CP 341 Model Solutions
November 2025

1.

Learning Objectives:

3. The candidate will understand regulatory frameworks for reinsurance transactions across US, Canadian, and global jurisdictions.

Learning Outcomes:

(3b) Describe and evaluate elements of reinsurance requirements within the Canadian regulatory framework

(3d) Understand IFRS and OSFI requirements related to reinsurance

Sources:

CP341-110-25: LICAT Guideline Chapter 10

Commentary on Question:

This was a difficult question likely because it deals with Canadian regulations. Few candidates were able to calculate the figures for parts (a) and (b). Many candidates got partial credit for part (c) by identifying collateral and/or modified coinsurance as valid approaches, but rarely were the responses described fully enough to receive full credit. Several candidates simply said "post collateral" as their alternate approach.

Solution:

(a)

(i) Explain the required adjustments to Maple Life's LICAT Tier 1 and Tier 2 capital to reflect the reinsurance contract.

(ii) Calculate the adjustments.

(i)

Maple Re will have to adjust its Tier 1 available capital to account for the unregistered reinsurance to compensate for the counterparty risk generated by FLR. The adjustment to negative reserves will be offset by an increase in Tier 2 capital.

1. Continued

(ii)
Adjustment (aggregate positive liabilities ceded) = the higher of zero, or the aggregate Best Estimate Liability ceded to the unregistered reinsurer less any credits = max(0, 200 - 0) = 200

- Reduce Tier 1 capital by 200

Adjustment (offsetting policy liabilities ceded) = (policy-by-policy negative BEL + min(0, 200) (from part 1, above) = 500 + 0 = 500.

- Reduce Tier 1 available capital by 500. Increase Tier 2 by 500

Adjustment (excess of reinsurance) = reinsurance contract held assets - reinsurance contract held liabilities - the Best Estimate Liability and risk = 275 – 0 - (200 + 50) = 275 – 250 = 25

- Reduce Tier 1 available capital by 25

Total adjustment to Tier 1 = -200 – 500 – 25 = **-725**

Tier 2 capital increased by 500.

(b) Calculate the LICAT capital credit that Maple Life would receive for each option.

Funds Withheld

Given that full repayment of the funds withheld would be required to FLR, sufficient risk transfer has not occurred - thus no credit would be given. Further, the FWH is only for 5 of the 20 years of the agreement. It must be available over the term of the contract.

- **LICAT capital credit: 0**

Letter of Credit

Credit taken for letters of credit = 30% of the gross requirement for aggregate positive liabilities ceded to unregistered reinsurers + 30% of the gross requirement for offsetting liabilities ceded to unregistered reinsurers

- **Credit from LOC = Aggregate BEL * 30% = 200 * 30% =**
- **LICAT capital credit: 60**

1. Continued

(c) Describe two alternative approaches that would provide Maple Life with full LICAT capital credit.

- **Post collateral** through a valid Funds Withheld available over the term of the contract
- **Modified coinsurance**

2. Learning Objectives:

1. The candidate will understand different types of traditional and advanced reinsurance transactions for life insurance.

Learning Outcomes:

(1h) Understand the role of private equity involvement in the global reinsurance market and the use of offshore reinsurance

Sources:

CP341-101-25: Capital Markets Bureau Primer: Private Equity

CP341-102-25: Number of Private Equity-Owned U.S. Insurers Remains Constant, But Total Investments Increase by Double Digits in 2023

CP341-104-25: Private Equity and Life Insurers (2023)

Commentary on Question:

Overall: This question tests candidates' understanding of the role of PE companies in the offshore reinsurance market. Candidates performed as expected on the question overall.
Part a: Candidates generally did well on commenting the potential changes on allocation but many candidates did not provide any commentary on the compositions.
Part b: Candidates who performed well clearly explained the benefits to each party.
Part c: Candidates performed below average on this part. Most candidates did not explain the effect of having illiquid assets in SBA modeling.

Solution:

(a) Evaluate how the following asset classes' allocations and compositions would likely change with XYZ's involvement.

