

MAKING A TRADITION OF THE NON-TRADITIONAL



DION DURRELL

Actuaries and Consultants

ALTERNATIVE RISK FINANCING SEMINAR

MARCH 29, 2006



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Purpose & Structure

- **PURPOSE:** To identify what risk financing alternatives exist, how to go about examining them and the pros and cons of each.
- **STRUCTURE:** This presentation will be conducted in two parts:
 - ✧ Julie Davies – will review strategies used to examine risk financing alternatives, including the use of actuarial services;
 - ✧ Arlo Hugessen: will review examples where alternative risk financing was put into place, and identify pros and cons of various risk financing alternatives.

Range of Risk Financing Alternatives

IMPACT ON INSURED

Low ← **Control** → High

Fixed ← **Cost** → Variable

Transfer ← **Risk** → Retain

Range of Risk Financing Alternatives

Guaranteed Cost
Insurance

Captive Insurance
Company

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Risk Financing Strategies

1. KNOW YOUR RISK

- Insurance Cost of Risk (Net Premiums, Broker Commissions/Fees)
- Self-Insurance Cost of Risk
- Loss experience details (ground up).
- Coverage/Deductibles/Limits – Review changes that have occurred over time/challenges of hard market.
- Exposure Details (revenues, assets, employees).
- Administrative/Risk Management Costs

Know Your Risk

ABOUT INSURANCE PREMIUMS:

- Premiums are geared, on average, to pay 65% on claims and 35% on administration, brokerage costs, general costs and profit to Insurer.
- If a Company has a better loss history than the industry to which it belongs, but is paying industry rates for its insurance, then it may be paying more in premium than its losses are worth.
- The surplus remains as additional profit with the Insurer, or, serves to subsidize premium for less well risk-managed insureds.

Know Your Risk

5 Year Summary of Insurance Cost of Risk (Property/E&O/D&O)

INSURER(S) / BROKERS	2000 - 2001		2001 - 2002		2002 - 2003		2003 - 2004		2004 - 2005		GRAND TOTAL		
	Broker Income	Net Premium	Broker Income	Net Premium	Broker Income	Net Premium	Broker Income	Net Premium	Broker Income	Net Premium	Broker Income	Net Premium	TOTAL
Unidentified	\$22,998	\$150,541									\$22,998	\$150,541	\$173,539
A.I.G.	\$0	\$0	\$0	\$0	\$0	\$75,000	\$0	\$90,000	\$0	\$126,000	\$0	\$291,000	\$291,000
ARCH (Bermuda)	\$0	\$0	\$0	\$0	\$6,726	\$49,322	\$17,160	\$125,840	\$19,598	\$143,716	\$43,483	\$318,879	\$362,362
ALLIANCE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$645,865	\$0	\$0	\$0	\$645,865	\$645,865
AWAC (Bermuda)	\$0	\$0	\$0	\$0	\$47,343	\$583,899	\$51,600	\$636,400	\$66,229	\$816,826	\$165,172	\$2,037,125	\$2,202,297
ACE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$85,321	\$0	\$85,321	\$85,321
Chubb (UK)	\$11,250	\$150,000	\$0	\$165,634	\$102,637	\$718,458	\$105,566	\$738,959	\$129,983	\$909,880	\$349,435	\$2,682,932	\$3,032,367
Chubb (Toronto)	\$4,950	\$28,050	\$0	\$33,350	\$0	\$90,000	\$0	\$108,000	\$0	\$199,200	\$4,950	\$458,600	\$463,550
Lloyds of London (UK)	\$3,750	\$71,250	\$0	\$275,000	\$0	\$450,000	\$0	\$265,000	\$0	\$0	\$3,750	\$1,061,250	\$1,065,000
Liberty Insurance (UK)	\$11,250	\$101,250	\$0	\$111,000	\$0	\$0	\$0	\$0	\$0	\$0	\$11,250	\$212,250	\$223,500
GE / I.R.I.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$416,370	\$0	\$416,370	\$416,370
Winterthur / XL	\$28,898	\$163,757	\$0	\$462,673	\$0	\$872,209	\$0	\$968,798	\$0	\$624,555	\$28,898	\$3,091,991	\$3,120,889
Elliots Special Risk	\$1,624	\$14,616	\$0	\$17,247	\$0	\$19,818	\$0	\$29,000	\$0	\$27,418	\$1,624	\$108,099	\$109,723
St. Paul	\$7,225	\$40,939			\$0	\$0			\$0	\$0	\$7,225	\$40,939	\$48,164
Gerling Global	\$7,225	\$40,939	\$0	\$92,535	\$0	\$290,736	\$0	\$0	\$0	\$0	\$7,225	\$424,210	\$431,434
Local U.S. Policies					\$0	\$258,100	\$0	\$22,290	\$0	\$24,756	\$0	\$305,146	\$305,146
South American Policies	\$56,678	\$200,182	\$0	\$219,309	\$0	\$426,789	\$0	\$790,454	\$0	\$612,985	\$56,678	\$2,249,719	\$2,306,397
Zurich Insurance Co.	\$86,037	\$499,587	\$0	\$1,345,533	\$0	\$2,756,993	\$0	\$2,939,021	\$0	\$2,650,715	\$86,037	\$10,191,849	\$10,277,887
Broker Fees	Incl above		\$450,000		\$450,000		\$500,000		\$600,000		\$1,550,000	\$0	\$1,550,000
Net Premium & Broker Commission/Fees	\$241,885	\$1,461,111	\$450,000	\$2,722,281	\$606,706	\$6,591,324	\$674,326	\$7,359,627	\$815,810	\$6,637,742	\$2,338,726	\$24,772,086	\$27,110,812
Property Insurance Limit	\$50,000,000		\$50,000,000		\$50,000,000		\$5,000,000		\$5,000,000				
Property Insurance Deductible	\$500,000		\$250,000		\$1,000,000		\$1,000,000		\$1,000,000				
Professional Liability Insurance Limit	\$2,000,000		\$5,000,000		\$1,000,000		\$5,000,000		\$5,000,000				
Professional Liability Insurance Deductible	\$150,000		\$250,000		\$250,000		\$500,000		\$500,000				
Directors & Officers Limit	\$10,000,000		\$10,000,000		\$10,000,000		\$15,000,000		\$15,000,000				
Directors & Officers Corporate Reimbursement Deductible	\$200,000		\$200,000		\$150,000		\$250,000		\$250,000				

