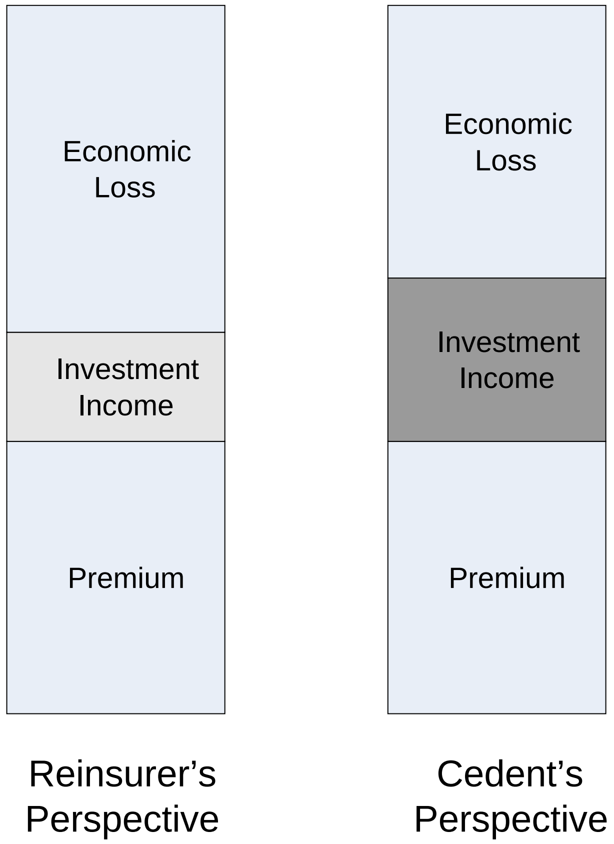
- **Per Risk Casualty Treaty**
  - **Long-tail**
  - **Time value of money very important**
  - **Long-term recoverables**
- **By withholding funds and crediting reasonable yield on those funds the reinsurer's economic downside is reduced**
- **As a result, the reinsurer can offer cedent participation in favorable outcomes**



Profit / Loss Distribution

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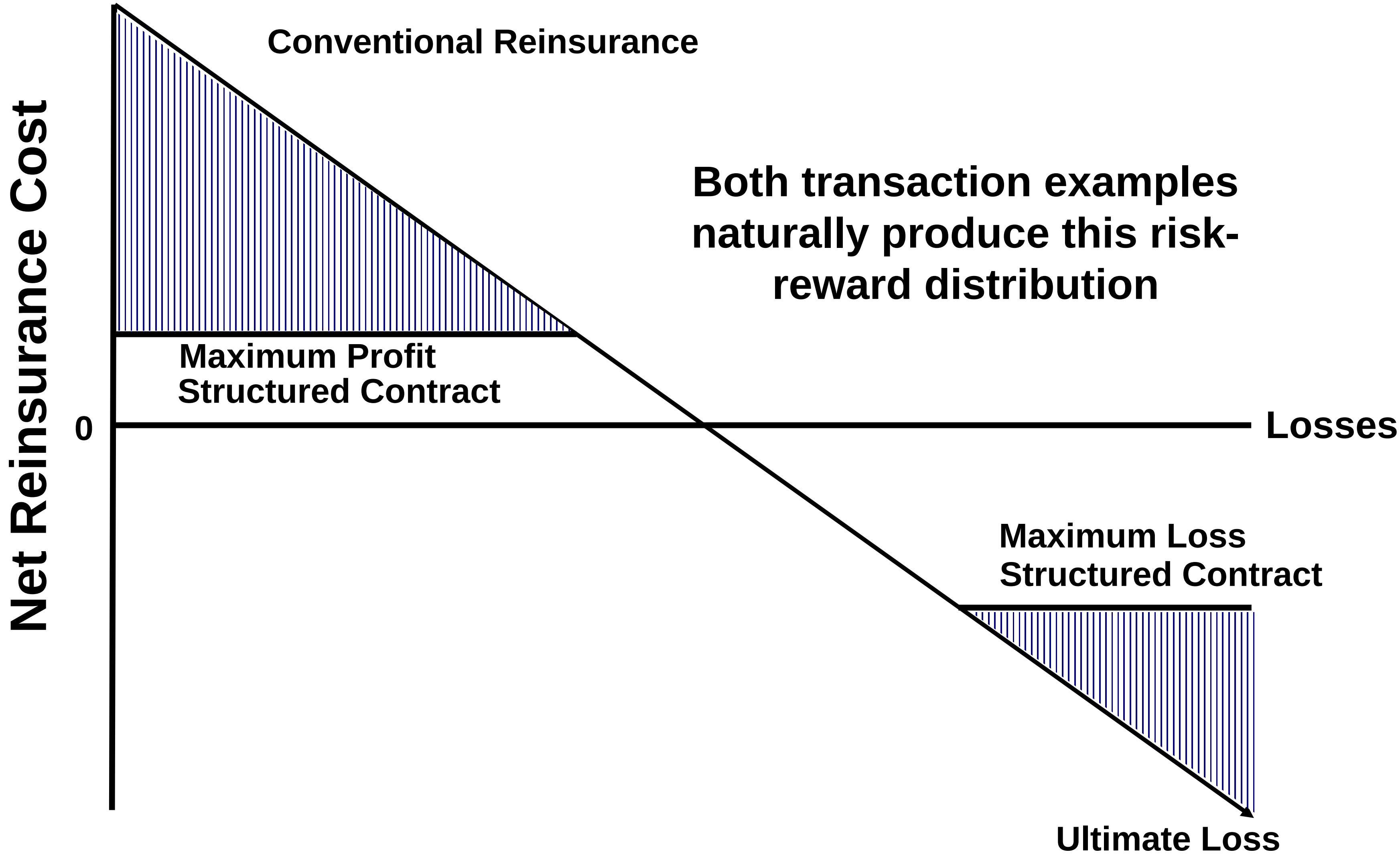

