

# Solvency II – System of Governance

## Actuarial & Risk Management Functions

Milliman breakfast briefing  
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# CBI Preparatory Guidelines

System of  
Governance

FLAOR

Submission  
of  
Information

Internal  
Models

# CBI Preparatory Guidelines

## System of Governance

General  
Governance  
Requirements

Fit & Proper

Risk  
Management

Prudent  
Person  
Principle

Own Fund  
Requirements

Internal  
Controls

Internal Audit  
Function

Actuarial  
Function

Outsourcing

Group  
Governance

# CBI Guidelines – Risk Management

#	Guideline
12	Role of Board <ul style="list-style-type: none"><li>- Ultimate responsibility</li><li>- Risk Appetite, risk tolerance limits, strategies, policies</li></ul>
13	Risk management policy
14	Risk management function (RMF) general tasks
15	Underwriting & reserving policy
16	Operational risk management policy
17	Control & documentation of risk mitigation techniques
18	Reinsurance & other risk mitigation techniques policy
19	ALM policy
20	Investment risk management policy
21	Liquidity risk management policy

# CBI Guidelines – Actuarial Function (AF)

#	Guideline
35	<b>Tasks of the AF</b> <ul style="list-style-type: none"><li>- set out in Article 48 (1) of Solvency II directive</li><li>- any conflicts must be addressed</li></ul>
36	<b>Coordination of the calculation of Technical Provisions (TPs)</b> <ul style="list-style-type: none"><li>- identify any inconsistencies with articles 76 to 85 and propose corrections</li><li>- explain effect of material changes in data, methodology or assumptions on the TPs</li></ul>
37	<b>Data quality</b> <ul style="list-style-type: none"><li>- assess internal and external data against S2 data quality standards</li></ul>
38	<b>Underwriting policy &amp; reinsurance arrangements</b> <ul style="list-style-type: none"><li>- when providing opinions, must consider interrelations between these and TPs</li></ul>
39	<b>Internal model pre-application</b> <ul style="list-style-type: none"><li>- contribute to specification of risks to be covered including dependencies</li></ul>
40	<b>Actuarial reporting to the Board</b> <ul style="list-style-type: none"><li>- Report at least annually</li></ul>

# CBI Guidelines – Other

#	Guideline
22 -27	Prudent person principle
28	Capital management policy
29	Medium term capital management plan

Plus: FLAOR guidelines

# Actuarial & Risk Management Functions

## Actuarial Function

- **Technical provisions**
  - Coordinate calculation
  - Methodologies & assumptions
  - Data sufficiency & quality
  - Experience analysis
  - Report to Board on reliability & adequacy
- **Opinion on underwriting policy**
- **Opinion on reinsurance arrangements**

Potentially wide ranging involvement of Actuarial Function where undertaking has separate Actuarial & Risk Management Functions

- **Contribute to effective implementation of risk management system**
- **In particular:**
  - SCR & MCR risk modelling
  - Internal model
  - ORSA

## Risk Management Function

- **Facilitate implementation of risk management system**
  - Strategies, processes & reporting procedures
  - identify, monitor, manage and report on risks
- **Develop risk policies**
  - underwriting & reserving, ALM, investment & derivatives, liquidity & concentration risk, operational risk, reinsurance & risk mitigation
- **Demonstrate compliance with investment rules**
- **Internal model**
  - Design & implement
  - Test & validate
  - Document including changes
  - Analyse performance
  - Report to Board

# Medium High and High Impact Companies

	2014	2015
Actuarial Function	Technical Provisions Opinions on underwriting & reinsurance Contribute to RMS Annual Report to Board	Technical Provisions Opinions on underwriting & reinsurance Contribute to RMS Annual Report to Board Provide input for annual (YE 2014) and quarterly (Q3 2015) templates
RMF	Facilitate implementation of RMS Risk management policies	Facilitate implementation of RMS Risk management policies
Combined Activities	FLAOR Capital Management SCR?	FLAOR Capital Management SCR



# Medium High and High Impact Companies

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## Technical Provisions

Assess data quality against SII requirements  
 Develop and document methodology for setting assumptions  
 Develop and document methodology for calculating TPs  
 Develop and document the procedure for calculating TPs  
 Automate the valuation model  
 Co-ordinate calculation of TPs  
 Explain material changes in data, methodology or assumptions

