Structured Risk

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Structured Risks
Core Product Areas

- Prospective
  - Bespoke Multi-year and/or Multi-class XL
  - Stop Loss
  - Structured Quota Share
  - Double Trigger XL
  - Cat Swaps
- Retrospective
  - Loss Portfolio Transfer
  - Adverse Development Cover

Prospective

Multi Year Multi Line Excess of Loss Historical Development

- “Rollover” Contracts
  - Mainly bought by Lloyds Syndicates but also some (Re)Insurance Companies in the 1970’s and 80’s
    - Limits equalled an Underlying premium fund held by a Reinsurer plus accumulated investment income
    - No Risk Transfer
- “Spread Loss” Contracts
  - Continuous contracts with an Experience Account purchased in the 1990’s
  - Annual premium related to balance of Experience Account designed to mimic open market behaviour
    - Contractual increase in premium if Experience Account negative
  - Significant Profit Commission or Termination Payment at expiry dependent on whether Experience Account positive or negative

Multi Year Multi Line Excess of Loss Current Structure

- What?
  - Fixed Multi Year term contract where the Aggregate Policy Limit is generally less than that provided by a series of annual policies over the same term and/or
  - Multi Line contract protecting uncorrelated exposures.
  - Fixed Annual Premium (usually the same for each Year)
  - No Termination Payment
  - Sometimes has higher annual premium but with ability to share in upside via profit commission.
- Why?
  - Cost effective as client buys less cover than on traditional basis over the term due to perceived frequency of losses.
  - Benefit of Profit Commission if results are good to give lower than market exit price.
  - Multi Line provides diversification benefit to reinsurer = lower capital = lower cost
  - Multi Year also provides diversification benefit to reinsurer

Multi Year Cat Reinsurance Example

Period:	36 months
Limit:	\$25m xs \$50m each and every loss occurrence
Annual Aggregate Limit:	\$50m
Term Aggregate Limit:	\$75m
Premium:	Year 1 - \$3.5m at inception + \$3.5m at year end Year 2 – \$7m at inception Year 3 – \$7m at inception
Profit Commission:	50% Premium minus Paid Claims
Option to Commute:	Each Annual Anniversary providing PC would be payable

If the contract is claims-free after 12 months it is commuted with the PC equal to the second premium instalment for Year 1, producing a net price of \$3.5m (14% ROL) compared to, say, \$4.5m (18% ROL) for the traditional equivalent.

Multi-Class Excess of Loss

Purchased to protect the cedant's balance sheet against an increased frequency of small to medium sized losses across 5 classes of business portfolio.

Contract Structure:

Period:	12 months
Limit:	USD 10m any one loss, USD 20m any one section
Aggregate Limit:	USD 60m
Deductible:	USD 10m (2nd Loss for Elemental losses)
Premium:	USD 12.5m
No Claims Bonus:	10%
Additional Premium:	22.5 – 35% of paid Claims
Event Limit:	USD 10m

Lines of Business	1. Elemental Losses		2. Non Marine Property	3. War/Terrorism	4. Marine Liability	5. Cargo & Specie	6. Back Up (section 2,4,5)
Limit		USD 10m	USD 10m	USD 10m	USD 10m	USD 10m	USD 10m
Deductible	USD 10m	USD 10m	USD 10m	USD 10m	USD 10m	USD 10m	USD 10m

Stop Loss

- What?
  - Stop Loss on retained portfolio to protect against adverse experience (severity and frequency).
  - Mono-line; Multi-line; Whole Account.

- Why?
  - Result Stabilisation (eg. cover against increase in frequency of small losses).
  - Cost effective retention management.
  - Capital management

