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Emerging Topics:

Reinsurance for Capital Management and Cayman Reinsurance Landscape

Presenters:

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Managing Director, Capital Advisory, Aon

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Agenda

Topics for discussion

1 Functions of Reinsurance

2 Reinsurance as a Capital Lever

3 Emerging Topics: S&P Capital Model & Reinsurance

4 Cayman Reinsurance Market & Opportunities

Q&A

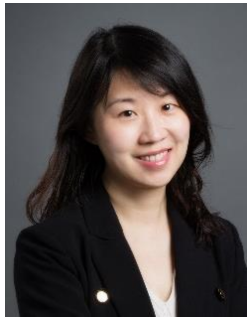
Presenters

Brian Spadaccino, CFA
Managing Director

Brian Spadaccino is a Managing Director in Aon's Capital Advisory group where he is responsible for advising clients through rating agency criteria and capital management strategies.

Prior to joining Aon in December of 2019, Brian worked at various rating agencies, including S&P Global and A.M. Best, where he focused on a portfolio of North American Life & Annuity companies and Property & Casualty companies of varying complexities.

Brian received his undergraduate degree from Rider University with a concentration in Finance; he has an MBA from Drexel University with a concentration in Investment Management and Economics. Brian is a CFA Charterholder



Yiru (Eve) Sun, FSA, PhD
Managing Director

Dr. Yiru (Eve) Sun is a Managing Director at Aon and is based in Seattle, WA. In 2022 Eve joined Reinsurance Solutions team of Aon, the largest reinsurance broker in the world. She has previously worked at Actuarial Practice of Oliver Wyman where she focused on actuarial strategy, Prophet model conversion and validation, and mergers & acquisitions. Eve also worked for New York Life and AIG, where she rotated among almost all actuarial key functions, for both Life and Annuity product lines. Eve is an FSA (2012), and obtained a PhD degree in Electrical Engineering from Princeton University.

The Role of Reinsurance as a Capital Lever for Life & Annuity Insurers

Brian Spadaccino, CFA
Managing Director, Capital Advisory
Aon's Capital Advisory Group: *Structure Agnostic, Solutions Driven Approach.*

1

Functions of Reinsurance

Use of Reinsurance in the U.S. Life/Annuity Industry

- Reinsurance is powerful tool that functions to shape earnings, risk and business profile of life/annuity insurers.
- Extensive use of reinsurance means that careful and constant evaluation of reinsurance strategies is needed to ensure that objectives are being met and impacts are understood
- Impacts of reinsurance strategies are often quantified through a rating agencies lens (capital model results, etc.…)

Functions of Reinsurance

Risk Management

- Limit volatility
- Reduce exposure to certain risk factors*
- Control cat exposure (i.e., pandemics)

Financial Management

- Source of Capital*
- Manage Profitability*
- Capital Optimization
- M&A

Product/Underwriting Support

- Underwriting Manuals
- Product development
- Data credibility
- Market intel

Indicates topics to be discussed in subsequent slide

2

Reinsurance as Capital Lever

Sources and Cost of Capital

	Equity	Hybrid	Debt	Reinsurance
Cost	10%-16%	5%-12%	< 6%	2% - 7%
Impact on Total Adjusted Capital	+ Increase in the capital +Decline in the double leverage	+ Increase in the capital –Increase in hybrid leverage	+ Increase in the capital - Increase in the double leverage	+/- Impact Depends
Impact on Net Required Capital	No impact	No Impact	No impact	+Decline in C1 Asset Risk and C2 Insurance & C3 ALM Risk

- **View reinsurance as an alternative form of capital alongside debt, hybrid and equity capital.**

"Ceded ROE" = cost of reinsurance capital

- Metric used to compare with cost of debt, hybrid and equity capital
- Capital freed up calculated using multiple capital regimes (i.e.; Rating Agency Capital Model)

$$\text{Ceded ROE (CROE)} = \frac{\text{cost of reinsurance}}{\text{Capital relief provided by the reinsurance}}$$

Reinsurance, a Source of Capital: *~20% of Capital Stack for Annuity Cos*

AMB Individual Annuity Composite **YE: 2021**

A.M. Best - Baseline Best Capital Adequacy Ratio (BCAR) ($ thousands)