# Medium High and High Impact Companies

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RMF	Facilitate implementation of RMS Risk management policies	Facilitate implementation of RMS Risk management policies

## Develop and document risk management policies

Risk management policy  
 Underwriting and reserving risk  
 Operational risk  
 Reinsurance and other risk mitigation techniques  
 Asset-liability management  
 Investment risk including derivatives  
 Liquidity risk

# Medium High and High Impact Companies

	2014	2015	
Actuarial Function	Technical Provisions Opinions on underwriting & reinsurance	Technical Provisions Opinions on underwriting & reinsurance	
	<b>FLAOR – Tasks</b>	<b>2014</b>	<b>2015</b>
	Assess overall solvency needs	Y	Y
	Compliance on continuous basis	N	Y
RMF	Deviation from SCR assumptions	N	Y*
Combined Activities	FLAOR Capital Management SCR?	FLAOR Capital Management SCR	

\* Not required for internal model companies

**Capital management:** Need to develop a capital management policy and a medium term capital management plan

# Medium Low and Low Impact Companies

	2014	2015
Actuarial Function	No requirement for an Actuarial Function	Technical Provisions Opinions on underwriting & reinsurance Contribute to RMS Annual Report to Board
RMF	No requirement for a Risk Management Function	Facilitate implementation of RMS Risk management policies
Combined Activities	FLAOR Capital Management? SCR?	FLAOR Capital Management SCR?

# Managing resources

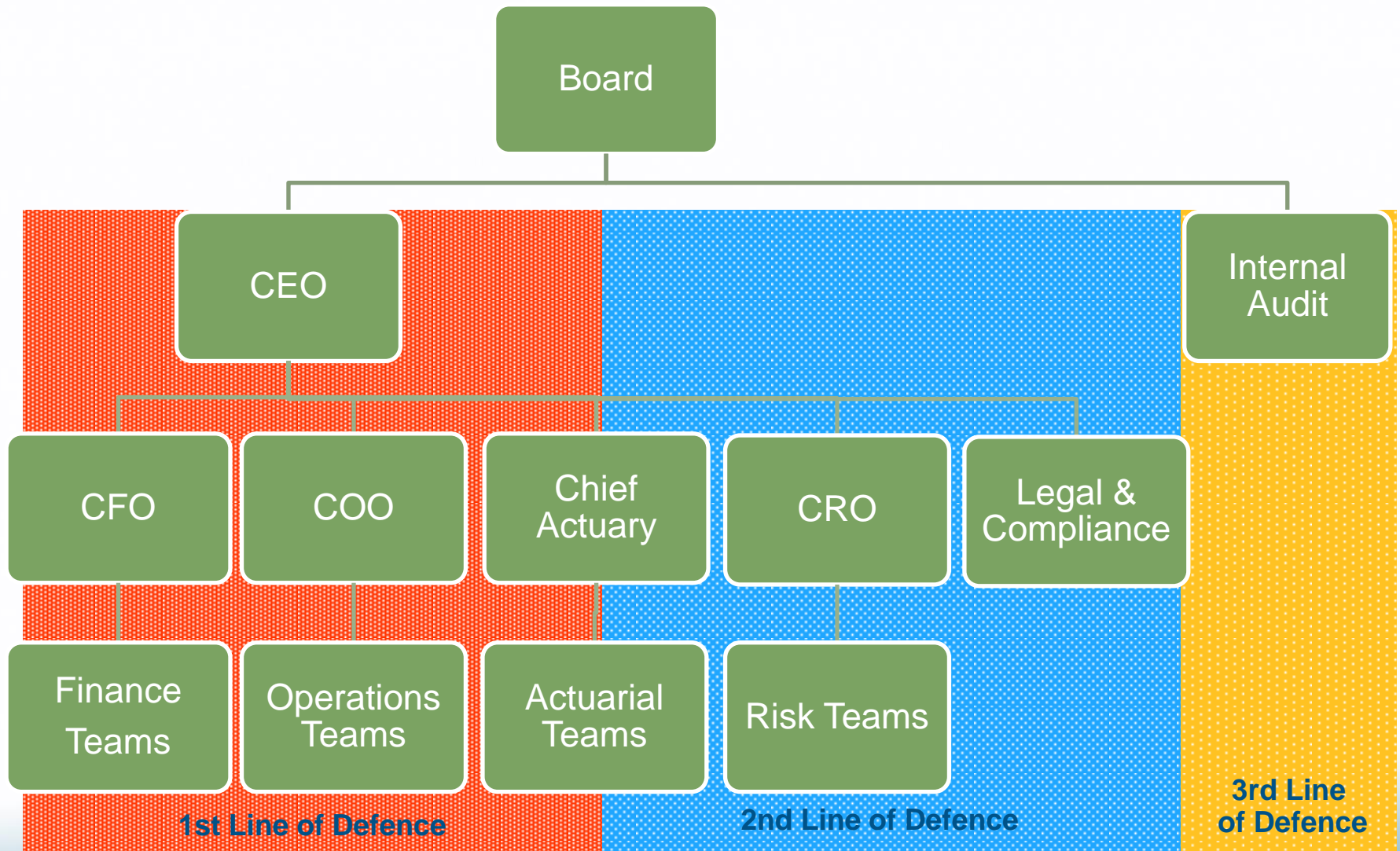
**Solvency I requirements:  
Appointed Actuary /  
Signing Actuary**