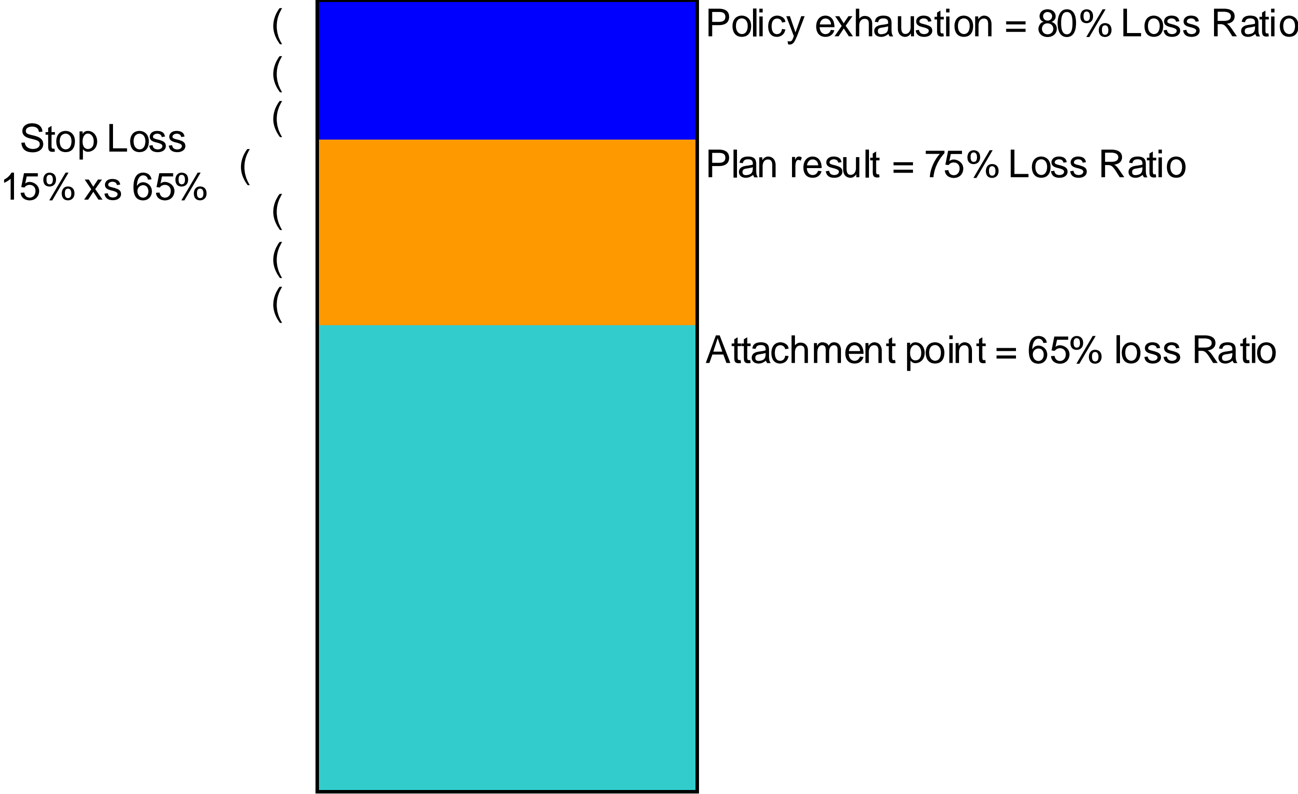
Stop Loss
Historical Development

- Result Stabilisation Stop Loss
  - Purchased by many companies from the mid 1990's to stabilise their results around plan
  - For US companies GAAP meant that they had to be purchased on a prospective Underwriting or Accident Year basis
  - Usually attached within plan and relied on discounting the long tail class component of the account to help finance the limit
  - Usually had relatively little risk transfer

- Capital Arbitrage Stop Loss
  - To release the allocated capital in the tail of the expected loss distribution (particularly in risk based capital regimes)
    - Capital arbitrage as a reinsurer's more diversified book requires less capital to support the contract than the cedant