Required Capital Components		**99.6 VaR Net of Reinsurance**	**99.6 VaR w/o Unaffil Reinsurance**
C1-NonEq	Credit Risk Invested Assets + Recv.	72,609,048	94,458,772
C1-Eq	Equity Asset Risk	42,288,222	42,288,222
C-2	Insurance Risk	2,571,799	4,103,623
C3-NonEq	Interest Rate Risk	28,077,137	31,074,896
C3-Eq	Liability Equity Risk	10,920,986	11,391,007
C4	Business Risk	9,558,512	9,558,512
	Gross Required Capital	166,025,704	192,875,030
	Less Covariance Adjustment	42,556,956	46,725,886
	Net Required Capital (NRC)	123,468,748	146,149,144
Stmt. Capital & Surplus		153,860,037	143,070,778
AVR + Conditional Reserves		23,988,895	23,988,895
Unearned Premium Reserve @ 10%		16,048	16,048
Dividend Payable		248,010	248,010
IMR: Curr. Following Year Amortization		982,364	982,364
Surplus Notes		(729,361)	(729,361)
Net Capital & Surplus		**178,365,993**	**167,576,734**
BCAR before Adjustment		31%	12%
+ Adj for Reinsurance Capital Benefit			***43,986,561***
Adjusted Capital & Surplus		**178,365,993**	**211,563,295**
BCAR (Adj Surplus - NRC) / Adj Surplus		**31%**	**31%**

Overview

- Reinsurance plays a meaningful role in capital strategies for Individual Annuity companies.
- **Unaffiliated reinsurance is estimated to provide approximately $44 billion in capital (or ~20% of the capital stack)** to the companies that make up AM Best's Individual Annuity Composite (49 insurance groups)
- Without reinsurance, the BCAR assessment would be "Very Strong" or have a 12% redundancy at the 99.6 VaR vs. the "Strongest" assessment or a 31% redundancy at the 99.6 VaR with reinsurance

Reduces Required Capital

- Gross Asset risk capital requirements for fixed income are reduced by ~23%
- Gross Liability risk capital requirements for mortality and market risk are reduced by ~11%

Increases Available Capital

- Capital is increased ~8% via net income from reinsurance commissions & expenses allowance, as well as deferred unrealized gain from inforce reinsurance transactions

Case Study on Annuity Flow Reinsurance

Improve Pricing and/or Profitability While Providing Capital to Support Growth:

- Improve competitiveness of new products (e.g., higher crediting rates) or profitability of new business
- Finance new business strain to maintain capital adequacy targets

Case Study on XYZ Insurer: ***XYZ wants to increase sales to $500mil per year over next 3 years and improve returns on capital while maintaining at least a 10% BCAR. Reinsurer will assume 28% of XYZ sales and provide a 25bps ceding allowance* in addition to the expense allowance.***

- Insurer XYZ is projecting extremely strong growth in their 7-year MYGA product. They are concerned that the new business strain will pressure their AM Best BCAR (Best's Capital Adequacy Ratio) score below their limit of a 10% redundancy at the 99.6 VaR
- Without reinsurance, Insurer XYZ can offer a crediting rate of 2.7% and projects $500m in new business per year for the next 3-years.
- Aon's Reinsurance Solutions team determined the Reinsurance market can support a ceding allowance of 25bps
- Aon's Capital Advisory team modeled projected BCAR without reinsurance and with an amount of reinsurance that will help XYZ meet their BCAR limits
- 28% ($140m) coinsurance, Reinsurers will pay a trailing ceding allowance of 25 bps to XYZ, XYZ can either offer a 7-year MYGA at 2.95% for the same return on its retained business or keep the crediting rate at 2.7% and retain the 25bps ceding allowance, thus improving returns on capital.

***Value Proposition: This solution only works if the reinsurer can provide a competitive edge on pricing via capital structure, higher investment returns, tax efficiencies**

