



Willis

The Risk Finance Decision-Making Process: An Analytical Approach and Case Study

The Willis Webcast Series

June 22, 2006

- Three critical measurements for any risk
- The true cost of risk
- Overcoming scarcity of historical or benchmarking data
- Using analytics in market negotiations
- Measuring the “value” of a risk financing structure

Risk Managers dealing with:

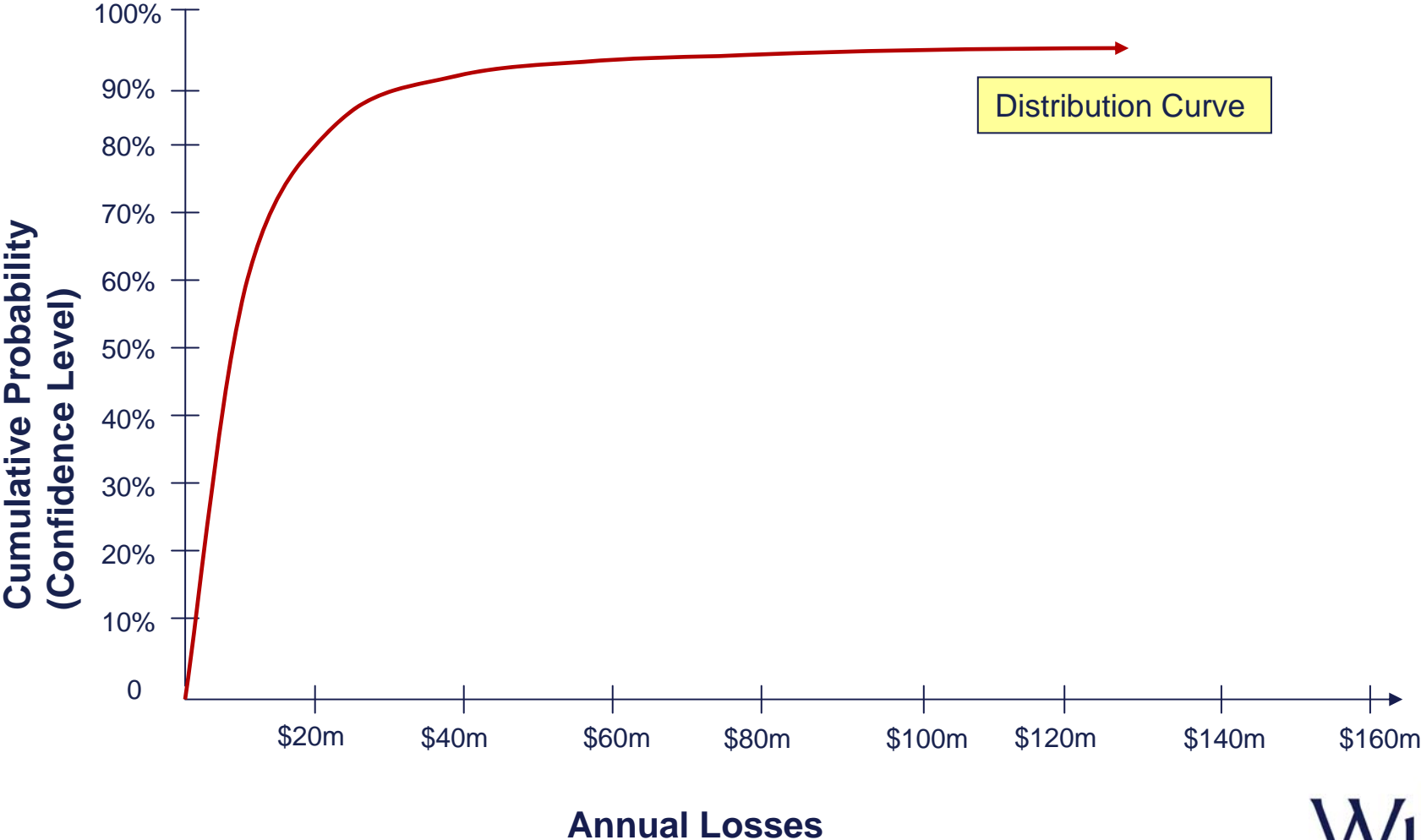
- **higher volatility exposures** (particularly low frequency / high severity risks)
- **significant organizational change** (acquisition, divestiture, diversification, international growth)
- **substantial redesign** of existing programs
- **recent appointment to their position** and insurance programs



Entering possible eye glazing zone



Distribution Curve (Uninsured Risk)