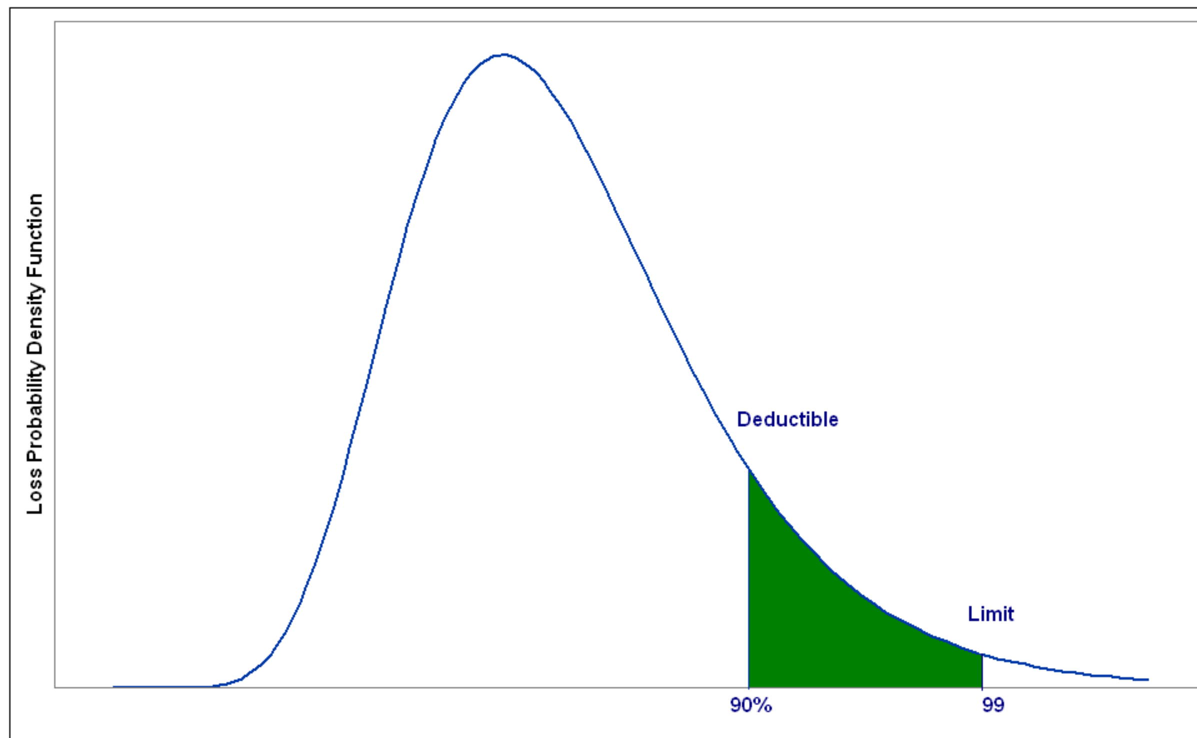
Result Stabilisation Stop Loss Example

Cover attaches within plan and the premium is typically equal to the expected recovery (10% in this example)



Capital Arbitrage Stop Loss Example

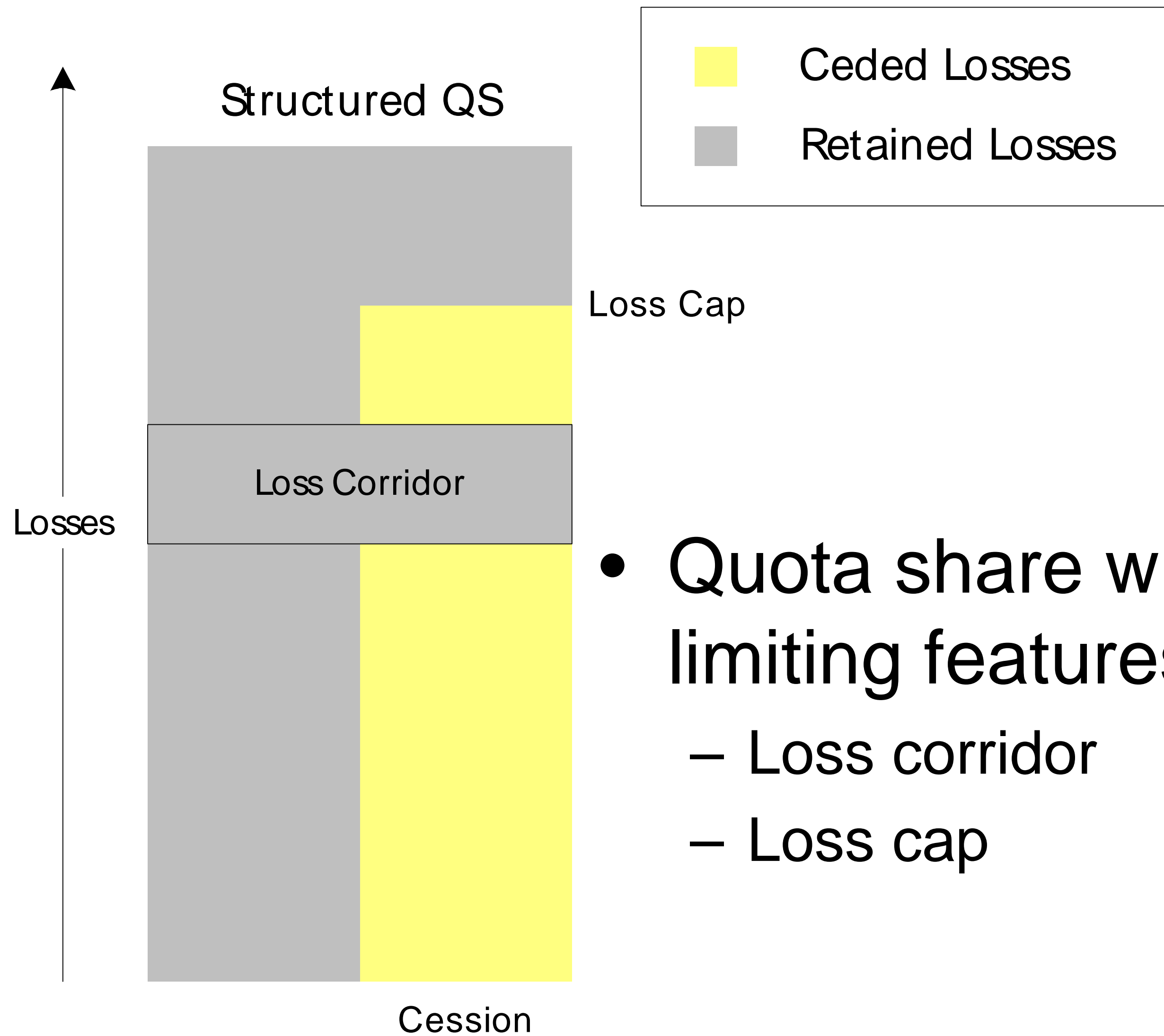
- Purchase cover attaching at 90th percentile of expected loss and exhausting at say 99th percentile
- If limit equals £100m and cost of capital is 15% then a price of less than approx £15m releases capital cost effectively