**Other current requirements:  
e.g. Reporting actuary  
Embedded value  
Pricing etc.**

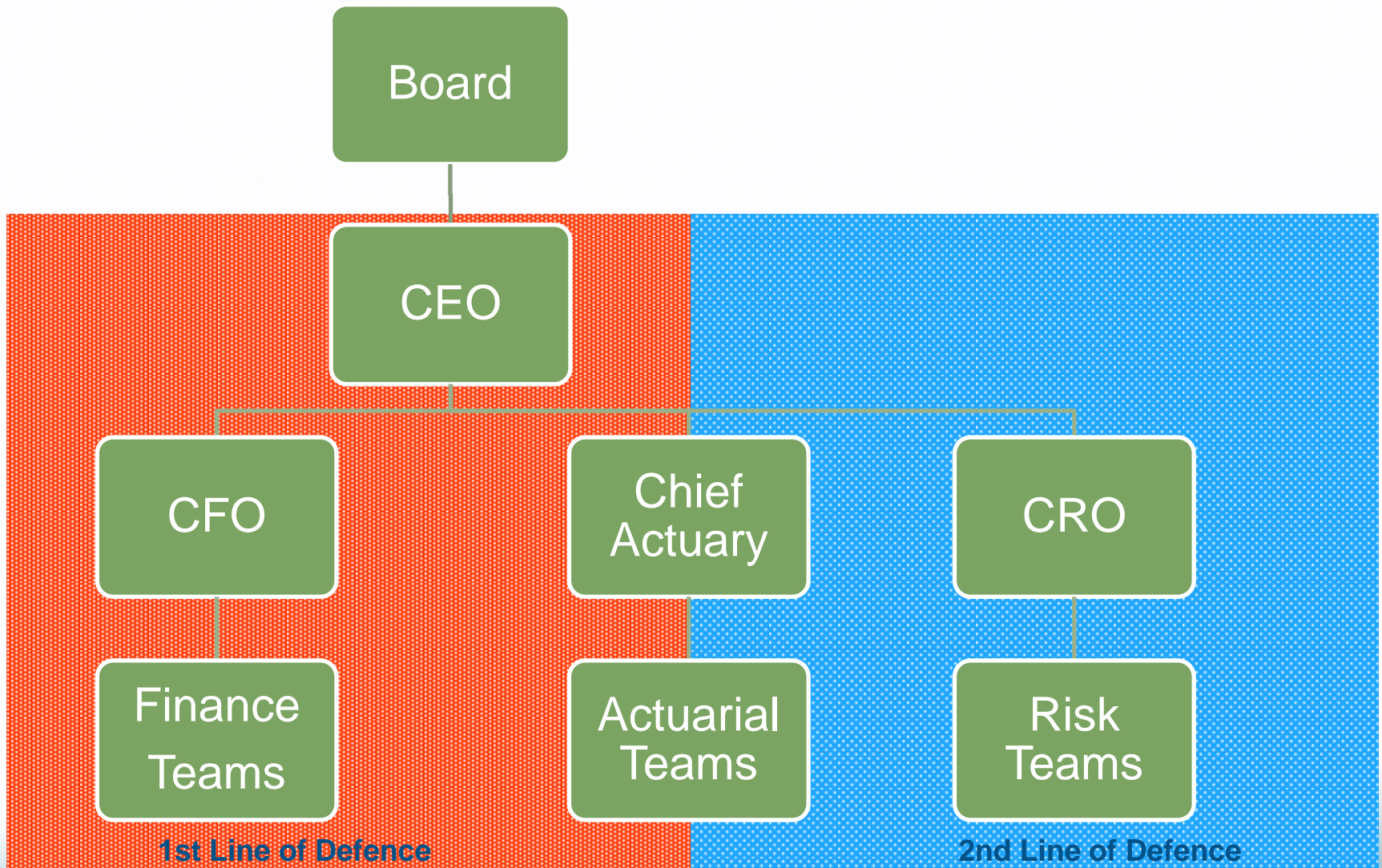