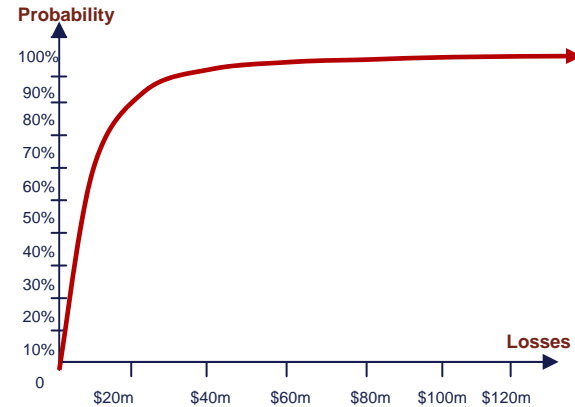
Distribution Curve



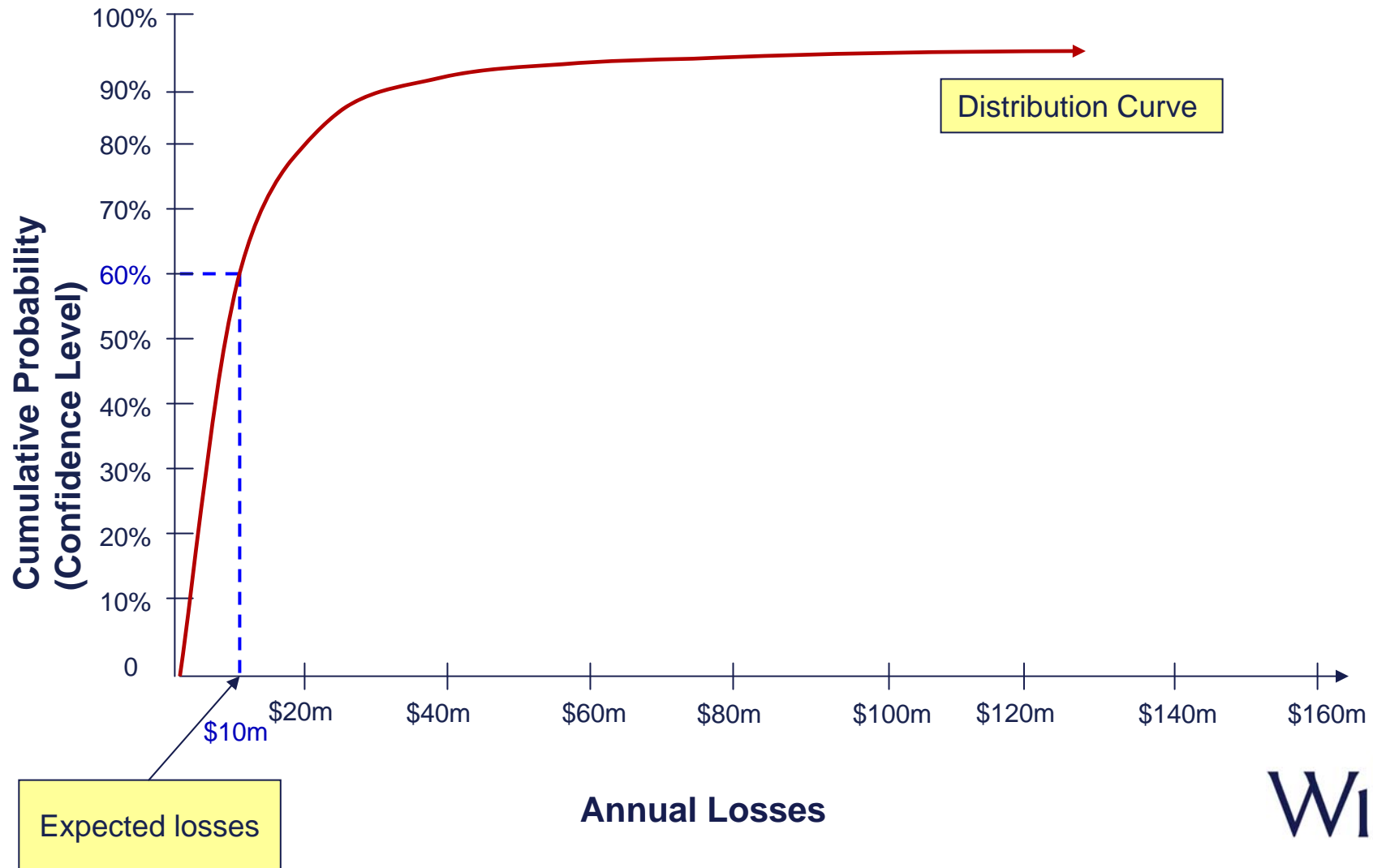
Expert Elicitation Process



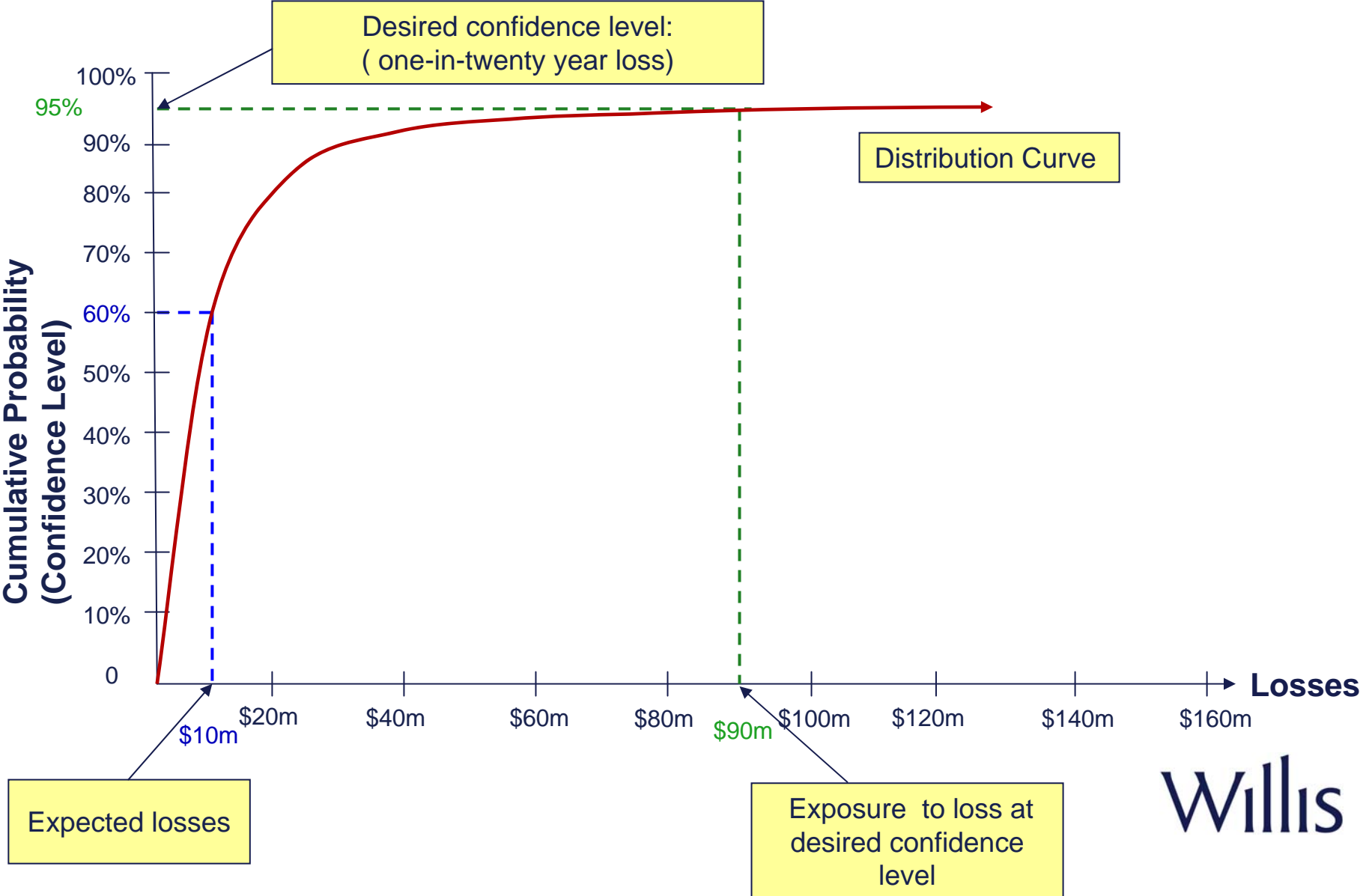
XYZ Company Risk Register					
Malicious Product Tampering, Accidental Contamination, Mislabeling					
Risk	Risk Description	Risk Type	Impact range	Probability of Occurrence	Brand, Mkt Share, Consumer Confidence impact
1	Disgruntled employee puts a known allergen (peanuts) in a package not labeled for peanuts on the manufacturing line. Consumer injury, legal liability, recall, regulatory action, media, damage to brand equity and reputation. PLC:Manufacturing	MPT	\$10M - \$25M	1-15	C
2	Terrorist infiltrates sealed product, with a harmful substance (gas form?), in the distribution flow or in the retail store, and product gets to consumer. PLC:Distribution, Warehousing, Retail	MPT	Greater than \$50M	1-50	V
3	Employee or third party puts a foreign object in product - e.g. sharp splinter or bug, either in the manufacturing process or during distribution or at the retail store.	MPT	\$5M - \$10M	1-20	M