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Know Your Risk

AVERAGE ANNUAL
TOTAL SELF-INSURANCE COST OF RISK
(Period: January 2001 to January 2005 (5.0 years))

CATEGORY	Gross Total Claims (Average Annual)	Insurance Recoveries (Average Annual)	TOTAL COST OF RISK (Self-insurance) (Average Annual)
Liability / Crime	\$1,712,304	\$111,111	\$1,601,193
Property	\$381,987	\$152,856	\$229,131
Automobile Liability	\$263,279	\$80,160	\$183,119
Automobile Physical Damage	\$40,150	\$0	\$40,150
GRAND TOTAL :	<u>\$2,397,720</u>	<u>\$344,128</u>	<u>\$2,053,593</u>

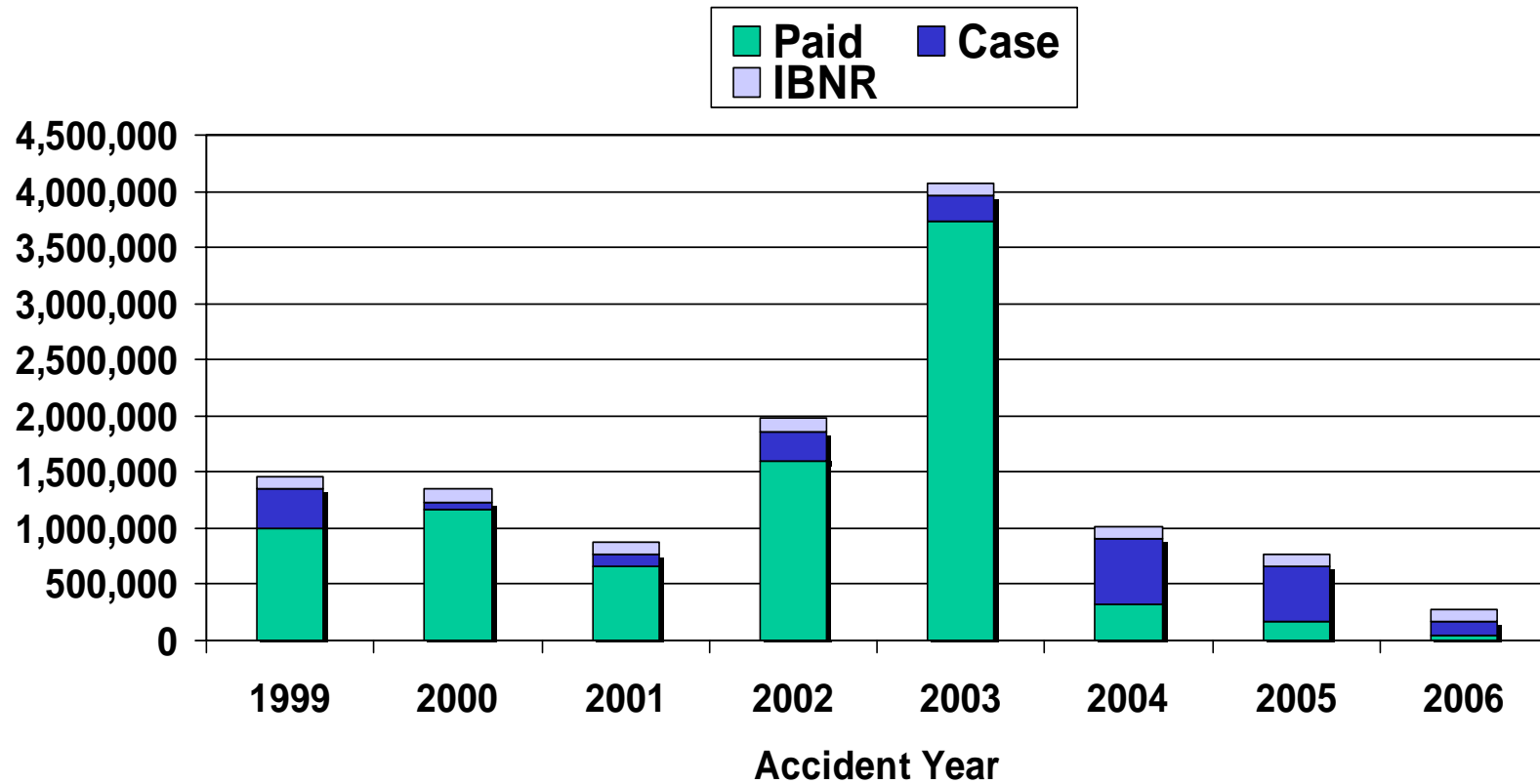
Know Your Risk

Actuarial Analysis of Claims:

- **1. Retrospective Exercise**
 - Use comprehensive claims data
 - Provide for specific reserves (case reserves) and bulk reserves (IBNR)
- **2. Prospective Exercise**
 - Assumption is that the past is predictive of the future
 - Adjust claims data to bring it to a common point in time. Estimate severity and frequency projections separately
 - Match it to predicted exposure base (assets, revenues, vehicles, etc.)
 - **Produce an Aggregate Loss Distribution Model**

Ultimate Incurred Losses - Liability

RETROSPECTIVE

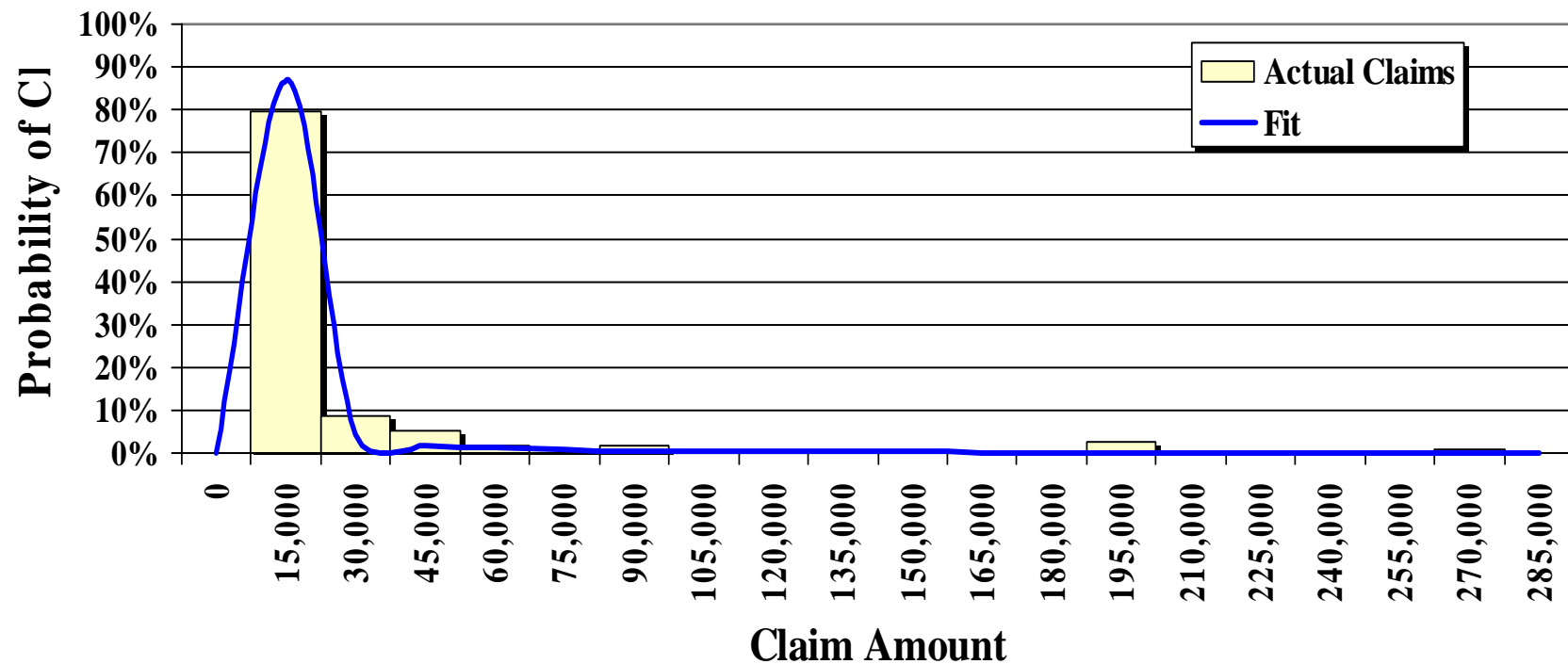


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Individual Claims Severity Distribution

**PROSPECTIVE
(FUTURE)**

Liability



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Total Expected Annual Average Losses