XYZ's Projected Capital Adequacy and Returns without & with Reinsurance

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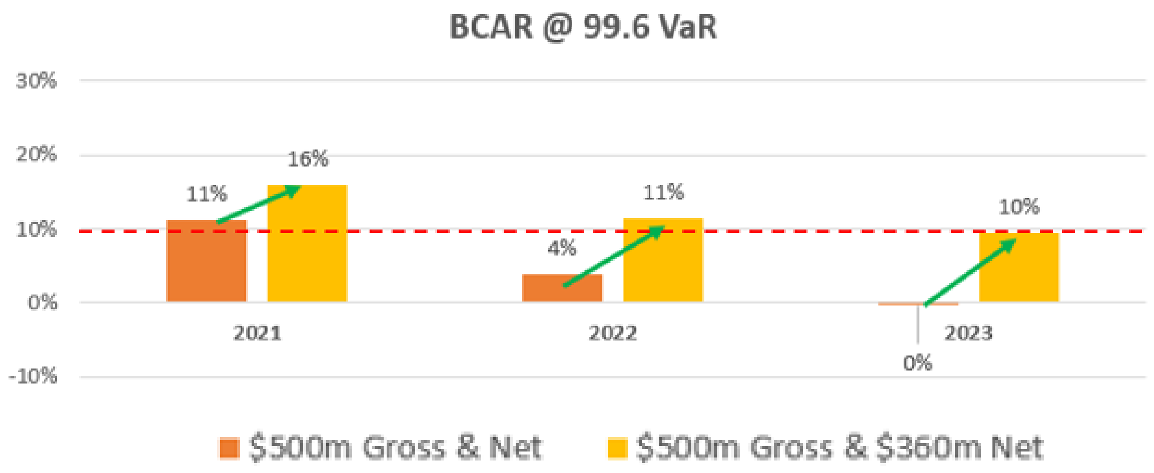
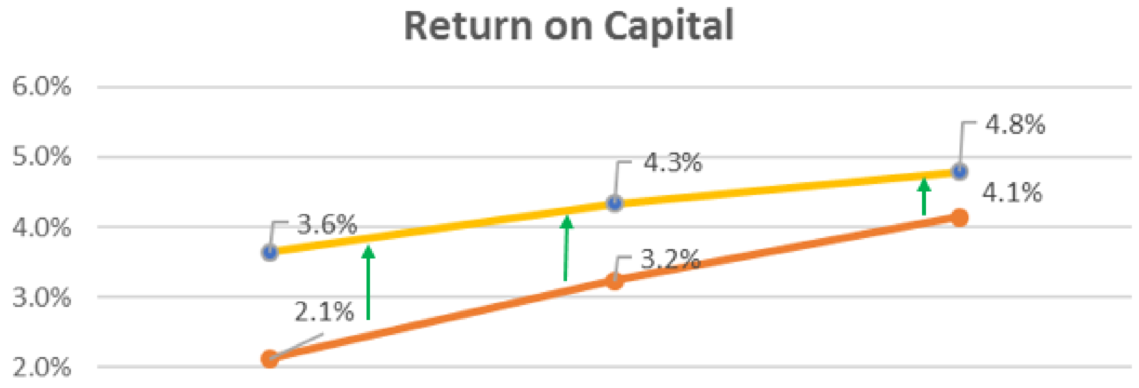
Reinsurance can support XYZ's growth objectives by reducing related capital strain

- Scenario where XYZ produces $500m of gross yearly new business premium and annually cedes 28% or $140m ($360m retention).
- This will enable XYZ's projected BCAR to improve by 5pts-to-10pts over the forecast horizon than without the use of reinsurance and stay at or above 10% target redundancy at the 99.6 VaR.

Reinsurance can also help buffer/enhance returns on capital during the growth phase

- 25bps ceding allowance that is retained by XYZ
- Reinsurer absorbs a portion of the acquisition cost





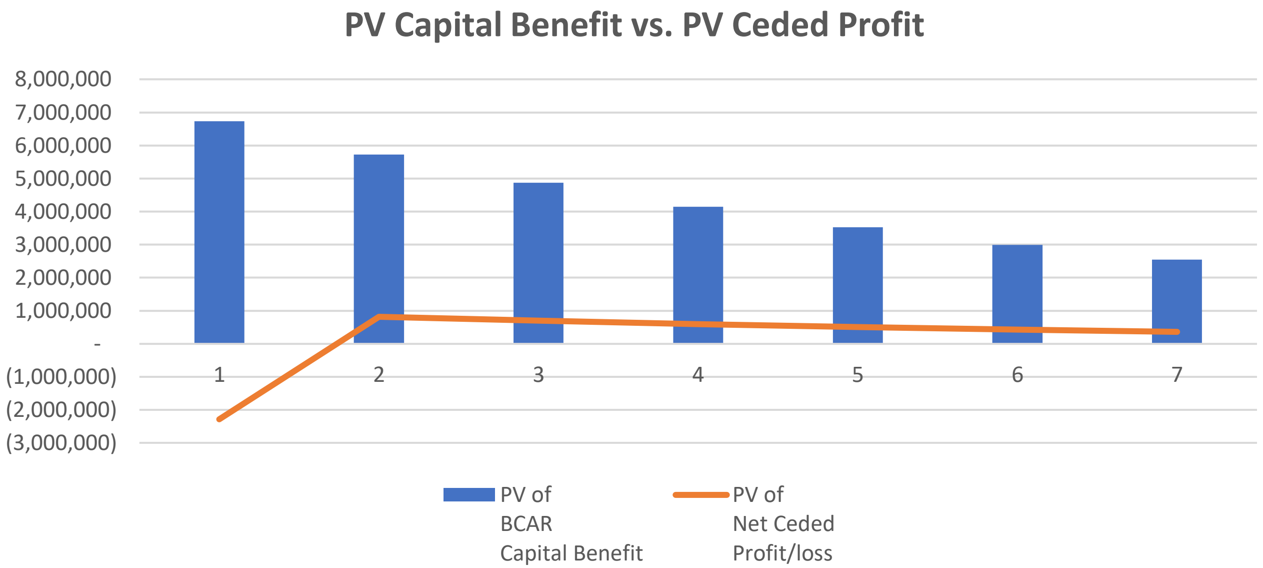
What's It Cost?.... *CROE Overview for XYZ Insurer*

Overview of MYGA Flow Reinsurance Cost Using CROE: uses runoff of 1yr's worth of business ceded

- **Pre-tax CROE: 3.65%; After-tax CROE: 2.88%**
  - Capital Benefit represent the incremental reinsurance benefit over a 7yr period discounted back at 12%. This $30.6 million figure represent the amount of equity, debt or hybrid one would need to raise today, in the absence of reinsurance, to support 1yr's worth of $140m in new annuity business that runs-out over a 7yr period, while maintaining a BCAR redundancy of 10% at the 99.6 VaR.
  - Net Profits Ceded reflect impact of 25bps ceding allowance.