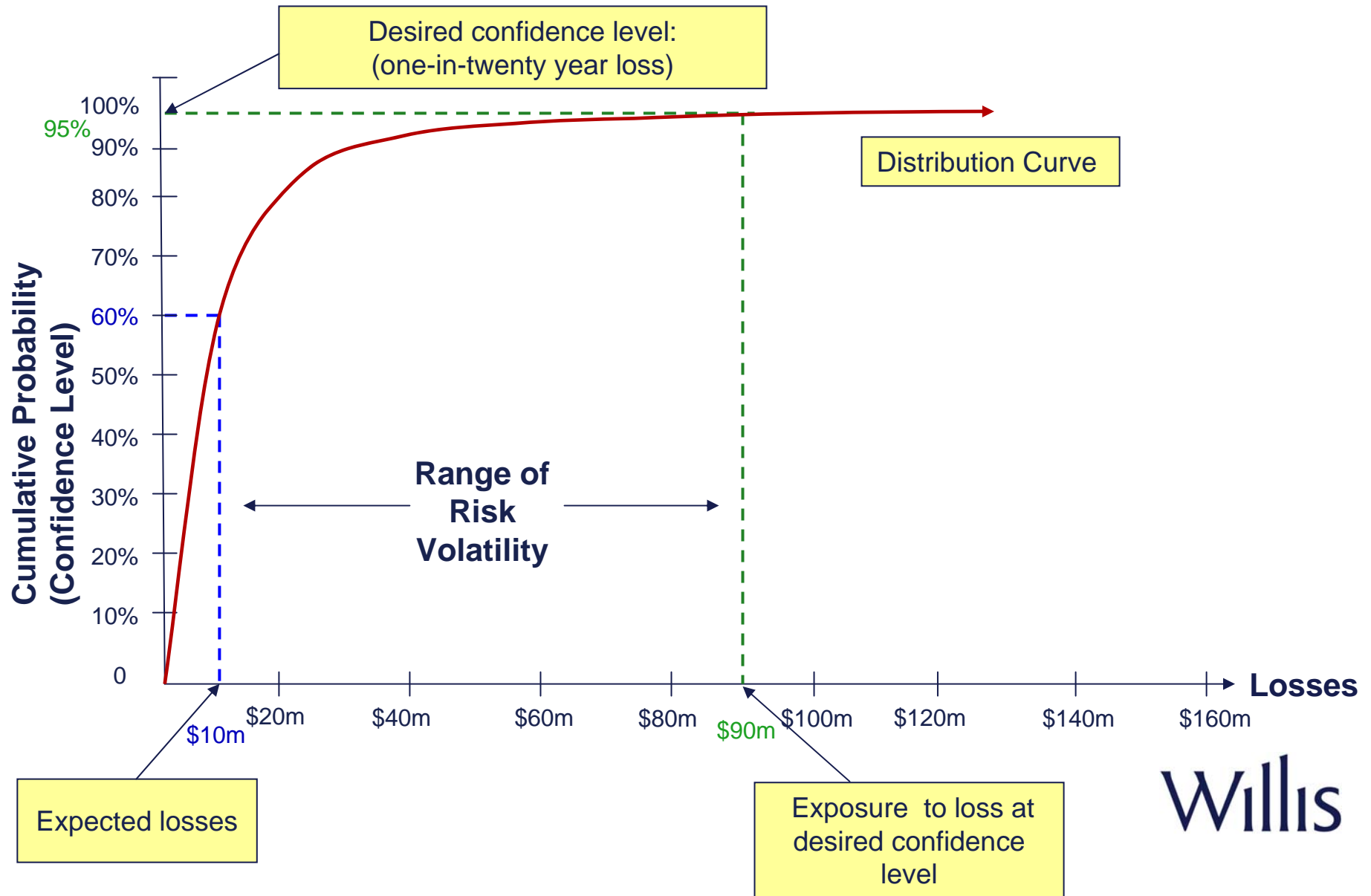
Expected Loss Costs



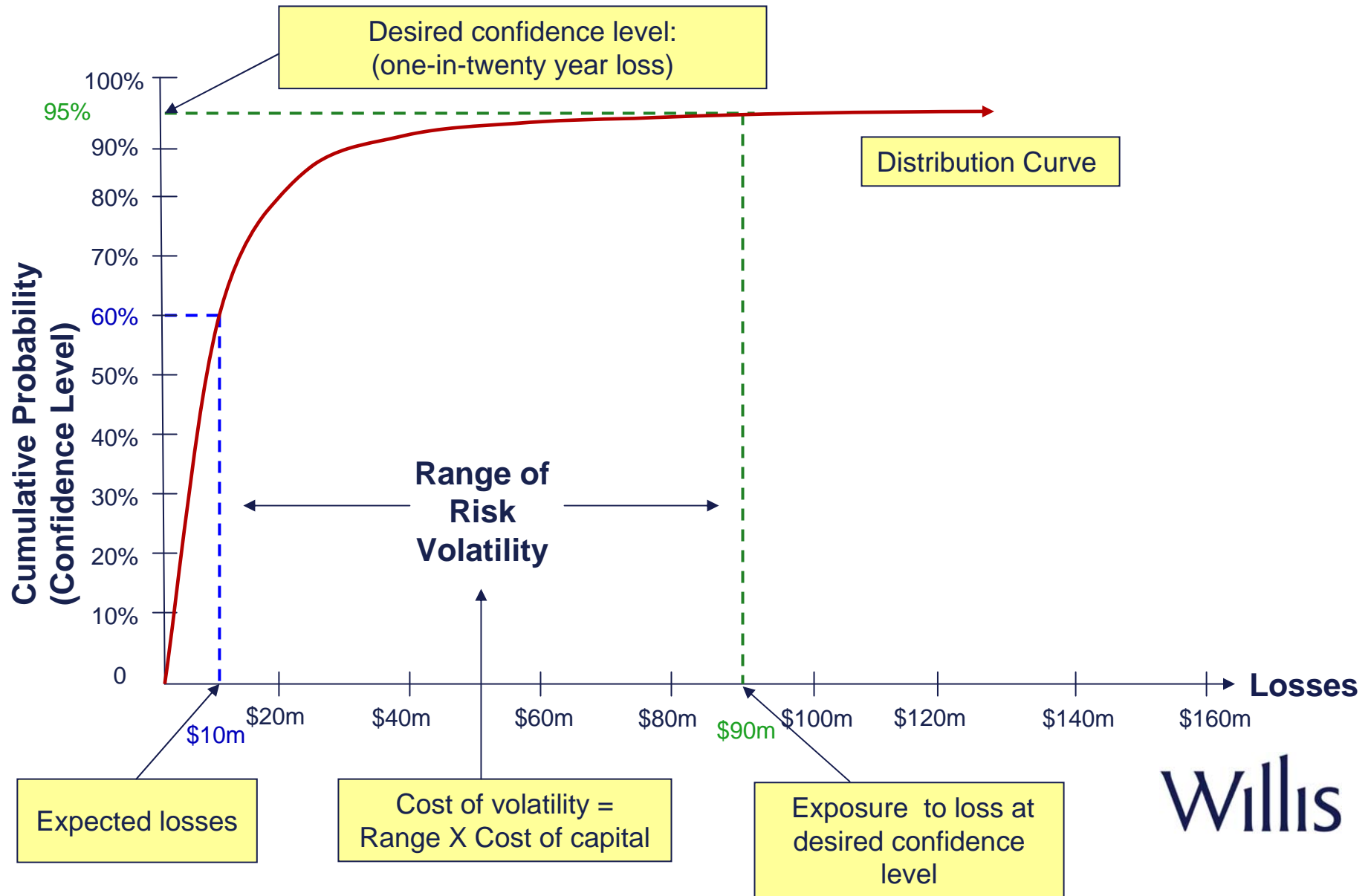
Large Loss (Risk Appetite)