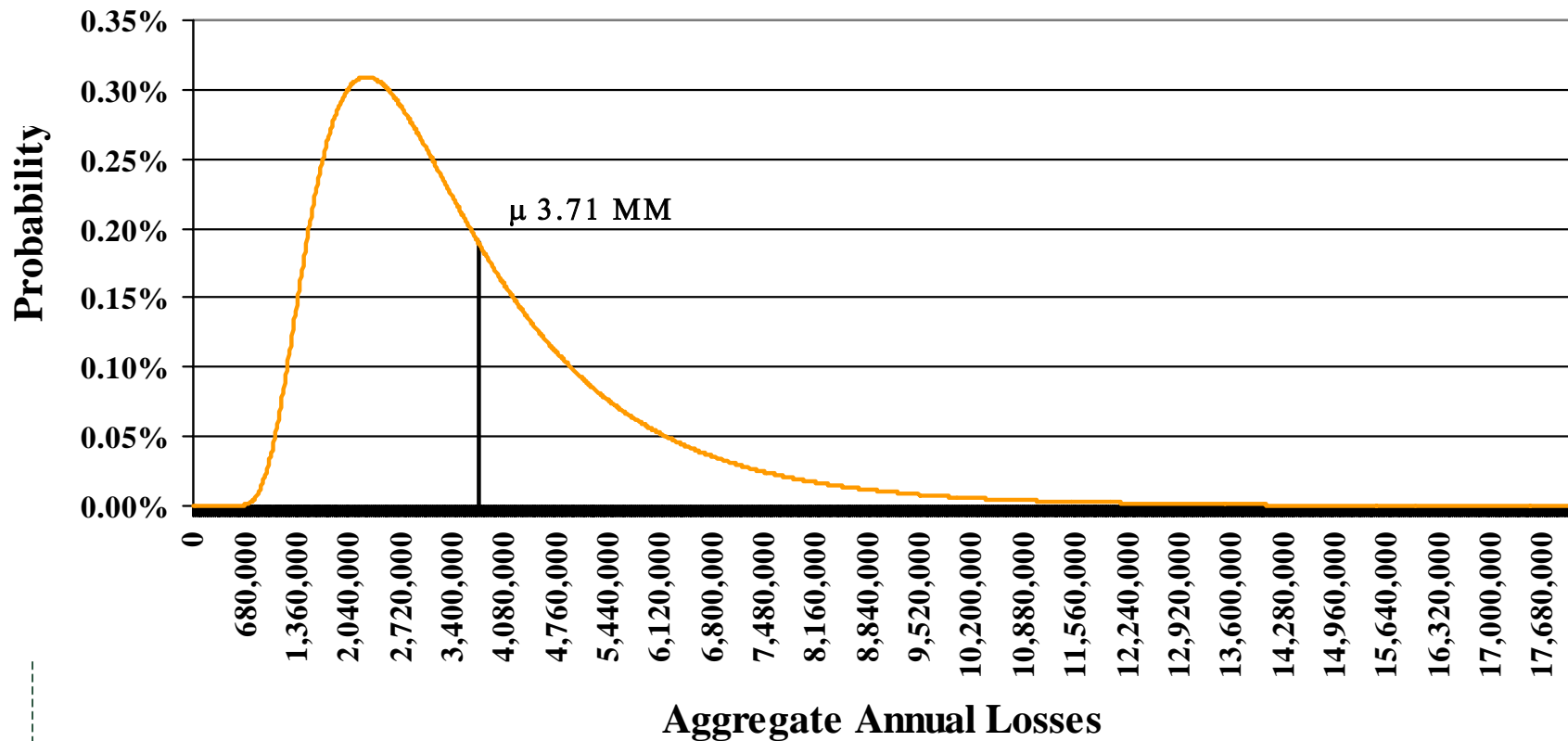
PROSPECTIVE (FUTURE)

Coverage	Expected Individual Claim Size	Expected Number of Claims	Annual Expected Aggregate Losses
Liability	25,021 ×	122.1 =	3,055,092
Automobile	3,247.44 ×	100.0 =	324,744
Property	3,371.45 ×	100.0 =	337,145