Corporate bonds would be expected to decrease. The composition would likely move to slightly lower credit quality.

Mortgage-backed securities would be expected to increase. The composition would likely shift toward private-label CMBS.

Schedule BA assets would be expected to increase. The composition would likely skew toward collateral loans.

(b) Explain the benefits of this relationship to each of XYZ and ABC Life.

ABC Life benefits from increased spread earned on alternative investments accessed through XYZ's specialist investment management services.

XYZ benefits from receiving fee income for providing its investment management services.

2. Continued

(c) Explain why Bermuda-based PE-influenced reinsurers using the Scenario-Based Approach may have a different investment mix relative to XYZ.

Bermuda-based PE-influenced reinsurers using SBA may have even higher allocations to illiquid investments relative to XYZ. SBA recognizes the premium earned on illiquid investments through a higher discount rate applied to the valuation of technical provisions, thus enabling higher allocations to illiquid investments.

3. Learning Objectives:

4. The candidate will understand and be able to explain practices for administering and managing reinsurance arrangements

Learning Outcomes:

(4a) Describe features and considerations related to reinsurance administration

(4b) Describe and evaluate concepts related to the management of reinsurance

Sources:

Tiller, 4th edition, Chapter 23: Reinsurance Administration

Tiller, 4th edition, Chapter 24: Managing Reinsurance

Commentary on Question:

For part a) most candidates did not do well offering a type of reinsurance instead of reinsurance administration – perhaps they misread the question. However, once the type of reinsurance was identified, the candidates described characteristics of the type of reinsurance. Recommending the self-administration with sufficient justification is required for full credit.

For part b) most candidates did well identifying some form of premium adjustment, but most missed the point at claim the reinsurance coverage could be denied and mismatching reserves. Partial credit was given to candidates covering part of the consequences.

For part c) most candidates did well listing four items, but few of the listed items were relevant to the reduction in retention. Only relevant consequences were awarded credit. Other reasonable consequences not mentioned in the model solution were also accepted.

Overall candidates did not pay close attention to the wording of part (a) with a follow-up into part (b) and a related issue in part(c). This question is asking about reinsurance administration and what happens if policies are ceded in excess of treaty limits. The last part of the question asks about a reduction in the ceding company's retention.

Solution:

(a) Recommend the most appropriate reinsurance administration method.

The most appropriate reinsurance administration method is cedent self-administration.

1. RBI retains full control over policy and claims data. RBI is likely already performing many of the functions required to administer the policies. Adding reinsurance reporting may be relatively minor.
2. RBI is large and well established and ought to have systems in place to calculate the unique benefit structures of the LTC product. It may be more efficient and cost-effective to handle reinsurance calculations in-house rather than rely on the reinsurer's systems.

3. Continued

3. Since the reinsurance on the LTC block is a quota share arrangement, self-administration simplifies the process, as RBI can apply a flat percentage to premiums, claims, and reserves.

(b) Describe the potential consequences of this oversight.

- When these policies claim, coverage could be denied above the maximum face limit
- If the reinsurer audits the cedent, there could be adverse findings when this is discovered
- The reinsurer could deny coverage of these policies issued above the maximum issue age as it is not bound by the ceding company's actions outside of the reinsurance terms
- The reinsurer and cedent could end up holding mismatching reserves for the liabilities

(c) Describe four potential consequences of such a reduction.

1. Lower retention means more risk is transferred to the reinsurer, which typically will also mean higher reinsurance premiums due. This can reduce the profitability of the product to the cedent.
2. Reducing retention means the cedent can hold less reserves which can free up capital for the cedent.
3. The cedent will have a lower exposure to large claims which can help stabilize earnings.
4. More policies will fall under the reinsurance arrangement which can increase the amount of reinsurance adminstration required.

4. Learning Objectives:

1. The candidate will understand different types of traditional and advanced reinsurance transactions for life insurance.