Measuring Volatility

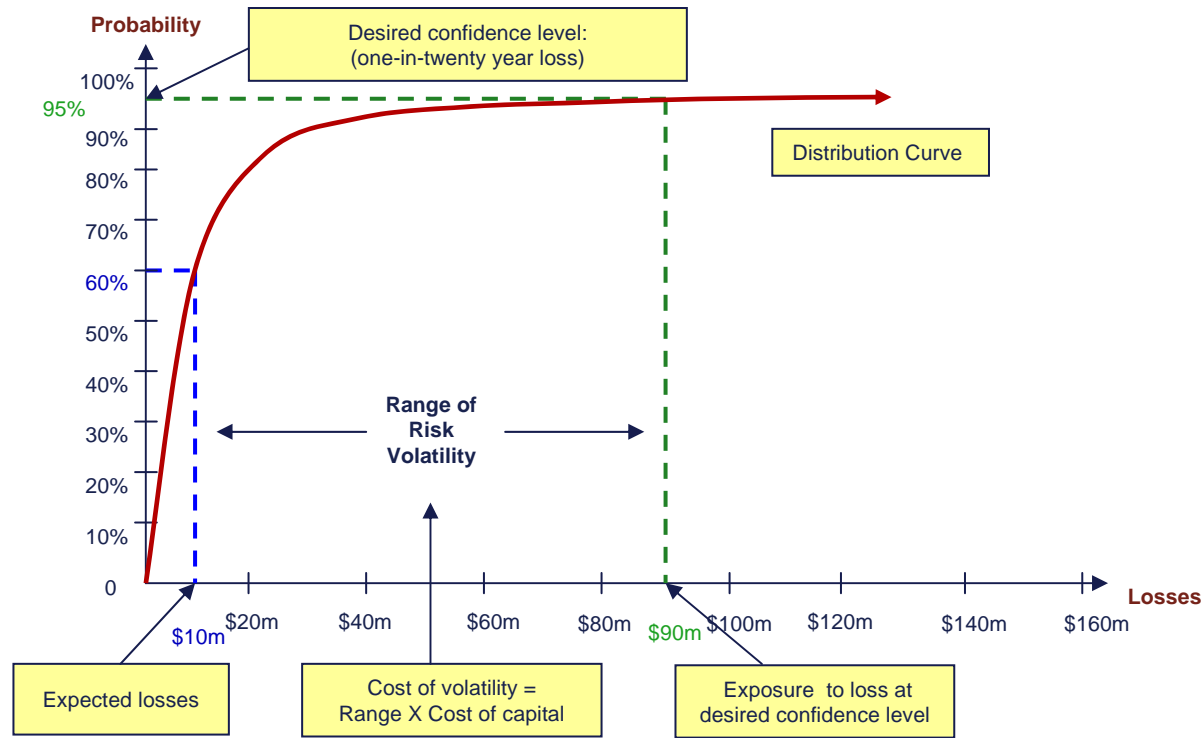


The Cost of Volatility



The True Cost of Risk Equals:

**Expected Loss +
Cost of Volatility +
Premium**



NOTE: Other factors such as expenses, present values and tax treatments omitted here to simplify the presentation.