EXPECTED AVERAGE ANNUAL AGGREGATE LOSS: \$3,716,981

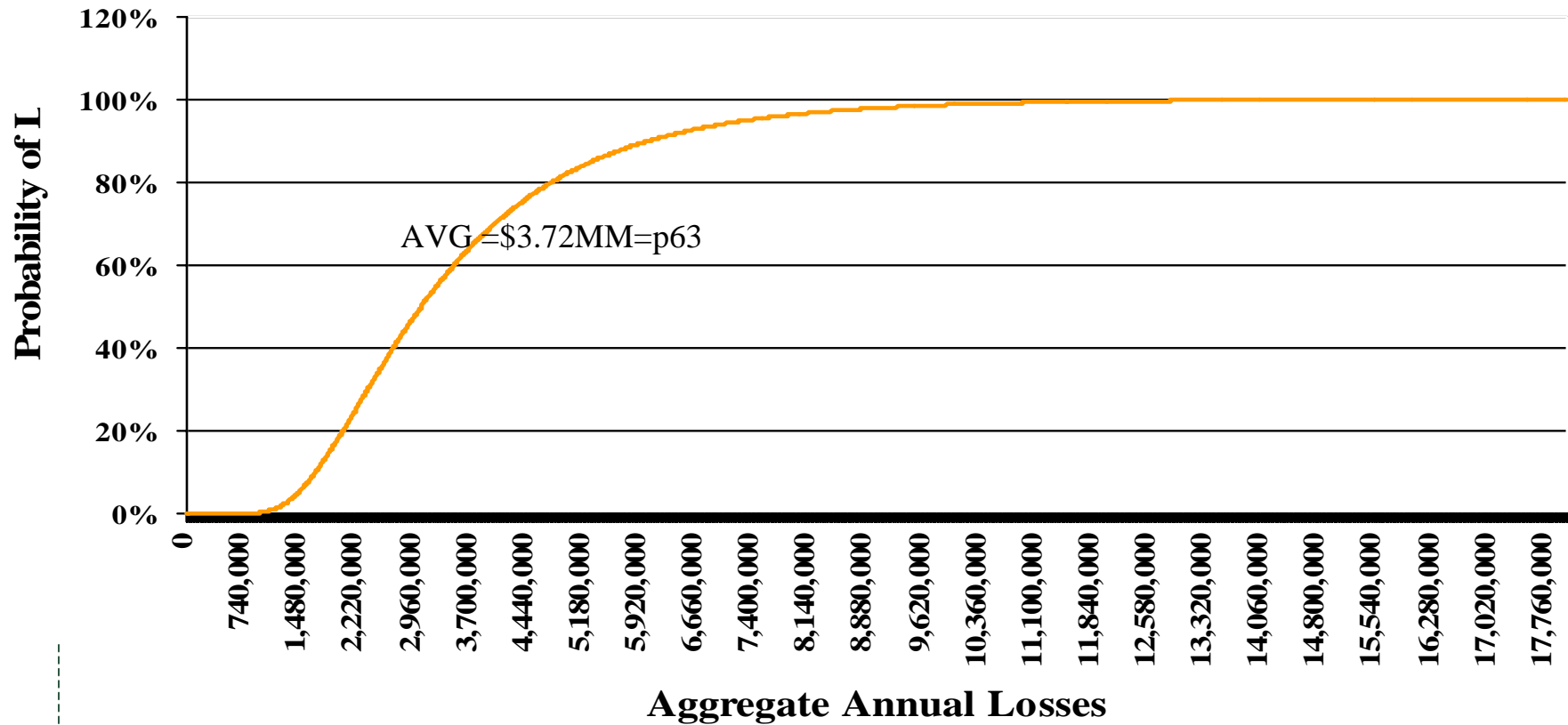
Expected Annual Aggregate Losses

AFTER CONVOLUTION OF AVERAGE ANNUAL LOSSES



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Probability of Loss - Aggregate Loss Distribution



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Risk Financing Strategies

USE KNOWLEDGE OF YOUR RISK TO:

- **Build (DIRECT) strategic relationships with markets.**
- **Develop Coverage scope and specifications**
- **Use actuarial analysis for positioning and pricing of risk transfer layers.**
- **Structure program and coverage to suit your business needs.**
- **Build a program that emphasizes risk management (take higher retentions, consider quota-sharing).**
- **Purchase Excess of Loss and/or Stop-Loss Insurance protection**
- **Use a structure that improves cash flow, investment income, and profit sharing**
- **Reduce friction costs as much as possible**
- **Review structures to optimize tax and other accounting benefits (International Corporations).**

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PART II



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Range of Risk Financing Solutions

Guaranteed Cost Insurance
Transfer 100% of the risk
Premium fixed every year

Risk Financing Alternatives

Range of Risk Financing Solutions

Guaranteed Cost Insurance
Transfer 100% of the risk
Premium fixed every year

Risk Financing Alternatives

Group Purchasing Plan
Transfer 100% of the risk
Premium discounted

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Guarantee Cost Insurance & Group Purchasing

PROS

- Risk financing costs are very predictable in the short run
- Low entity administration
- The entity is not subject to retrospective adjustments for past experience which is worse than expected
- Economy of Scale efficiency

CONS

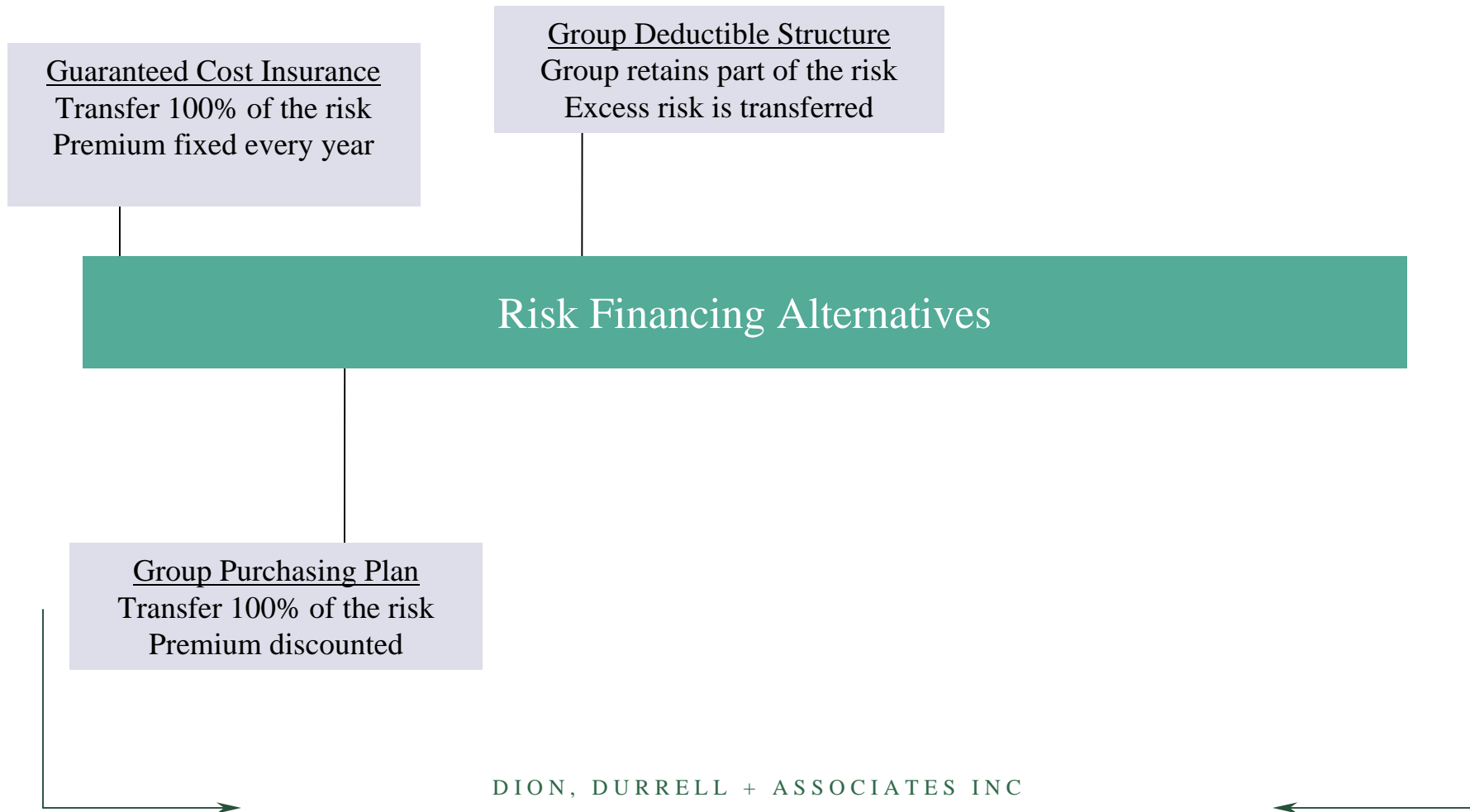
- Subject to vagaries of insurance market – currently insurers are overpricing the product by a significant amount
- Friction costs (broker commissions, insurer expenses) can be significant