Learning Outcomes:

(1a) Describe basic terms and concepts related to reinsurance

(1b) Understand the key aspects of automatic and facultative reinsurance

(1f) Describe and evaluate types of non-proportional reinsurance transactions

Sources:

Tiller, 4th edition, Chapter 1: Basic Terms and Concepts

Tiller, 4th edition, Chapter 2: Automatic Reinsurance

Tiller, 4th edition, Chapter 3: Facultative Reinsurance

Tiller, 4th edition, Chapter 17: Nonproportional Reinsurance

Commentary on Question:

Candidates did well on part (a), correctly calculating the relevant figures and identifying the preferred reinsurance proposal. In part (b) and to a lesser extent in part (c), candidates often seemed to have an adequate understanding of the material and the question but fell short when it came to writing enough information to demonstrate their understanding. In parts (b) and (c) , candidates often said a mix of coinsurance and XOL is sensible for low and high face amounts, respectively, but we expected to see more explanations along the lines of "low frequency, high severity risk", etc.

Solution:

(a) Recommend which reinsurance proposal AA Life should select based on the above information.

Reinsured Premium and Reinsured Recoveries for each reinsurance proposal are calculated as follows:

Policy ID	Direct Face Amount	Reinsurance Recoveries (Proposal 1)	Reinsurance Premium (Proposal 1)	Reinsured Face Amount (Proposal 2)	Reinsurance Recoveries (Proposal 2)	Reinsurance Premium (Proposal 2)
1	2,500,000	1,250,000	4,000	1,500,000	1,500,000	15,000
2	800,000	400,000	1,000	0	0	0
3	1,200,000	600,000	1,500	200,000	200,000	2,000
4	2,750,000	1,375,000	4,500	1,750,000	1,750,000	17,500
Sum		**3,625,000**	**11,000**		**3,450,000**	**34,500**

4. Continued

Proposal 1 is recommended because it has lower Reinsurance Premium costs and higher Reinsurance Recoveries based on the expected claims profile.

(b) Explain which reinsurance proposal is better suited to each product.

For Mass Market Term Product, recommend 50% quota share reinsurance structure.

The mass market has a large volume of small, predictable claims with high frequency, low severity risk. The 50% quota share spreads risk across many policies, reducing volatility and stabilizing underwriting results.

From an underwriting perspective, the MM product is following the standard underwriting process. Reinsurer's underwriting support can be well captured in a quota share arrangement.

Proportional reinsurance reduces reserve requirements for the insurer, which is critical for high-volume, low-margin products.

Comparably, for XoL arrangement, the Mass Market Term Product is unlikely to exceed the 1 million attachment point, making excess-of-loss reinsurance redundant.

For High-Net-Worth (HNW) Product, recommend Excess-of-Loss (XoL) reinsurance structure.

HNW policies entail fewer but potentially catastrophic claims. XoL protects against individual claims exceeding 1 million, which aligns with the tail-risk nature of these policies, as the portfolio exhibits the characteristics of low frequency and high severity.

From reinsurance cost perspective, retaining premiums for smaller claims (below 1 million) optimizes profit, while XoL transfers risk only for severe losses. Quota share would unnecessarily cede 50% of high-value premiums.

From a capital management perspective, XoL reduces capital required for extreme losses, which is important for solvency if writing a lot of HNW portfolios.

(c) Explain the characteristics of a portfolio that could benefit from a combination of the quota share and excess-of-loss reinsurance arrangement.

A combination of quota share and excess-of-loss (XoL) reinsurance can be advantageous for AA Life in scenarios where the insurer faces both high-frequency/low-severity claims and low-frequency/high-severity risks, particularly in portfolios with mixed risk profiles or evolving market dynamics.

5. Learning Objectives:

3. The candidate will understand regulatory frameworks for reinsurance transactions across US, Canadian, and global jurisdictions.

Learning Outcomes:

(3e) Understand key international reinsurance regulatory frameworks, especially as they relate to the use of offshore reinsurance and private equity backed reinsurers.