Structured Quota Share

- What?
  - Quota Share that contains risk mitigating features designed to lower risk transfer so that the cedent can retain more of the upside potential in the book.
  - Potential features: Loss Ratio caps/annual aggregate limit; loss corridor, swing commissions.
  - In the USA loss corridors and swing commissions are now rarely used
- Why?
  - Cedant has insufficient capital to write business ie. tightening regulatory environment (NB Structured Quota Share may be less capital effective under more sophisticated capital models based on stochastic retained risk analysis.)
  - Cedant wishes to grow rapidly beyond their current capital capabilities.
  - Rate rises post exceptional losses.
  - Effective tool to reduce the reinsurer's margin and improve the economics for the client.
  - Opens up alternative reinsurance market.

Structured Quota Share

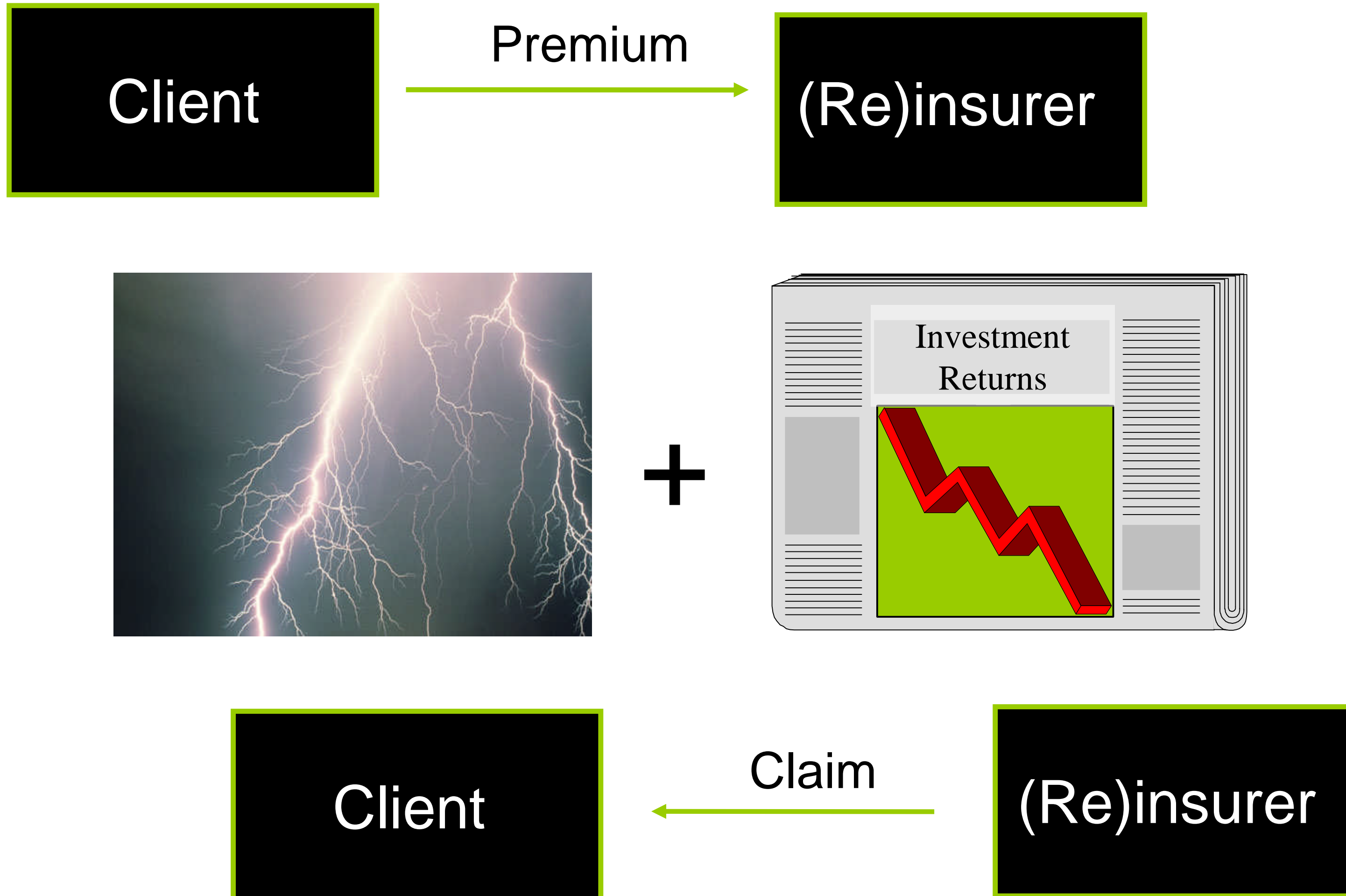


- Quota share with loss-limiting features