Both transaction examples naturally produce this risk-reward distribution

Risks Contained in Structured Risk Transactions

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- **Although structured contracts are customized to meet the needs of each customer, the reinsurer evaluates a number of potential risks on all transactions:**

  - Underwriting Risk – the "traditional" reinsurance risk that losses may turn out better or worse than expected

  - Timing Risk – potential for claims to be paid faster or slower than expected

- **When evaluating a contract to determine if it qualifies as reinsurance, only underwriting and timing risks are considered**

Risks Contained in Structured Risk Transactions
Continued

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- **Additional risks that need to be evaluated for all reinsurance transactions:**
  - Credit Risk – the possibility that the customer will default their payment obligations
  - Investment Risk – the potential for asset return to differ from the obligation specified in the contract
  - Regulatory / Accounting Risk – the potential for an Insurance Department or auditors to disapprove a transaction
  - Legal Risk – the chance the contract wording will be interpreted by a court in an unintended way
  - Reputational Risk – the risk of being associated with counterparties of questionable character or writing covers with questionable benefits

In order to account for a structured transaction as reinsurance, it must be demonstrated that:

- **The reinsurer assumes significant insurance risk**
  - amount and timing of reinsurer payments directly vary with those of the cedent
  - examination of contract wording
- **The reinsurer has a reasonable probability of a significant loss**
  - measured against present value of cash flows
  - "10-10" rule
  - mathematical / actuarial analysis

Else Deposit Accounted - treated as a loan and no insurance benefits are gained

Risk Transfer Analysis
Simple Example

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Reinsurance	
Type	Property Quota Share
Cede Commission	30%
Loss Cap	90%
Ceded Premium	$100

Loss Parameters	
Expected	60%
Standard Deviation	18%
Distribution	Lognormal

- **10% chance of 83.7% loss ratio**
- **Loss of 13.7%**
  - Premium: 100
  - Loss: (83.7)
  - Cede Commission: (30)
  - Net: (13.7)

In a full analysis the cash flows would be discounted using an appropriate interest rate. This has little impact on short-tail business such as a property book

Parties Involved in Risk Transfer Analysis

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Given the significance of many structured transactions, level of review is high:

- **Customer**
  - Actuarial, underwriting and financial departments
- **Third Party Actuary**
- **Audit Firm, including Actuarial Review**
- **Regulators**
- **Rating Agencies**
- **Analysts**

Role of the Independent Auditor

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- **Auditing firms guided by an extensive body of rules**
- **Review data, actuarial analysis and contract provisions**
- **Final decision is subject to interpretation of all relevant factors (similar to work performed when annually evaluating intangible assets)**

Structured Transactions - Disclosure

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- **Increased oversight from all parties**
- **E.g. A.M. Best specifically requests information on structured reinsurance as part of its rating process**

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(01) QUOTA SHARE Business Covered	(02) Company Participation (%)	(03) Loss Cap ($000) OR	(04) (%)	(05) Reinsurer Participation (%)	(06) Credit/Deficit Carryforward ($000s)
1.	0.0	0	0.0	0.0	0
2.	0.0	0	0.0	0.0	0
3.	0.0	0	0.0	0.0	0
4.	0.0	0	0.0	0.0	0
5.	0.0	0	0.0	0.0	0

34.

(01) FINANCIAL REINSURANCE (Aggregate Stop Loss, Loss Portfolio Transfer, etc) Business Covered	(02) Attachment Point (a)	(03) Loss Ratio or Dollar Limit ($000s) OR	(04) (%)	(05) Separate Catastrophic Limit (if applicable)	(06) Calendar or Accident Year
1.		0	0.0	0	
2.		0	0.0	0	
3.		0	0.0	0	

(a) The attachment point can be a loss ratio, loss reserves as of a certain date, etc.

- **Increasingly, Rating Agencies, Auditors and Regulators will ask to see the contract**

Assuming risk transfer issues are satisfied, then, the issue of accounting for the transaction remains

Structured Transactions and "Smoothing"
EITF 93-6

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- **EITF 93-6; Accounting guidelines for funded multiple-year catastrophe contracts**
  - Introduced in response to Hurricane Andrew's losses being under-reported
  - Reinsurers were accruing additional premiums while cedents were not
- **Requires accrual of liabilities or assets that are due to or from reinsurers that would not have been payable absent experience under the contract**
  - Adjustments to annual premiums or future coverage if there is loss experience under the contract
  - Provision for refund if contract experience is favorable
  - Termination or cancellation penalties
- **The correct application of EITF 93-6 eliminates income statement smoothing benefits**

Simple Example EITF 93-6 Application

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Reinsurance	
Type	Property CAT
Term	3 years
Premium	$50 per year
Coverage	$250 over the term

- **Assume full loss in 1st year**

Without EITF 93-6

	Year 1	Year 2	Year 3
Premium	(50)	(50)	(50)
Loss Recovery	250	0	0
Net	200	(50)	(50)

With EITF 93-6

	Year 1	Year 2	Year 3
Premium	(50)	(50)	(50)
Loss Recovery	250	0	0
Premium Accrual	(100)	50	50
Net	100	0	0

Summary

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- **Structured reinsurance is a valuable alternative/complement to traditional annual coverage**
- **Economic benefits translate to stronger balance sheets and/or lower costs to the original consumers**
- **Important to ensure that the structured reinsurance transaction:**
  - **passes risk transfer**
  - **is accounted for correctly**
- **It is difficult to understand how structured reinsurance can be generalized as "abusive" in light of the multiple level of analysis, reporting and disclosure, <u>except in the case of willful misrepresentation</u>**

Biography

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Lisa Walsh currently works for Benfield as Senior Vice President on the ART Broking Team. In this role she analyzes, structures and places nontraditional reinsurance transactions. For 5 years prior to joining Benfield, Lisa marketed, underwrote and modeled a wide range of structured transactions for London Reinsurance Group in both their Dublin, Ireland and Barbados offices. She started her career with St Paul Companies in St Paul, MN primarily in Medical Malpractice. Lisa is a Fellow of the Casualty Actuarial Society, Member of the American Academy of Actuaries and a Chartered Property and Casualty Underwriter.