Sources:

CP341-113-25: Supervision and Regulation of PE Insurers in Bermuda

CP341-114-25: The Bermuda Monetary Authority's Approach to Private Equity-Owned (Re)insurers

Asset Intensive Reinsurance Ceded Offshore from U.S. Life Insurers (With Focus on Bermuda), AAA, Feb 2024

Commentary on Question:

Overall: This question tests the candidates understanding of offshore reinsurance regulatory frameworks. Candidates who did well were able to describe and explain key regulatory considerations.
Part a: Candidates performed below average on this question. Many candidates failed to identify and explain sufficient key changes and their impacts.
Part b: Candidates performed as expected on this part, identifying concerns and providing mitigation actions. Clear and reasonable explanations are awarded credit.
Part c: Candidates performed as expected on this part. Many candidates did not provide reasonable justification that shows understanding of ASOP No. 22 and the Solvency II standard formula.

Solution:

(a) Explain the impact of the Bermuda Monetary Authority (BMA) revised regulations regarding lapse and expense risk on RDR's capital and reporting requirements.

Here are changes to the BMA regulation regarding lapse and expense risks:

- Increase the risk-sensitivity of lapse and expense charges by changing from a factor-based approach to using lapse and expense shocks.
- The Solvency II lapse shocks will be adopted for European and UK business. For other regions, the lapse up and down shocks follow the Insurance Capital Standard (ICS), while the mass lapse shocks are differentiated by product type and product features, to account for the wide scope of Bermuda business and historical data.
- The expense shocks follow the ICS specification.

5. Continued

- The lapse and expense shocks introduce two new sub-modules into the solvency calculation, replacing the current long-term Other Insurance Risk charge. Aggregation is based on Solvency II correlations, consistent with the ICS framework.

Impacts on Capital and Reporting Requirements:

- RDR will require building new lapse and expense risks shock testing by introducing broader scenario analysis approach.
- The coinsurance annuity transaction will increase RDR's capital requirement because of higher lapse sensitivity and risks of force asset liquidation under mass surrender events.
- The expense shocks under ICS specification consist of stress factors in both unit expense and expense inflation and those stress factors are prescribed by ICS. RDR needs to switch from its factor-based expenses charges to prescribed stress factors.
- RDR will require building its lapse and expenses risk modeling consistent with the ICS framework. The two new sub-modules will increase the cost of modeling and RDR may need to seek professional support from external consultants.

(b)

(i) Explain three regulatory concerns that the BMA might raise, in respect of RDR.

- Conflict of Interest: RDR is 100% owned by ECG which also manages the investment portfolio. This dual role creates a conflict of interest where ECG may prioritize maximizing short-term investment returns over policyholder security and long-term solvency.
- Investment Strategy & Asset Management: 50% of RDR's portfolio consists of alternative assets (e.g., real estate, private credit). The BMA is concerned that these assets may not be easily liquidated to meet claims or policyholder obligations, especially in stress scenarios.
- Capital Adequacy & Solvency: RDR's ECR ratio is 115%, below the BMA's 120% target ratio. This raises concerns about insufficient capital buffers to absorb potential losses.

(ii) Recommend one risk mitigation action to address each of the above concerns.

- Conflict of Interest: Establish clear investment guidelines instead of solely on asset manager's decision and material sizeable investment require further approval from the board, independent of ECG's performance incentives.
- Investment Strategy & Asset Management: Reduce illiquid investments to below 30% by shifting toward investment-grade bonds and publicly trade assets. Establish liquidity reserves to support potential policyholder withdrawals.

5. Continued

- Capital Adequacy & Solvency: Raise capital from investors or require capital injection from ECG to achieve an ECR ratio above 125% before deal approval.

(c) Critique each of the above statements.

1. The statement is incorrect.

- ASOP No. 22 (Statements of Actuarial Opinion Based on Asset Adequacy Analysis) requires actuaries to test capital adequacy under moderately adverse conditions.
- The BMA's Internal Model Approval Process requires insurers to model both moderately adverse and extreme stress events. Limiting the model to only "one or more unfavorable, but not extreme" events may underestimate tail risk and fail to meet BMA approval standards.