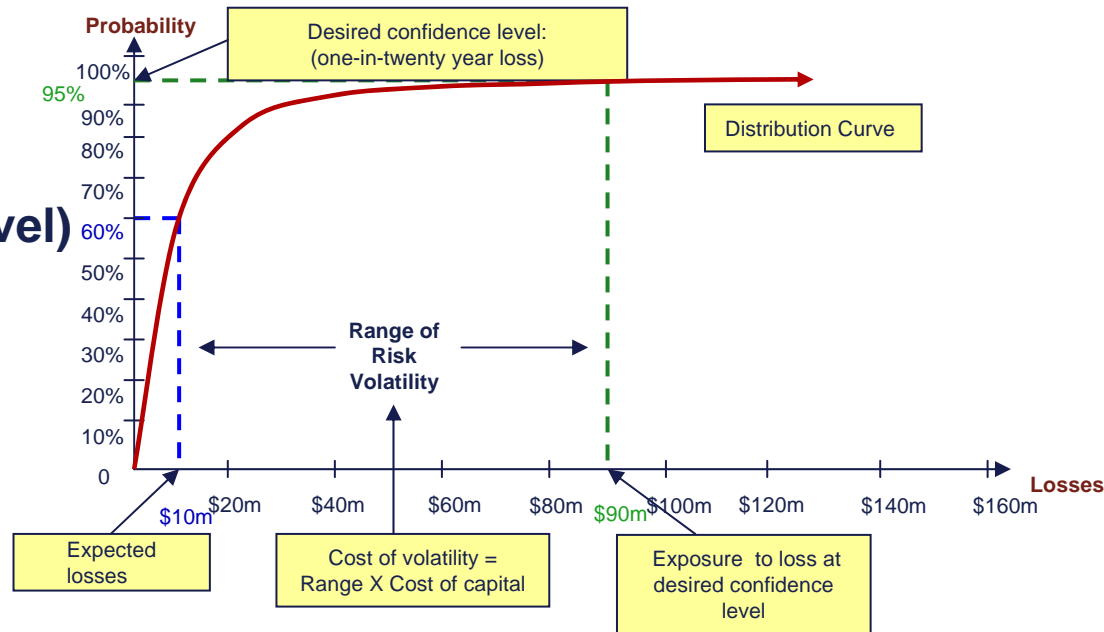


To determine this, you need:

1. Loss distribution

2. Risk appetite (Confidence level)

3. Cost of capital



With this information you can:

- Measure the “value” of an insurance program
- Objectively support risk financing decisions
- Improve your market negotiating position

Background

- Global
- \$5bn US sales
- Makes industrial components
- Investment grade – can consider wide range of retained risk
- Acquiring “Safety Corp.”
– a manufacturer of safety-critical auto parts

Issues

- XYZ Inc. has enjoyed favorable Products Liability experience and pricing in the past
- Safety Corp. has had losses and is in a very tough PL class
- Limited relevant benchmark data on limits and pricing
- New CFO

Risk Financing Decision – Consolidated Product Liability Renewal

	<u>Limit</u>	<u>Excess of</u>
XYZ's Pre-acquisition Program structure.	\$50mm	\$5mm
Safety Corp.'s Program Structure	\$125mm	\$10mm

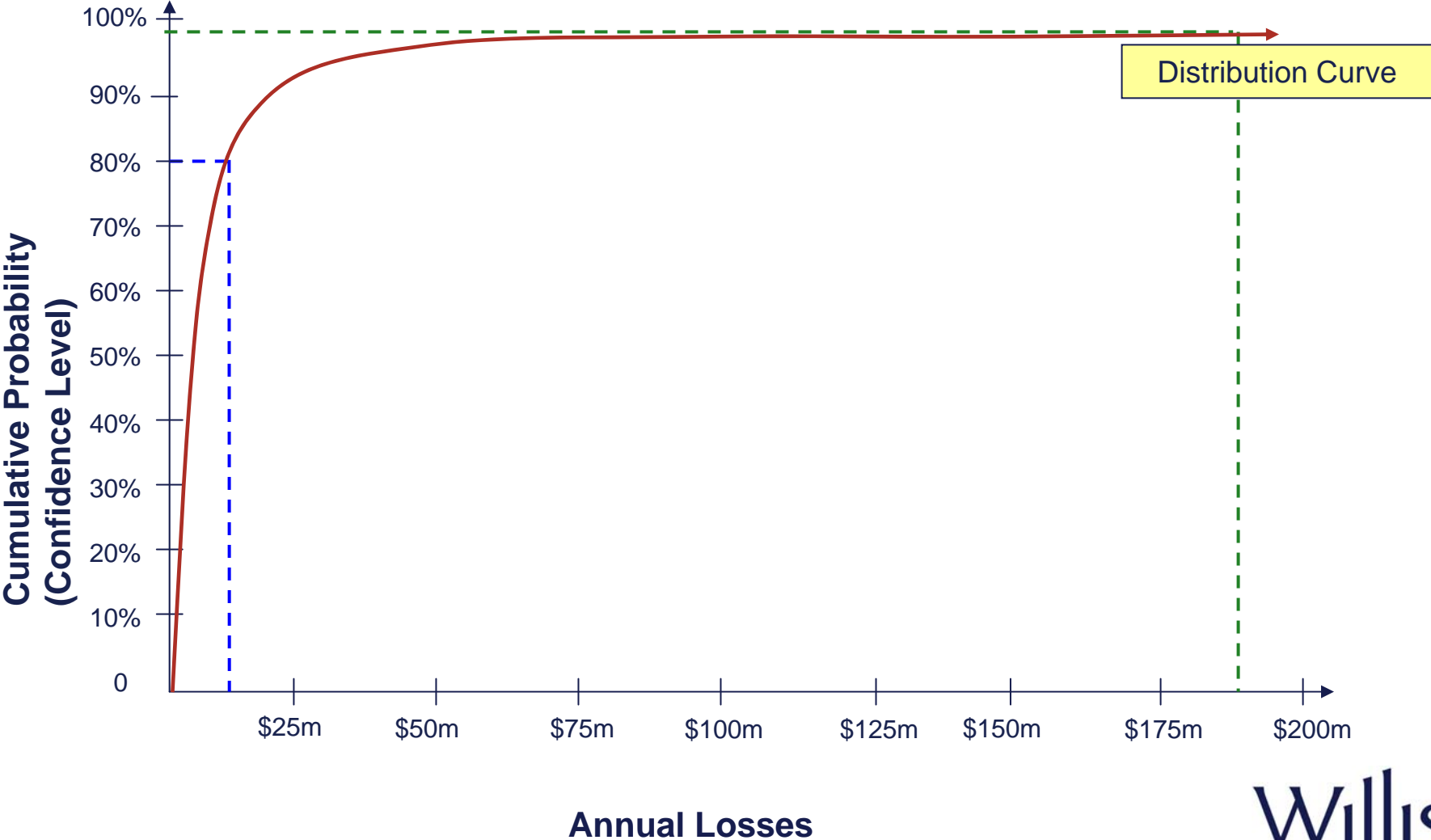
Initial Indication: \$13.5m Premium for
\$125m Limit excess \$10m