Cost of Reinsurance (Ceded ROE)

Target BCAR @ 99.6 VaR	**10%**
Discount Rate	**12%**
Σ(PV) of Capital Benefit	**30,550,484**
Σ(PV) of Pre-tax Net Profits Ceded	**1,113,963**
Pre-tax CROE	**3.65%**
After-tax CROE	**2.88%**



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Emerging Topics:
S&P Capital Model Proposal

S&P Capital Model RFC: *Some Details of Revised Proposal Uncertain*

Overview:

- In December of 2021 S&P issued proposed changes to their capital model via RFC (Request For Comment).
- In April of 2022, these proposed changes were pulled after S&P received significant criticism on some aspects. S&P plans to reissue a revised proposal in 2023 to address some of the criticism from markets
- As of 1Q23 S&P has yet to issue its revised proposed capital model. Nevertheless, ***we believe that certain aspects from 2021 RFC are likely to also be in the revised proposal when issued. Most notable are below***

Revising the method for calculating TAC (*Impact will be mixed*)

- Elements from the original proposal are likely to remain.

Calibration of risk charges + Additional Risk Factors (*Impact will be negative*)

- Increasing confidence intervals and updating for risk factors for to reflect more recent data
- **Additional Risk Categories such as Pandemic and Longevity Risk likely to remain**

Increased in diversification benefit (*Impact will be positive*)

- Broadening the scope of diversification
- Diversification benefits likely to materially increase some Life Insurers

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Expansion of Risk Categories Allows for Targeted Reinsurance Solutions

- **Longevity Risk:** For U.S. Stat model users, the proposed model disaggregated the current C3 reserve risks into 3 separate risk charges, with an explicit longevity risk charge being one of them. In the proposal there were 3 categories of longevity risk. We believe that at a minimum the longevity risk charge for life contingent immediate payment products will remain, which now creates an ***opportunity to receive capital credit for longevity reinsurance***

Implicit in this charge is a 0.79% Longevity Factor

Immediate Annuity Gross Risk Charge (Old Model)	AA
C3 Charge	3.83%

Simplified Illustration

Immediate Annuity Gross Risk Charge (New Model)	AA
ALM Factor	2.75%
Longevity Factor	7.00%
Other Life Technical	0.00%
Gross Risk Charge	9.75%

Explicit Longevity Risk Charge will allow for longevity reinsurance credit

- **Pandemic Risk:** *New* to the model was a standalone pandemic risk charge. S&P assumed 1.5 excess deaths per 1,000 of the insured population at the 99.5% confidence level which is used to calibrate the mortality charges to determine the amount of excess claims payment. Some version of a pandemic charge will likely remain, which creates an ***opportunity to receive capital credit for pandemic reinsurance***

	Pandemic Risk Capital charges			
	99.99%	99.95%	99.80%	99.50%
Net amount at risk	0.084%	0.074%	0.065%	0.058%

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Cayman Reinsurance Market and Opportunities

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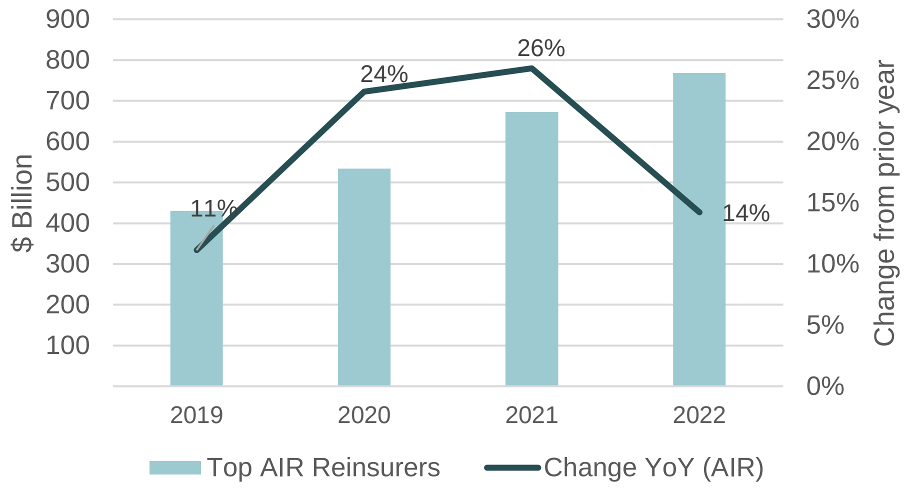
Fast Growth of Asset-Intensive Reinsurance (AIR)