  - Loss corridor
  - Loss cap

Double Trigger XL

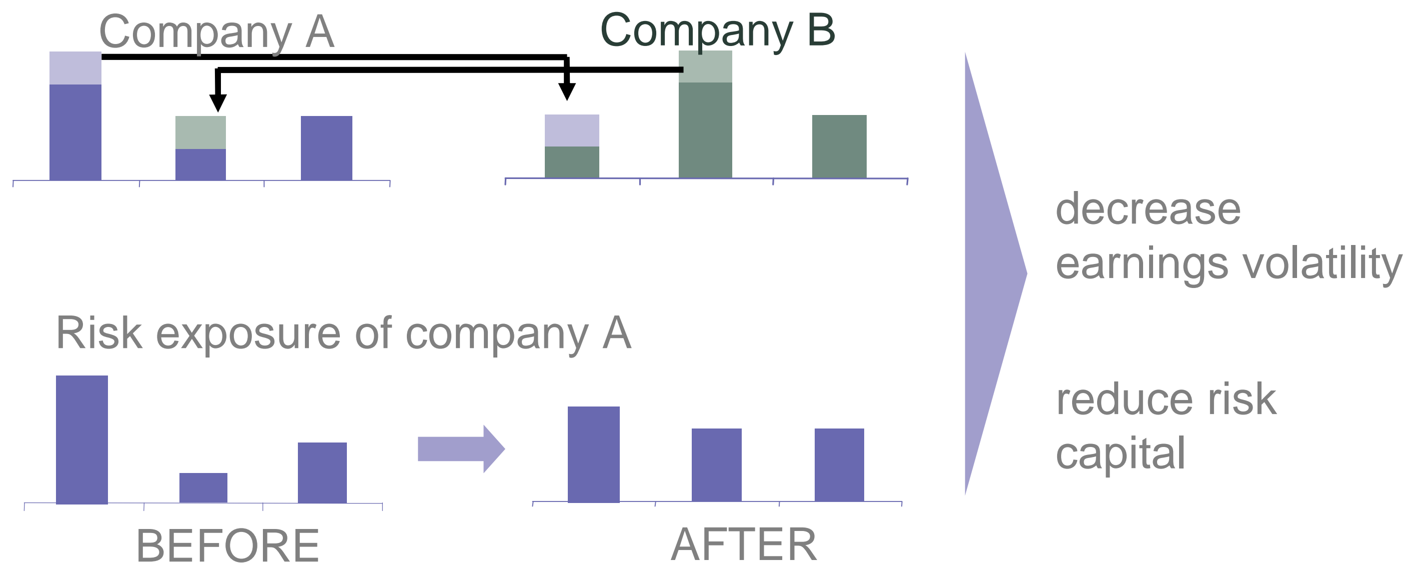
- What?
  - An insurance policy that only responds when the property or casualty loss (first trigger) coincides with an uncorrelated financial indicator (the second trigger).
  - Alternatively the policy deductible may be variable in accordance with the financial indicator.
  - Client chooses a financial indicator which is important to his business, e.g. exchange rate, commodity price, share price.
- Why?
  - Client's P&L only exposed if both triggers are satisfied
  - Cheaper than the traditional first trigger only cover as the risk of loss to the (re)insurer is lower due to the second trigger

Double Trigger Insurance



Cat Swaps

- What?
  - Cat Swaps are contracts between insurance companies that exchange different kinds of risks in order to reduce exposure peak risks
- Why?
  - To improve diversification by adding risks where the company has low exposure.