- ✓ How can XYZ negotiate a better price?
- ✓ What is the optimal program structure for XYZ?

STEPS

1. Determine the loss distribution for XYZ's Product Liability risk
2. Technical premium determination & negotiation
3. Measure the value of each program structure by calculating how effectively each structure reduces the true cost of risk

Step 1. Quantifying the Uninsured Risk



Calculating XYZ's Technical Premium

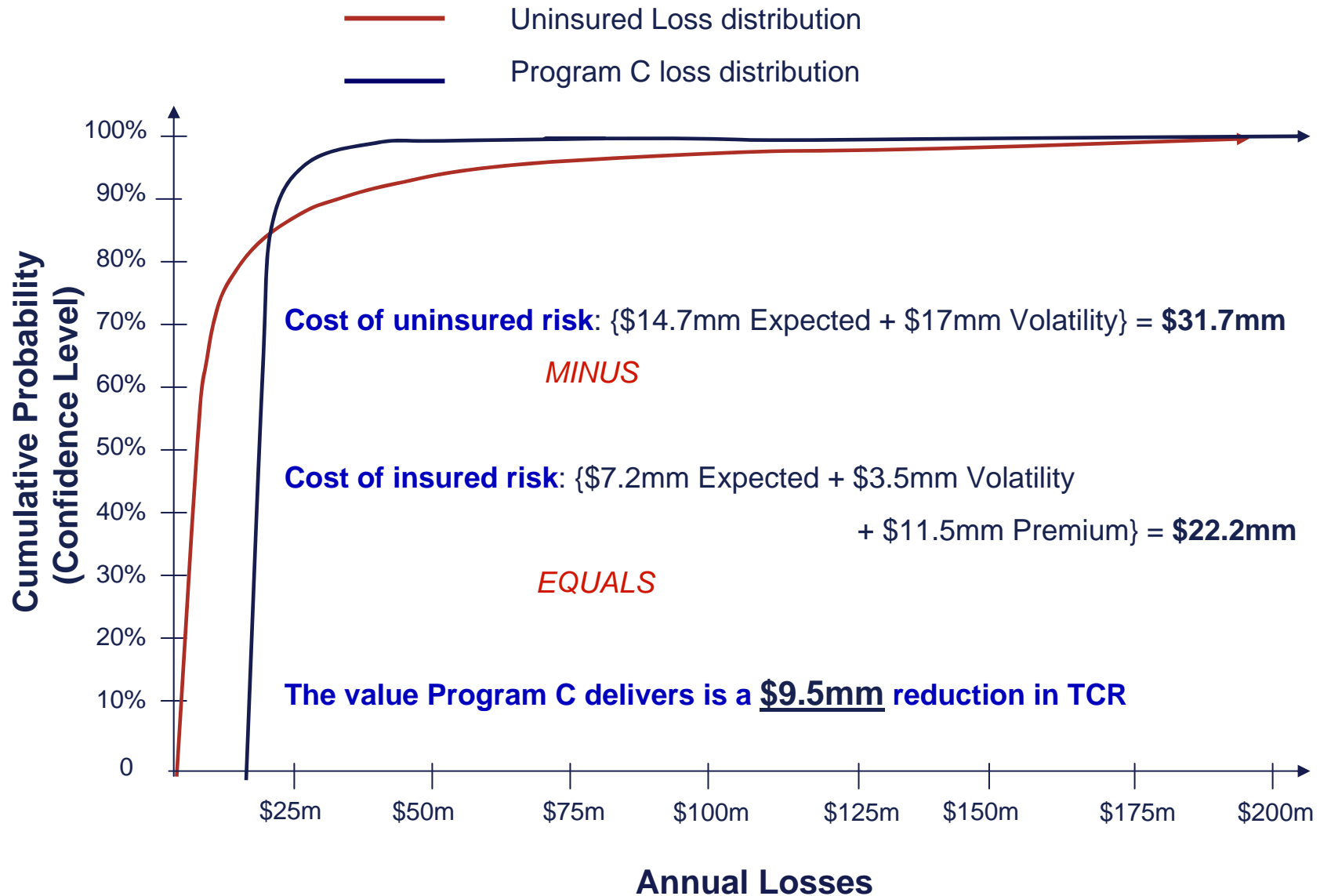
Expected Loss	\$7.6mm
+	
Cost of Volatility	\$1.1mm
+	
Expense and risk charge	<u>\$1.0mm</u>
	\$9.7mm

