Valuing Workers Comp Permanent Total Claims

Casualty Loss Reserve Seminar

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Valuing Workers Comp Permanent Total Claims

- Agenda
  - Our objective is to value a jumbo PT claim, using a basic model, live on the screen.
  - As a group, we are going to estimate the values for one (or with luck two) claims, Gross and Net, Statutory and Discounted,
  - Then calculate fair commutation values for one of the reinsurers and a retrocessionaire.
  - But first, we will discuss some of the issues…

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- Medical costs
- We all know they are going up!
  - But how much for how long?
  - The present rate of inflation cannot continue until it swallows the entire GNP
  - Custodial Care and drugs are not going up as fast as pure Medical Cost
    - Custodial care consists of –and inflates like – nurse and nurses aid wages.

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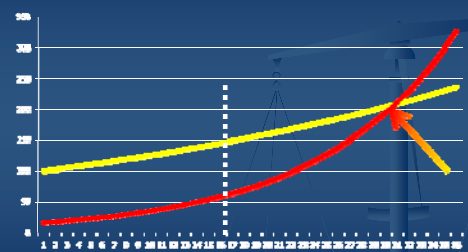

Gross National Product at 2.5% growth

Medical Costs at 9% growth

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- Life Expectancy **versus** Life Contingency
  - If you calculate the benefits for N years of life expectancy, then
    - There is no value given to the possibility the claimant will live longer, which is very likely –
    - Once again the top reinsurance layer wins!
  - If you allocate to years by a suitable mortality table, then
    - ☺The middle layers are reduced for the chance that the claimant will die early before they pay 100%
    - ☺The top layer contributes for the chance that the claimant will live longer than her life expectancy and the claim might ultimately reach their layer

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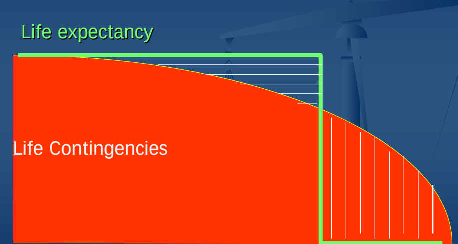

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- Reinsurance is a big deal
- No one should carry statutory WC limits (unlimited!) without lots of excess reinsurance.
- Layering who gets what in a commutation is always contentious
- Many current RI contracts require commutation after five to seven years

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- **COMMUTATION / SUNSET CLAUSE**
- Within five years after the end of each contract year this Contract is in force, the Company shall advise the Reinsurers of any outstanding occurrences during that contract year which have not been finally settled and which may cause a claim under this Contract and no liability shall attach hereunder for any claim arising from occurrences not reported to the Reinsurers within this five year period.

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- The Company or the Reinsurers may then, or any time thereafter, request that Reinsurers' liability with respect to one or more of such unsettled claims be commuted. Upon such request, the Reinsurer and the Company shall review such claim and shall attempt to reach a settlement by mutual agreement.

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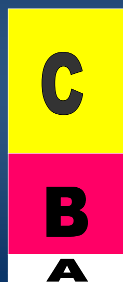
C: 2nd excess reinsurance
5 million xs 5 mil

B: 1st excess Reinsurance
4 million xs 1 mil

A: Primary policy
gross $10 million
ceded $9 million
Net $1 million



C: Retrocession
5 million xs 4 mil

B: Reinsurance
9 million xs 1 mil

A: Primary policy
gross $10 million
ceded $9 million
Net $1 million

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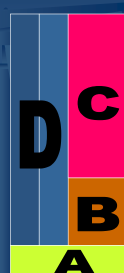
- Quota Shares (D) are no problem
- Reinsurer (B) cannot commute with Primary Insurer(A) due to conflict with Retrocessionaires (C)
- Solution is for reinsurer (B) and Retrocessionaires C to commute first



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- What is the problem?
- When there is a settlement –
  - Some Reinsurers claim that the layer below them was not filled,
  - Or fill it at settlement value --
    - so that the lower layer gets no benefit from Present Value, Mortality, or any other discount –
    - ***The top layer gets it all!***

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- "To the Layer" or "Ground Up"
  - For example, assume a Primary claim is $10 million payable in a lump sum in 10 years
  - Reinsurer has $5 million XS $5 million
  - Present value of $10 mil at 4% is $6.76 million

☺ "To the Layer" says claim will ultimately cost $5 million Payments each – and the Present Value of $5 million is $3.38 million -- so the Reinsurer should pay $3.38 million to commute.