Guaranteed Cost Insurance & Group Purchasing

EXAMPLE

- 5,000 Member Pharmacists Association
- Risk Transfer Market – Very Efficient
- Large spread of risk yields competitive pricing
- Continued monitoring of current program with possibilities to move the group up the Risk Financing continuum

Range of Risk Financing Solutions



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Group Deductible Structure

PROS

- Can be more cost-effective if the aggregate retained risk is less than the credit for the group deductible
- Less administration if Master/Integrated risk policy is utilized
- Increased control of claims handling: control destiny
- Commoditized (re)insurance costs

CONS

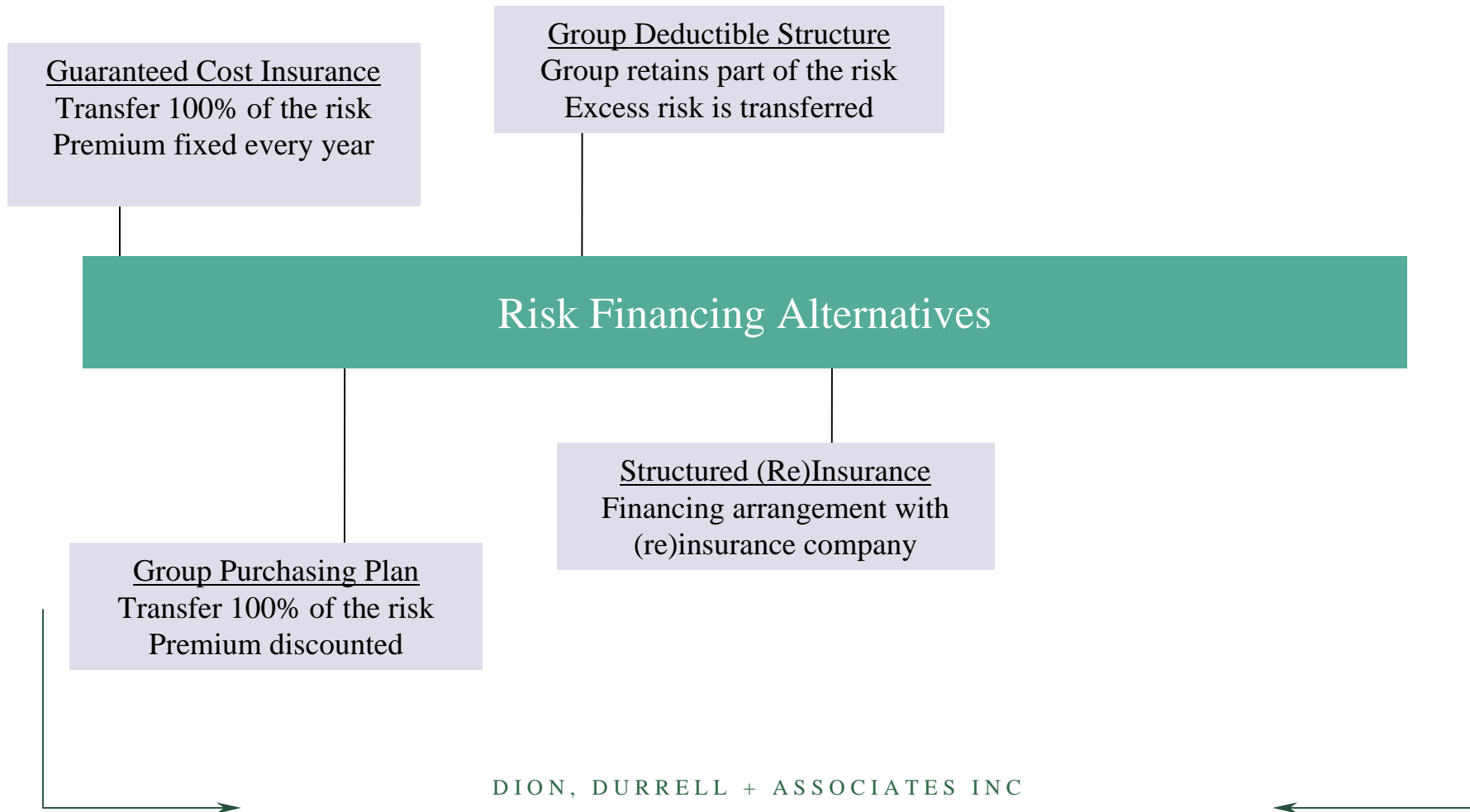
- Similar to Guaranteed Cost, the excess and stop-loss protection would still be subject to vagaries of insurance market and friction costs (broker commissions, insurer expenses) can be significant
- There is a risk that the retained risk is greater than the credit for the deductible