This chart covered 30+ AIR reinsurers;
Representing over 90% of total market

Top AIR Reinsurers	Domicile
Athene	Bermuda
Global Atlantic	US (has offshore entity)
Fortitude Re	Bermuda
Talcott Re	US, Bermuda, Cayman
Resolution U.S.	US (has offshore entity)
Everlake	Cayman
Wilton Re	US (has offshore entity)
...... more	...... more

- The assets under management (AUM) of asset-intensive reinsurance (AIR) reinsurers have increased to be 7.6 times of the AUM of traditional reinsurers. And this ratio is increasing rapidly (it was 4.5 in 2018)
- Re/insurers have mainly focused on Bermuda market
- Bermuda Monetary Authority (BMA) proposed regulatory changes in Feb. 2023
- What kind of alternatives **Cayman Islands** provide as another offshore jurisdiction?

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Quiz 1.

How large is Cayman land size?	**A. 20 mi^2** **B. 60 mi^2** **C. 100 mi^2** **D. 155 mi^2**
How large is Bermuda land size?	**A. 20 mi^2** **B. 60 mi^2** **C. 100 mi^2** **D. 155 mi^2**

Quiz 2.

How much is Cayman's government debt?	A. USD \$ 265 million B. USD \$ 630 million C. USD \$1,750 million D. USD \$3,000 million
How much is Bermuda's government debt?	A. USD \$ 265 million B. USD \$ 630 million C. USD \$1,750 million D. USD \$3,000 million

Do we really know Cayman?

Data sources: Cayman's Finance Ministry; Government of Bermuda, Ministry of Finance

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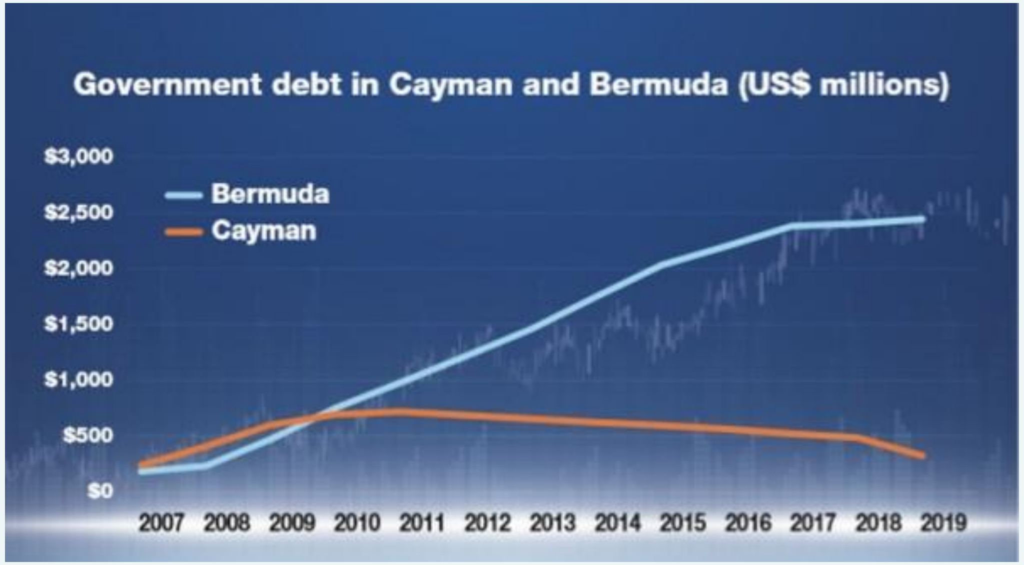
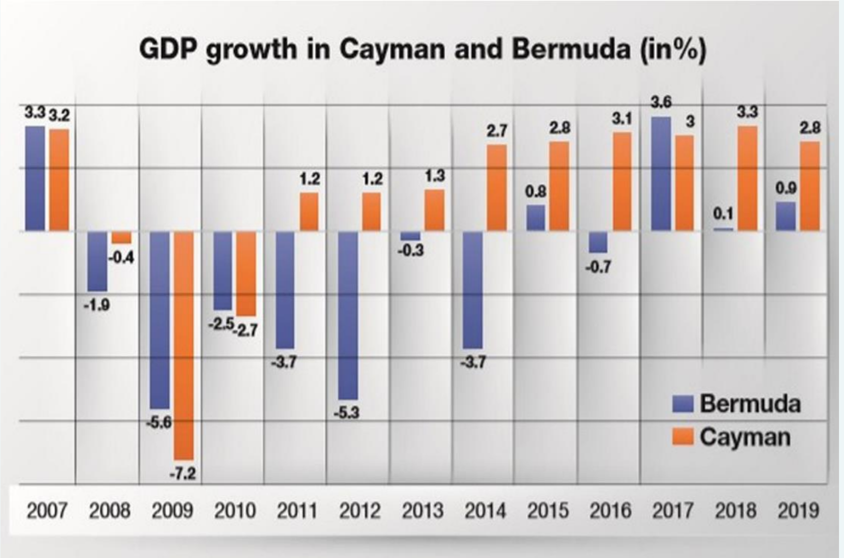
Cayman: Extremely Strong Fiscal Status