Retrospective

Retrospective Transactions

- What?
  - Transfers current and/or future loss obligations on business already written and accounted for. Often used as an Exit Strategy.
  - Loss Portfolio Transfers attach significantly within existing reserves
  - Adverse Development Covers attach at approximately existing reserve levels
- Why?
  - To ring fence the past.
  - Regulatory/solvency/rating agency pressure on reserves.
  - Create greater certainty in reserving levels.
  - Release capital held against reserving risk
  - Merger, acquisition or divestment

Retrospective Transactions Historical Development

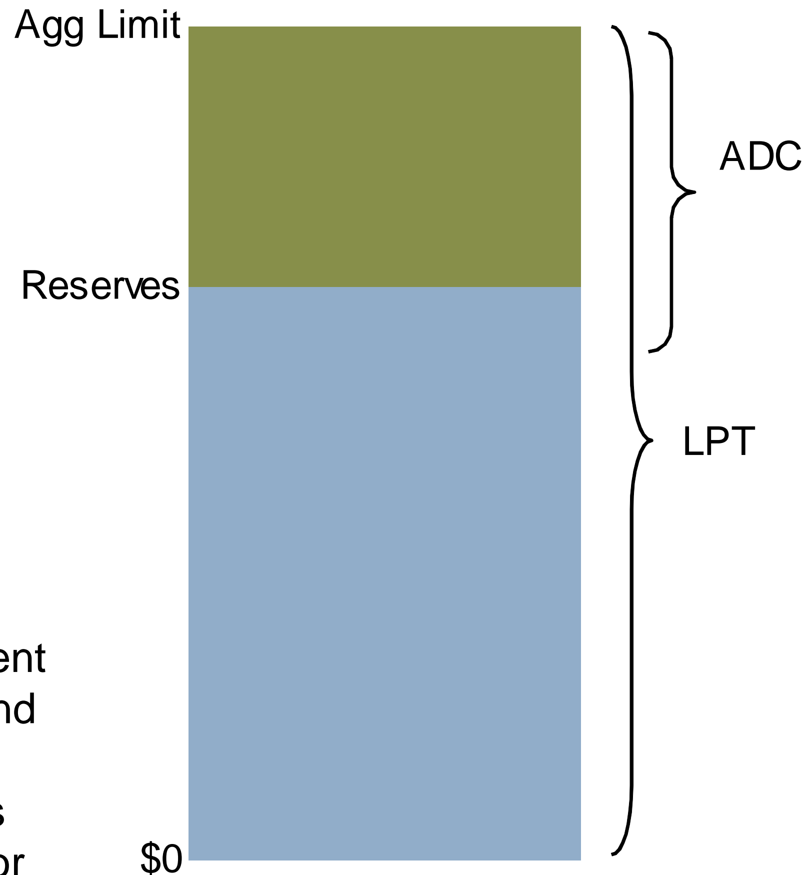
- "Time & Distance" Contracts
  - Purchased in the late 1980's to early 1990's
  - Used to discount reserves to produce an immediate credit to P&L
  - Contained sub-limits by settlement date
  - Reinsurer could duration match assets/liabilities exactly
  - No risk transfer

- LPT and ADC still used in Europe but of more limited use in USA due to retrospective accounting treatment under US GAAP

- General movement towards ADC over LPT especially in a low interest environment

LPT vs ADC

- Cedes *current and future* net loss obligations
- From Ground Up (FGU) cover (often 100%) excess of current paid losses
- Premium based on present value of expected claims payments, investment income potential and a risk margin for probability of claims deterioration and / or payment acceleration up to the aggregate limit



Based on a 100% LPT and an ADC excess of carried reserves (or slightly below)

- Cedes *future* net loss obligations above pre-agreed excess point
- Attachment can be at, above or below carried reserves
- Premium reflects adverse development loss potential
- Possibly relatively more ‘expensive’ than LPT as reduced funds transferred