Group Deductible Structure

EXAMPLE

- 8 Ontario Municipalities
- Shares funding of a 500K deductible (Pool)
- 1 Integrated Risk Policy – replacing 110 separate policies
- Access to less expensive more commoditized risk transfer products including reinsurance
- Significant control of claims, insurance and risk management program at large

Range of Risk Financing Solutions



Structured (Re)Insurance

PROS

- **Not dependent on insurance capacity**
- **Difficult risks can be insured by this method**
- **Licensed Paper where insurance is required**

CONS

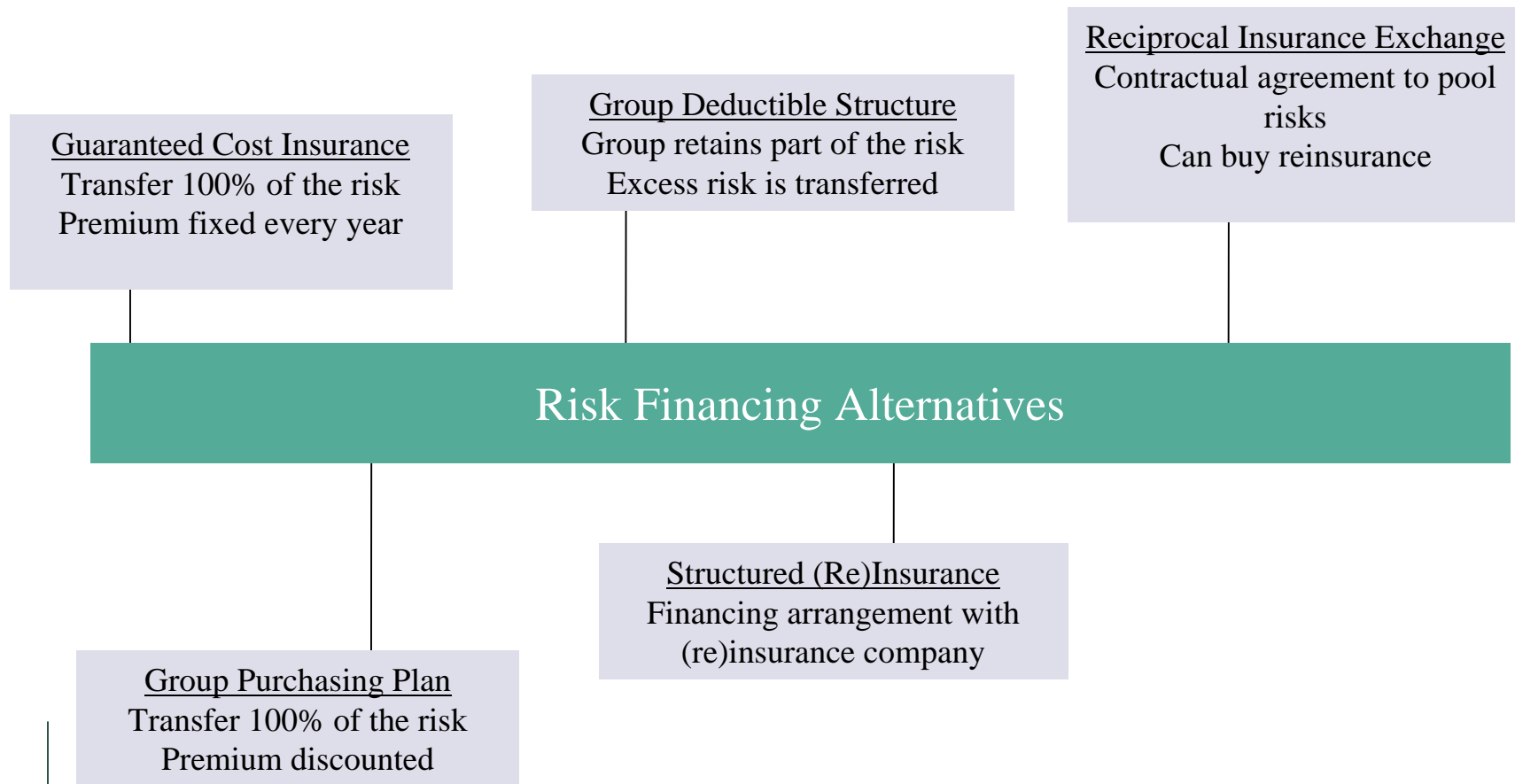
- **Friction cost could be expensive**
- **Long term, the insured would retain 100% of the risk; exposure to the insured could be significant**

Structured (Re)Insurance

EXAMPLE

- Internet Pharmacies – Errors and Omissions
- Canadian Insurers unwilling to insure
- Various specialized companies provide fully funded financial arrangement in exchange for insurance paper – certificates
- Multi-year arrangement (PLUS), significant management fees (MINUS)