Sources: https://www.caymanlundteam.com/blog/bermuda-cayman-at-opposite-ends-of-fiscal-policy

Cayman
"Cayman recorded a very low Government Debt of US$ 265 M, that's 4.5% of GDP." (2021)
"Cayman Islands ranks top 7th in the world with a budget surplus $102 M equal to 4.4% of GDP." (2020)
"There were 110,451 companies based in Cayman in 2019, according to Cayman's Registry General."

Bermuda
"Bermuda debt ballooned to more than US$ 3 Bn, over 36% of GDP, with a debt-to-revenue ratio of 275%, vs. a benchmark of 80%." (2022)
"Bermuda projects a $29.0 M surplus", which is 0.4% of GDP (2023)
"There were 16,009 companies in Bermuda in 2019."

Considerations from Macro Level

The jurisdiction’s rating has impact on individual entity’s rating

- Cayman is well established (#1 jurisdiction) for offshore funds so institutional investors are already there. Investment funds, structured finance industries are also large in Cayman
  - Around 13,000 regulated open-ended funds and 16,000 regulated closed-ended funds, 800+ insurers in Cayman
  - Around 85% of the world's hedge funds are domiciled in the Cayman
- Cayman on macro level is extremely secure financially, economically, politically; Government has a large surplus
- Cayman rating Aa3 (by Moody’s) is the highest in the region

Strong anti money laundering (AML) – need proof even for $3000 deposit to checking account

Strong legal system – high court is UK Privy Council, legal framework based on UK common law

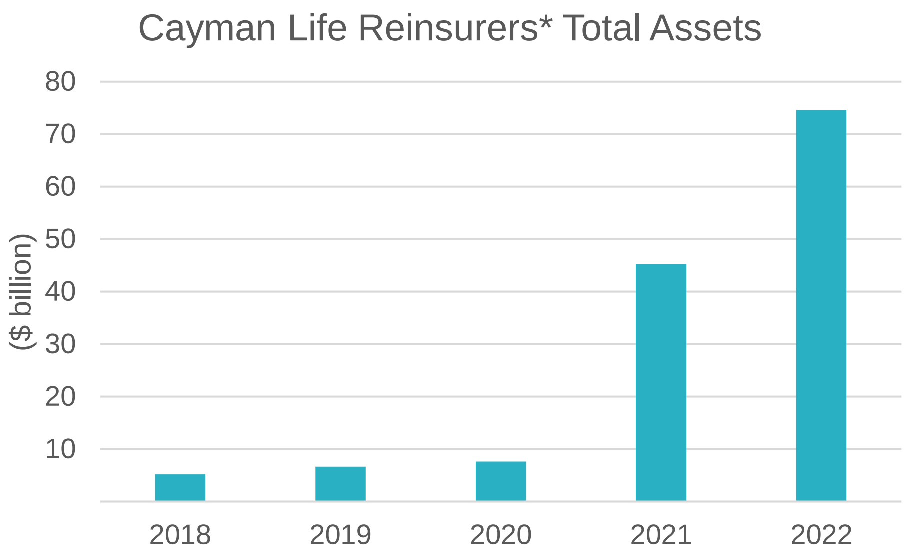
Strong advisory – legal, audit, accounting, tax, insurance management

IAIS

Insurance regulations fully compliant with IAIS & ICPs

Solvent government; no payroll tax

Cayman Life Reinsurance Momentum



* Covering 12 Cayman life reinsurers
Data sources: Financial reports on S&P or AM Best, or from Aon's meetings with the reinsurers

- **Several large reinsurers in Cayman**
- **Completed several large reinsurance and M&A transactions in the past a couple of years**
- **Very strong pipeline: (re)insurers are setting up reinsurance entities, captives, sidecars, etc. in Cayman**
- **Some Canadian companies moved from Barbados to Cayman**

Questions to Ask

Before Making Decision on Jurisdiction

- Would you like to hire people on the ground on Day 1, including CEO, CFO?
- Are you rated? Licensed offshore?
- How large of the reinsurance company do you want to establish?