2. The statement is incorrect.

- Solvency II's standard formula is designed for a broad range of insurers but may not fully capture the unique risks for PE-backed reinsurers, such as illiquid alternative assets, PE-controlled investment strategies, etc.
- Solvency II's standard formula can help reduce regulatory model risk, however it may impose higher capital requirements.

6. Learning Objectives:

3. The candidate will understand regulatory frameworks for reinsurance transactions across US, Canadian, and global jurisdictions.

Learning Outcomes:

(3a) Describe and evaluate elements of reinsurance requirements within the US regulatory framework

(3c) Understand US GAAP and US Stat requirements related to reinsurance

Sources:

Tiller, 4th edition, Chapter 11: US Regulation of Reinsurance

Tiller, 4th edition, Chapter 13: US Statutory Accounting

Commentary on Question:

Overall: This question tests the candidates understanding of reinsurance transactions across multiple jurisdictions. Candidates who performed well were able to demonstrate an in-depth understanding of income, balance sheet, and capital impacts from the use of reinsurance.
On part (a): Candidates performed as expected on this question. Candidates who did well on part (a) explained both balance sheet and net income impacts clearly.
On part (b): Candidates performed as expected on this question. Many candidates failed to discuss any RBC mechanics in depth.
On part (c): Candidates performed poorly on this question. Most candidates did not explain affiliate issues, RBC adjustment mechanics or IRIS ratios.
Candidates performed poorly on part (d), failing to provide relevant and sufficient information.

Solution:

(a) Describe the impact of the proposed reinsurance transaction on XYZ Life's statutory balance sheet and net income.

Balance sheet

XYZ Life's balance sheet will see significant changes due to the reinsurance cession. The resulting significant surplus relief was achieved by impacting both assets and liabilities, which in turn influenced the surplus.

The most significant impact is on the reserves, which are now shown net of reinsurance ceded. The size of the surplus relief implies that full reserve credit was achieved, which is a result of having the reinsurance recoverables being recognized as an admitted asset.

Depending on the specifics of the treaty, the balance sheet may now also include any funds withheld by XYZ Life, or any amounts receivable and payable related to the reinsurance transaction.

6. Continued

Net income

The ceded premiums paid to the affiliated reinsurer will be netted against XYZ Life's direct premiums, which impacts revenue. At the same time, all incurred benefits, claims, and changes in reserves will now be reflected net of reinsurance ceded. Any IMR amounts transferred due to the reinsurance transaction will be reflected as an IMR amortization adjustment. Finally, the commissions and expense allowances related to reinsurance will be shown on a separate line.

Depending on the specifics of the treaty, the statement of operations may also include adjustments related to any investment income that needs to be credited to the reinsurer.

(b) Explain the potential effect of the transaction on XYZ Life's RBC ratio.

The transaction will directly affect XYZ Life's risk-based capital (RBC) ratio by changing both the numerator (Total Adjusted Capital) and the denominator (Required Capital).

Because XYZ Life retains less mortality, lapse, or longevity risk, its C-2 insurance risk charge decreases, which should improve the RBC ratio. Additionally, since surplus is increasing, Total Adjusted Capital will also rise. Together, these changes create the appearance of a stronger financial position.

(c) Describe potential areas of concern for the regulator as a result of this transaction.

Despite the initial improvement in the RBC ratio, regulators may closely examine whether the surplus relief represents true risk transfer. If the affiliated reinsurer is financially weaker than XYZ Life, regulators may apply additional capital charges to the reinsurance recoverable, partially offsetting the RBC benefit. Additionally, transactions between affiliated entities are subject to enhanced scrutiny because they do not involve third-party risk transfer. If regulators believe the transaction artificially inflates surplus without meaningfully transferring risk, they may require XYZ Life to hold additional capital or adjust its RBC calculations accordingly.