**Solvency II requirements  
Preparatory 2014, 2015**

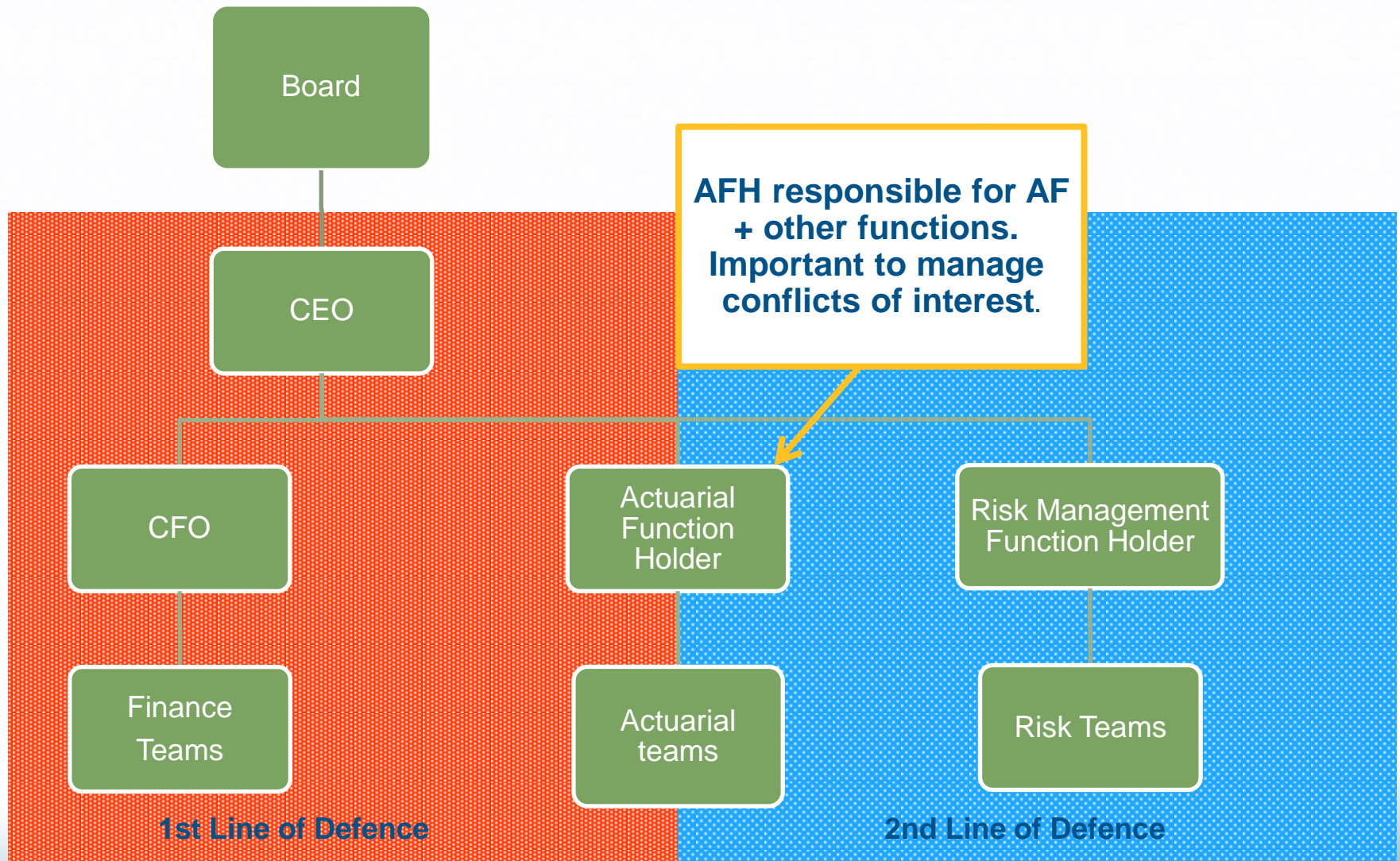
# Sample organisational structure (current)