Case Comparison

Case A:

- Company A is already a large, well-established reinsurer with enormous assets, and has a rating and license
- **Company A might benefit from setting up in Bermuda to enjoy its reciprocal jurisdiction status from NAIC**

Case B:

- Company B has enormous assets under management (i.e., Private Equity), but Company B is new, trying to get into reinsurance business, not rated
- US state insurance commissioners will still require Company B to post over-collateral for transactions, no matter if it's domiciled in Bermuda or other jurisdiction
- **In that case, Company B might enjoy other benefits from Cayman**

Operational Benefits of Cayman

– Operationally, it is much faster (i.e., 6 weeks once submitted to the CIMA) and cheaper to set up a reinsurance company or a captive in Cayman

– No need to hire people on the ground under Class B-iii; can use local insurance managers, and have people visiting Cayman, more flexible

– If you have a 5-to-10-year plan to set up in Bermuda, you can still use Cayman to speed up for the near future

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Setting Up Entities in Different Classes in Cayman

To meet different needs

Many new entrants set up as a Class B(iii) for a fast start (weeks instead of months)

Class B(iii) can choose to migrate their license over to a Class D, not required. Reinsurers with Class B(iii) completed $20 bn+ deals

The licenses issued for reinsurers include:

– **Class B(iii)**: No need to have staff on the ground. These licensees use insurance managers unless they elect to be self-managed

– **Class C**: Special Purpose Reinsurers (typically used for securitizations)

– **Class D**: Stand alone / self-managed reinsurers with staff (including executives) on the ground

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- Companies can take 953(d) election to be treated as a US tax payer → Any Federal Excise Taxes (FET) (1%) due on outward reinsurance premiums are exempt (net income is still taxable)
- The same company can also form non-tax paying entity (not electing 953(d)) for 3rd party reinsurance transaction
- When domiciled in Cayman, it significantly simplifies the operating, reporting procedures, etc.

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Flexible Accounting Treatment

- Flexible Cayman accounting treatment has been very attractive
- Companies can adopt international recognized accounting standard, or select US Stat, or US GAAP, etc., and can have modification, or choose to do hybrid arrangement
- Well recognized auditors can audit to confirm it is internationally recognized despite modification
- Some products better run modified Stat or modified GAAP
- Aon has helped various entities to find suitable treatment and locate audit firms

Suitable Capital Model

Applicants for reinsurance license can suggest their own capital model

Cayman is not NAIC equivalent nor Solvency II equivalent

Cayman does not have prescription around capital, solvency

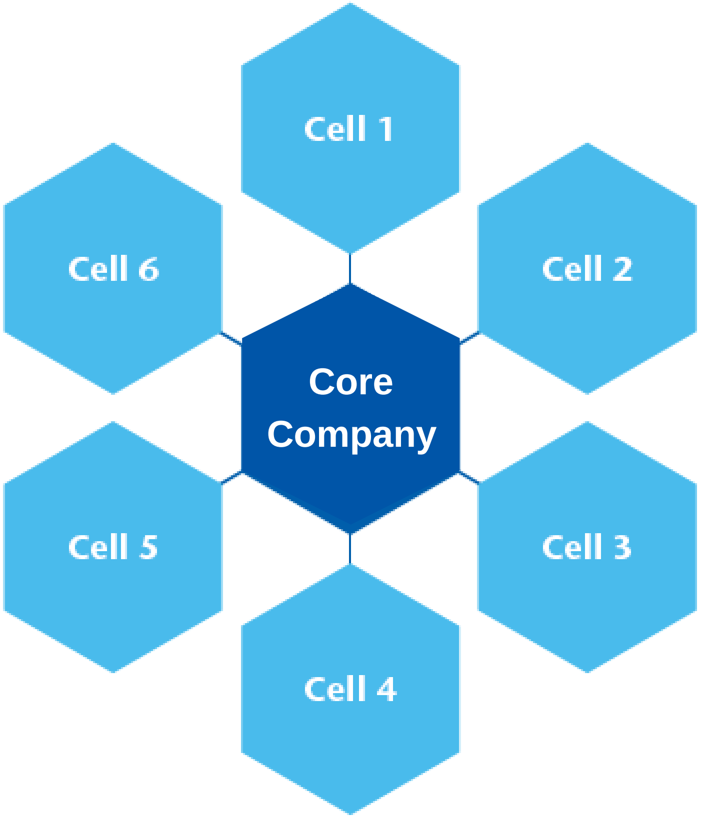
Companies need actuarial consulting firms to support proposed capital models

Example

Aon helped a very large Asian retail life insurance company propose to Cayman regulators the capital model they use with their home country regulators, which has been actuarially supported. Cayman regulators approved it.