"Ground-Up" says claim is only worth $6.76 million at the Present Value – so the Reinsurer should only pay $1.76 million to commute.

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- Why should you care?
- Claims & Finance Guys will do it wrong!
  - They can't ***possibly*** handle Present Values, Medical Inflation and Mortality correctly
  - without an actuary.
- "If the Reinsurer and the Company cannot reach a settlement by mutual agreement, then the Reinsurer and the Company shall mutually appoint an independent actuary (F.S.A./F.C.A.S. or A.S.A./A.C.A.S.) "

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- It is easier to agree on methods and procedures than on dollars.
- Just last week I was contacted by a wise reinsurer who has had a recent cancellation. They want to plan – and agree with the cedant – on the procedure for the commutation that will take place several years in the future.

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- The claims valuation and layering process
  - As a group, we are going to estimate the values and variations for one (or with luck two) claims, and calculate fair commutation values for the reinsurance.
  - To do this one may have to unravel complex structures into their equivalent discrete pieces – but first we will do a simple one as an illustration.
  - *First read all of the contracts*

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- The claims valuation and layering process (reprise)
  - Reinsurer X covers 100% of $10 xs $5.
  - No retrocession involved.
  - Primary insurer carries exactly $5 million net , with 100% cessions to 100 million. We are not valuing reserves for their other Reinsurance today.
  - This time we will value the net, by calling it a zero attachment point 1st layer, and the reinsurer the retrocessionaire.

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- Claimant Jack Smith information provided
  - DOB 9/21/1970, paraplegic September 2005
    - Impaired life expectancy 30 years from today
  - Wage replacement $800 per week; no wage inflation
    - Paid to date $156,000
  - Requires only limited care: had extensive surgery but is now stable and wants to be as independent as he can:
    - Visiting care 4 hours * 7 days at $18 per hour.
      - Paid to date $105,600
    - Required special improvements in home:
      - Paid to date $40,000
    - Special van he can operate
      - Paid to date $60,000; plus replace every 10 years
    - Power wheelchair
      - Paid to date $5,000; plus $5,000 every 5 years
  - Monthly physician treatment for cramps, chair sores, etc:
    - Doctor/hospital paid to date $1,500,000; plus $600 per month

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- The claims valuation and layering process
  - Reinsurer X covers 40% of $5 xs $10 (=$2 mil coverage), and also 50% of $10 xs $30 (= $5 mil coverage), for the same cedant.
  - Reinsurer X buys a retrocession of 40% of $5million excess of $1million (=$2 mil coverage) from Retro Z.
  - Primary insurer carries $10 million net (we are not valuing reserves for their other Reinsurance today).
  - To value the layers:
    - This reinsurer retains 40% of $2.5 xs $10 ($1mil)
    - This retrocessionaire ultimately has two layers:
      - 40% of 40% = 16% of $2.5 xs 12.5 ($.4 mil)
      - 40% of 50% = 20% of $8 xs $30 ($1.6 mil)
    - The reinsurer retains the excess over the retro's limits: 40% of $2 excess $38 ($.8 mil)

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- Claimant Jim Jones information provided
  - DOB 9/20/1980, head injury DOI September 2000
    - Impaired life expectancy 30 years from today
  - Wage replacement $800 per week; no wage inflation
    - Paid to date $416,000
  - Requires 24 hour care: was complex institutional treatment, but now stable
    - mother (age 58) provides half – for now.
    - Visiting care 12 hours * 7 days at $18 per hour.
    - Probable institutional care when Mom reaches 70 *or earlier* it would cost $4,000 per week today.
    - Paid to date $2,000,000
  - Semiannual psychiatric evaluations : current cost $15,000
    - Doctor/hospital paid to date $1,000,000
  - Several expensive drugs: current cost $400 per month
    - Paid to date $60,000