# Sample organisational structure (simplified)

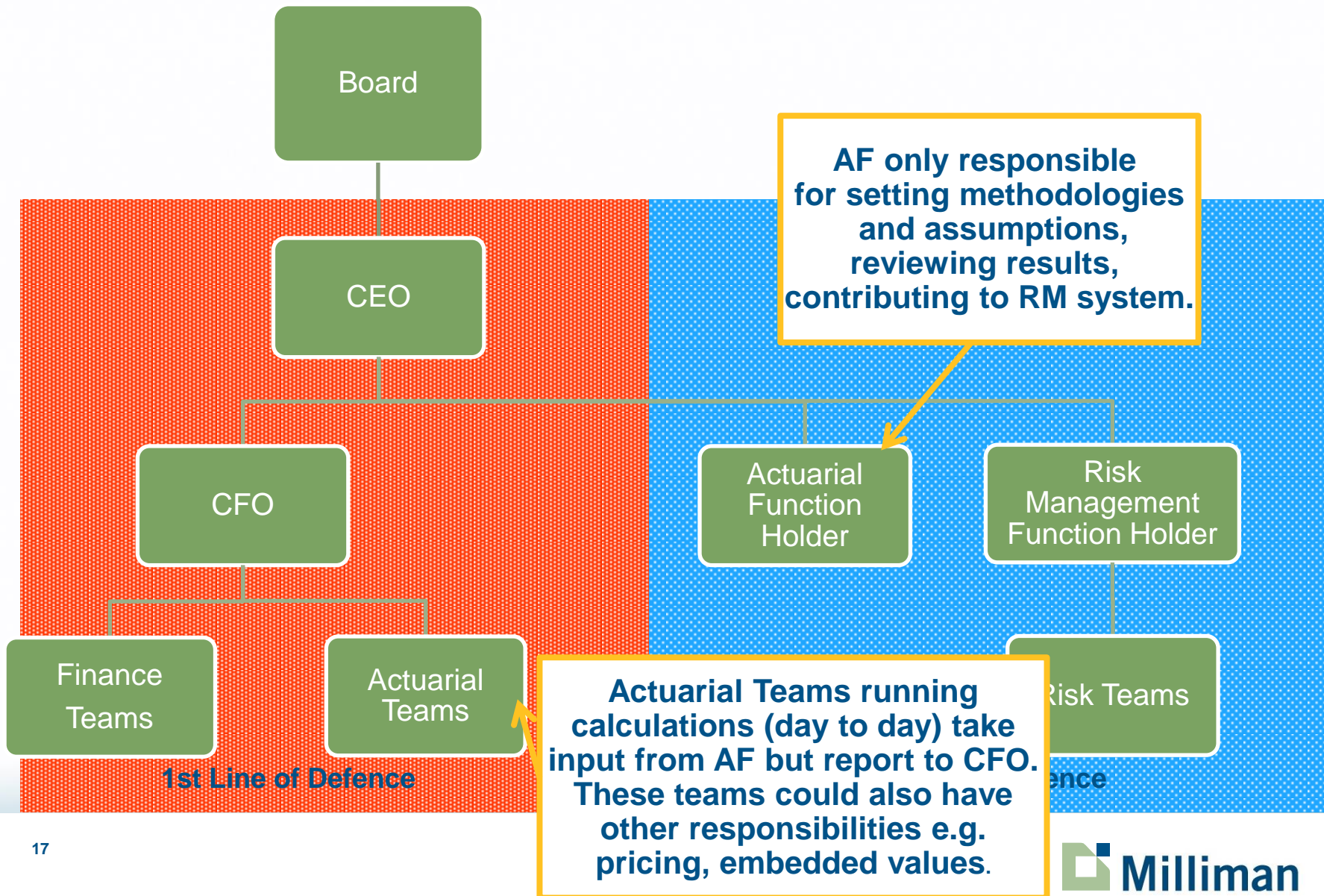