Segregated Portfolio Legislation & Incorporated Cell Legislation (ICL)

- Segregated Portfolio legislation allows a Cayman exempt company to form as a segregated portfolio company (SPC), creating segregated portfolios (aka Cells) that are segregated from the Core entity (the SPC) and other Cells
- Additionally, Cayman entities can also incorporate their Cells using Cayman Portfolio Insurance Company Legislation. The Cell can form a Portfolio Insurance Company ("PIC")
  a. Quick to set up, easy to navigate, providing more corporate flexibility, more optionality
  b. Cell x is completely separate from Cell y
  c. Each cell can choose its own accounting treatment, capital model, etc.
  d. These PIC's can form their own boards, which adds flexibility
  e. PIC can transact with other PIC's (even under the same Core company) / Cells / SPC as they have their own legal entity



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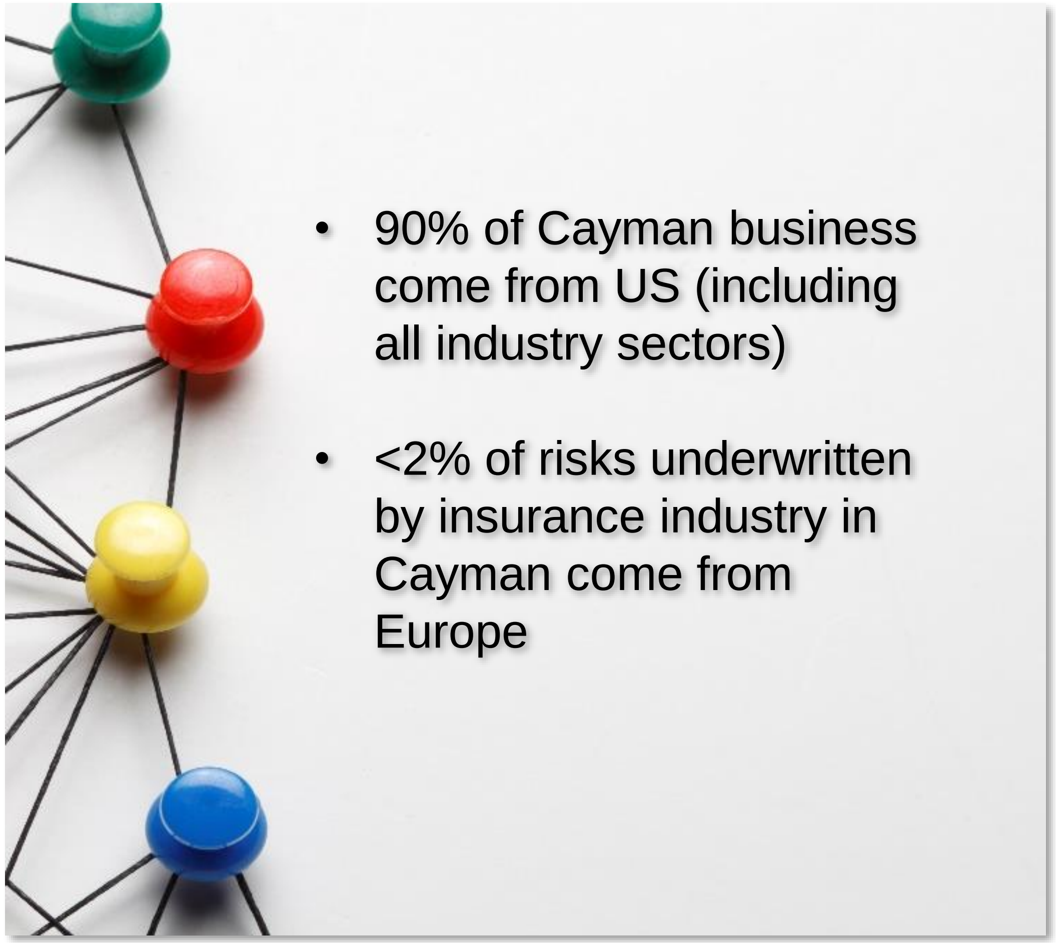
Regulation Considerations



- 90% of Cayman business come from US (including all industry sectors)
- <2% of risks underwritten by insurance industry in Cayman come from Europe

There is no consideration for Cayman to become Solvency II equivalent, as there is no material connection with Europe – therefore less uncertainty associated with changes of regulation requirements.

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Contingency Planning

- We do not consider Cayman as a competitor, but rather a good alternative to Bermuda
  a. Example: Per the Cayman Roundtable hosted in NY, most companies that spoke there already have their Bermuda platforms
- Some companies started to set up entities in US, Bermuda, and Cayman, so they can let their clients choose wherever most beneficial for the specific transaction
- Companies with Cayman platform can offer their cedants more competitive terms, and can deliver faster; can avoid a lot of compliance or due diligence
- With the regulatory development, companies' contingency planning should include Cayman

Insurers worry about counterparty risks?

a. All transactions with Cayman reinsurers can choose to have 102% ~ 105% overcollateralization
b. Insurers can monitor assets in the trust on a daily basis; Violation of Investment Guideline will trigger recapture (cedant keeps the initial ceding commission)

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