Beyond RBC, the transaction could trigger a review of XYZ Life's solvency under the NAIC Insurance Regulatory Information System (IRIS) tests. A significant shift in surplus from a single reinsurance transaction may cause IRIS ratios—such as the surplus relief ratio or reserve dependence ratios—to flag potential regulatory concerns. If the impact is large enough, the state insurance department may request additional documentation or restrict the company from taking full reserve credit.

6. Continued

(d) Describe the key regulatory reporting and disclosure requirements for this inter-company reinsurance agreement under the NAIC Holding Company System Model Regulation.

An insurer within a holding company system must register annually with the commissioner. This registration includes extensive information regarding the company, specifically all in-force agreements and transactions that have occurred during the last calendar year between the insurer and its affiliates, which includes reinsurance agreements.

The insurer must disclose all modifications to reinsurance agreements, including pooling agreements and agreements where the reinsurance premium or change in the insurer's liabilities in any of the next three years is greater than or equal to five percent of the insurer's policyholder surplus as of December 31. The state regulator may require prior approval for material transactions.

The insurer is required to report any circumstance or event involving an affiliate that could have an adverse effect on the financial condition of the insurer, including anything that would cause the insurer's Risk Based Capital to fall to a level requiring regulatory action.

All transactions between members of a holding company system must be fair and reasonable. Fees and expenses must be reasonable, and the books and accounts must clearly disclose the details of the transactions.

7. Learning Objectives:

1. The candidate will understand different types of traditional and advanced reinsurance transactions for life insurance.

2. The candidate will understand the fundamentals of risk transfer between two counterparties.

3. The candidate will understand regulatory frameworks for reinsurance transactions across US, Canadian, and global jurisdictions.

Learning Outcomes:

(1c) Explain various methods and perform financial statement calculations of reinsurance transactions, including yearly renewable term, coinsurance, modified coinsurance, and funds withheld arrangements

(1g) Describe and evaluate types of reinsurance transactions for annuity contracts

(2a) Describe the elements within reinsurance treaties

(2c) Explain the considerations and process of managing insolvency of the ceding and assuming parties within a reinsurance transaction

(2d) Explain the types, uses, and functions of captive reinsurance transactions

(3c) Understand US GAAP and US Stat requirements related to reinsurance

Sources:

Life, Health & Annuity Reinsurance, Tiller, John E. and Tiller, Denise, 4th Edition, 2015 Chapter 4, 5, 7, 8 and 19

CP341-106-25: Life and Annuity Reinsurance Sidecars: From Sidebar to Headline Topic

CP341-107-25: NAIC Model Laws: Credit for Reinsurance Model Law

Commentary on Question:

For part (a) there are many possible advantages and disadvantages for ABC/DEF and for ABC/XYZ. Most candidates struggled with this question listing a small number of possible advantages and disadvantages. A thorough discussion from both the cedant and reinsurer perspectives was required for full credit.
For part (b) leverage DEF most candidates missed the point sidecars could offer specialized assets and more liberal investment choices because reinsured business is segregated; leverage XYZ most candidates mentioned top-quartile returns but missed the fact all reinsured business would be co-mingled.

Overall candidate performance was poor lacking an understanding of offshore reinsurance with a sidecar providing capital and segregating each cedant's business vs onshore traditional reinsurance and comingling all cedant business.

7. Continued

Solution:

(a) Explain the advantages and disadvantages of each proposal from the cedant and reinsurer perspectives.