Range of Risk Financing Solutions



Reciprocal Insurance Exchange

PROS

- Formal insurance structure (regulated)
- Offers flexibility and stability in the long term
- Ability to assess members in the event funds are insufficient
- May not be taxable
- Direct access to reinsurance market

CONS

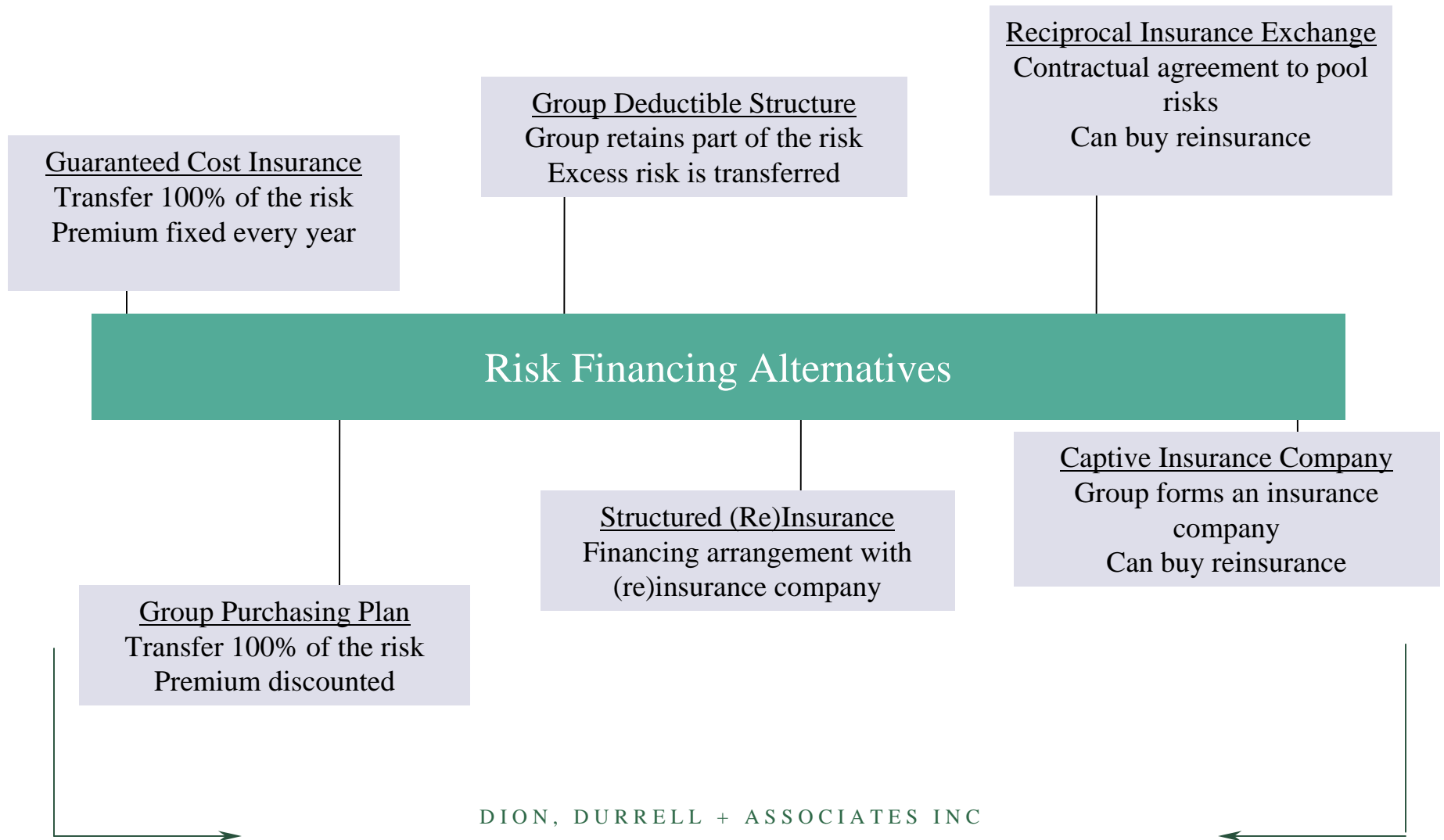
- Usually requires large group of homogenous risk – not suitable for “single parent” risks
- Requires time and capital investment with respect to meeting regulatory guidelines
- Can be punitive should a subscriber wish to leave

Reciprocal Insurance Exchange

EXAMPLE

- 90 Municipal Utilities (LDCs)
- Assumed first \$5MM of each and every Liability claim
- Direct access to reinsurance markets
- \$15MM + in surplus
- Significant growth potential

Range of Risk Financing Solutions



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Captive Insurance Company

PROS

- Same as reciprocal except no assessment feature – would have to rely on capital and surplus to pay for claims
- Potential tax advantages
- Ability to insure uninsurable risks
- Direct access to reinsurers

CONS

- Need to capitalize the company
- Policy paper may not be acceptable to certificate holders
- No Assessment feature
- Taxable entity
- Captive insurance policy may not be reinsurable

Captive Insurance Company

EXAMPLE

- Large US Health System
- Difficult risk class (HPL & Physicians)
- \$1MM/\$5MM of retained risk
- Tailor made policy (uninsurable exposures)
- Direct access to reinsurance market
- Tax advantages
- Surplus capital accumulation

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