Result: We were able to negotiate a 14.8% price reduction from initial indication (\$ 13.5mm to \$11.5mm)

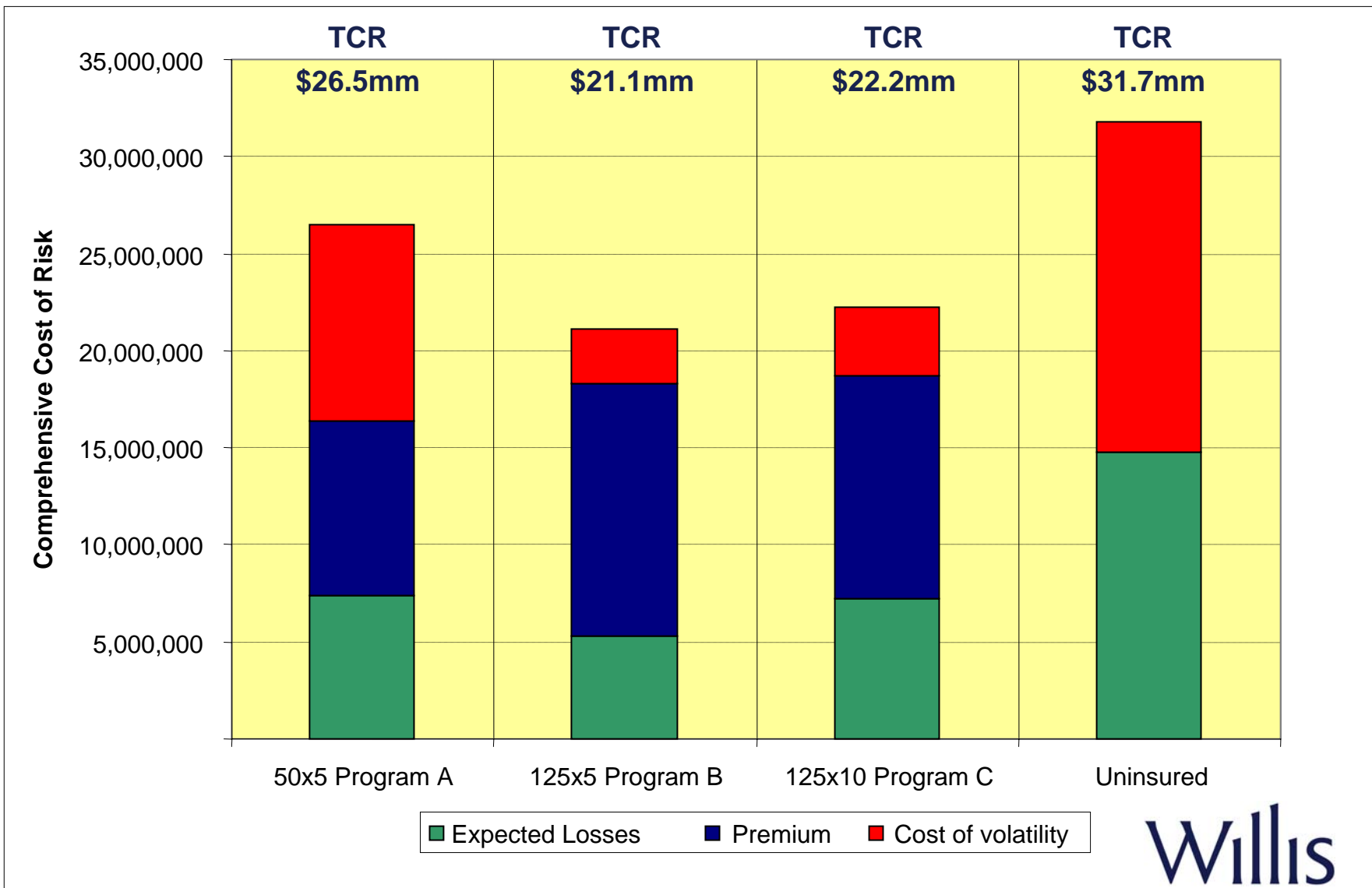
Three Program Options

	<u>Limit</u>	<u>Excess</u>	<u>Premium</u>
Program A	\$50mm	\$5mm	\$9.0mm
Program B	\$125mm	\$5mm	\$13.0mm
Program C	\$125mm	\$10mm	\$11.5mm

Step 3. Modeling Different Structures



Step 4. Identifying the Optimal Structure – Lowest True Cost of Risk



XYZ Inc was able to:

- ✓ Identify which risk financing structure generates the most value
- ✓ Reduce the initial premium indication by almost 15%
- ✓ Establish an objective, rational basis for XYZ's renewal decision
- ✓ Overcome inherent problem with benchmarking data for this company

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