Advantages to ABC with DEF:

- DEF establishes a segregated account for 80% of ABC business assumed
- Capital funding of transaction backed by large, stable institutional investor

Disadvantages to ABC with DEF

- Counterparty risk as DEF is not rated
- Only 2.5% overcollateralization of reserves, whereas industry practice is 5%
- Financial performance of assets belong to DEF whereas if it had been coinsurance funds withheld, assets would be held on ABC balance sheet

Advantages to DEF with ABC

- Capital funding provided by large, institutional investor
- Pure coinsurance means assets would be held by DEF and investment performance belongs to DEF

Disadvantages to DEF with ABC

- Establish trust to hold additional 2.5% of reserves
- Need to be sure asset performance can support the reserve liability plus the overcollateralization

Advantages to ABC with XYZ

- Capital funding backed by A rated “certified” reinsurer
- XYZ well established and experienced reinsurer

Disadvantages to ABC with XYZ

- Less of business is reinsured
- Because XYZ is certified, can hold 50% collateral funding for the 75% reserves assumed

Advantages to XYZ with ABC

- Less collateral required to support 75% business assumed
- Pure coinsurance means assets would be held by XYZ and investment performance belongs to XYZ

Disadvantages to XYZ with ABC

- Nothing discernable

7. Continued

(b) Explain how ABC can leverage the potential investment performance of each reinsurer to meet its objective of a 60% renewal rate.

Leverage DEF

- A core thesis of recent sidecars has been the ability and expertise in asset management, especially in specialized assets where the asset manager typically has differentiated capabilities
- May offer more "liberal" investment choices, leading to an enhanced more competitive renewal interest crediting rate
- In some cases, an asset manager may be able to provide access to a private lending platform that is inaccessible to other portfolio managers, or a capital provider may have a different and/or lower cost of capital

Leverage XYZ

- History of top quartile returns may lead to potential higher credited rate
- History of top quartile returns provides stability of investment choices and performance
- General account co-mingles other blocks of similar business leveraging investment choices
- Since holds 75% of the business opportunity to work with ABC to establish crediting interest rate

8. Learning Objectives:

1. The candidate will understand different types of traditional and advanced reinsurance transactions for life insurance.

Learning Outcomes:

(1d) Explain reasons for using inforce reinsurance, approaches used for inforce reinsurance, and advantages and disadvantages of each approach

(1e) Demonstrate knowledge of different forms of reinsurance for different products; specifically, PRTs/longevity swaps, annuity coinsurance, and life insurance yearly renewable term

(1f) Describe and evaluate types of non-proportional reinsurance transactions

(1g) Describe and evaluate types of reinsurance transactions for annuity contracts

Sources:

Tiller, 4th edition, Chapter 7: Reinsurance of Inforce Risks

Tiller, 4th edition, Chapter 19: Annuity Reinsurance

Commentary on Question:

For part (a) most candidates correctly identified YRT for term and ModCo or FWHCO for annuities justified the recommendation, which were awarded full credit. Other candidates who identified different methods for both term and annuities but provided sufficient justification were given partial credit.
For part (b) most candidates did well. If YRT was identified in part (a) and candidates successfully described advantages and disadvantages of YRT, full credit was given; for other identified methods in part (a) full credit was also given if candidates described advantages and disadvantages of those methods.
For part (c) most candidates did well. If ModCo or FWHCO was identified in part (a) and candidates successfully described advantages and disadvantages, full credit was given; for other identified methods in part (a) if candidates described advantages and disadvantages of those methods, full credit was also given.
For part (d) candidates' performance was mixed. Most candidate listed four considerations – a few from the insurer's perspective (which was not what was asked) and most from the reinsurer's perspective. The model solution did not capture all acceptable considerations. Partial credit was given if candidates listed four considerations but not all of them were crucial.

Overall, candidates performed admirably understand the differences in reinsuring term business and annuity business selecting the most appropriate method of reinsurance. The weakest responses were in part (d) supplying key treaty considerations from the reinsurer's perspective for the annuity business.

8. Continued

Solution:

(a) Recommend an appropriate method of proportional reinsurance for each insurance block based on the stated objectives.

An appropriate method for the term block is the yearly renewable term method, YRT. YRT transfers the reserves and risk based capital of the mortality risk reinsured. The YRT premium is based on risk transferred.

An appropriate method for the annuity block is modified coinsurance, MCO. Under MCO the company shares the risks, premiums, and benefits proportionally as in coinsurance, but the company retains the reserves and assets supporting the reserves. The reinsurer reimburses its share of reserve increases, and the company pays the reinsurer for investment income on those reserves.

(b) Describe one advantage and one disadvantage of the recommended method of reinsurance for the term block.

YRT reinsurance is appropriate for the term block because it effectively transfers mortality risk, helping the ceding company reduce statutory reserve strain and improve capital efficiency. However, a disadvantage is the annual rate variability.

(c) Describe one advantage and one disadvantage of the recommended method of reinsurance for the annuity block.

Modified coinsurance (ModCo) is suitable for the annuity block as it allows the ceding company to retain investment control—critical for managing variable annuities with guarantees like GMDBs. However, since no actual asset transfer occurs, ModCo may offer limited regulatory capital credit.

(d) Explain four key reinsurance treaty considerations, from the reinsurer's perspective, on the annuity block

From the reinsurer's perspective, four key reinsurance treaty considerations are:

- Clearly define asset management responsibilities, as asset performance directly affects reinsurance results for products with guarantees like GMDBs.
- It must address the mismatch between the GMDB risk and the asset base used for determining charges, possibly through carve-outs or by limiting future GMDB levels.
- The reinsurer's participation in future premiums, expenses, and annuitizations should be explicitly stated to ensure fair risk-sharing.
- Lastly, clear accounting and reporting provisions are essential to help the reinsurer understand its obligations and meet its own reporting requirements.

9. Learning Objectives:

2. The candidate will understand the fundamentals of risk transfer between two counterparties.

Learning Outcomes:

(2a) Describe the elements within reinsurance treaties

(2c) Explain the considerations and process of managing insolvency of the ceding and assuming parties within a reinsurance transaction

Sources:

Tiller, 4th Edition, Chapter 8: The Reinsurance Treaty

Commentary on Question:

Candidates performed well on this question overall, particularly in parts (b) and (c). In part (a), a significant minority of candidates unfortunately misinterpreted the question. Many listed components of a treaty not relevant to the automatic reinsurance conditions (e.g. reinsurance premiums for the treaty, payment schedules). Correct responses needed to include policy and policyholder attributes, like age maximums and minimums, face amount limits, substandard ratings, insured's state of residence, etc.

Solution:

(a)

(i) Critique the treaty's automatic reinsurance conditions.

The first condition is not appropriate. The plans should be described in the exhibits of the treaty, not based on the company's website.
The second condition is also not appropriate. It should be limited to jurisdictions where the ceding company is licensed.
The third condition is appropriate.

(ii) Describe four additional conditions that should be included in the treaty.
(1) The insureds are legal residents of the U.S.
(2) The policy conforms to the issue age and substandard limits in the exhibits of the treaty.
(3) The suicide clause and contestability period apply.
(4) The amount ceded is at least the specified minimum cession size.

(b)

(i) Identify four key stakeholders for the provision.

(1) Insurer
(2) Reinsurer
(3) Policyholder
(4) Regulator

9. Continued

(ii) Explain the primary benefit of the provision.

The primary benefit is that the reinsurer will pay claims directly to policy beneficiaries if the insurer is unable to due to insolvency.

(iii) Explain the primary risk to the reinsurer under such a provision.

The provision creates a direct relationship and responsibility between the reinsurer and policyholder. This is a significant risk to the reinsurer because it could be forced to pay claim benefits to the policy beneficiaries in addition to amounts already paid to the insurer.

(iv) Recommend an important step to take prior to entering the agreement with this provision to mitigate the above risk.

Getting regulatory approval before entering into a treaty with a cut-through provision.

(c) Describe three other clauses or provisions that address insolvency.

(1) An insolvency clause can guarantee reinsurance is payable in full to the receiver/successor if the ceding company becomes insolvent. A treaty is required to have this to receive credit for reinsurance on its financial statements.
(2) A special recapture provision can allow the ceding company to recapture business upon the reinsurer's insolvency.

(3) An offset clause allows debits and credits between insurer and reinsurer to offset against each other even in the event of insolvency.