# Sample organisational structure #1 (SII)

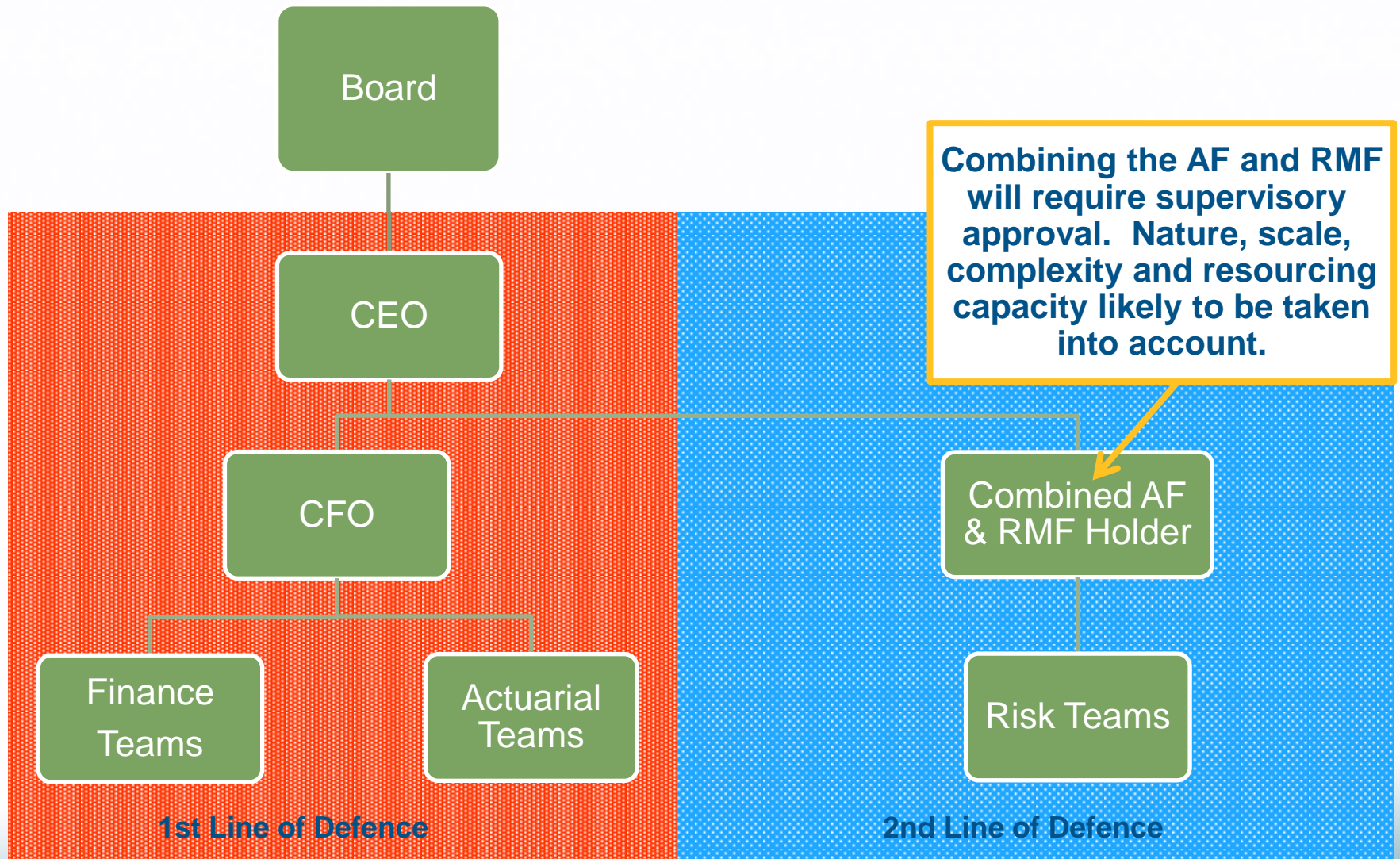




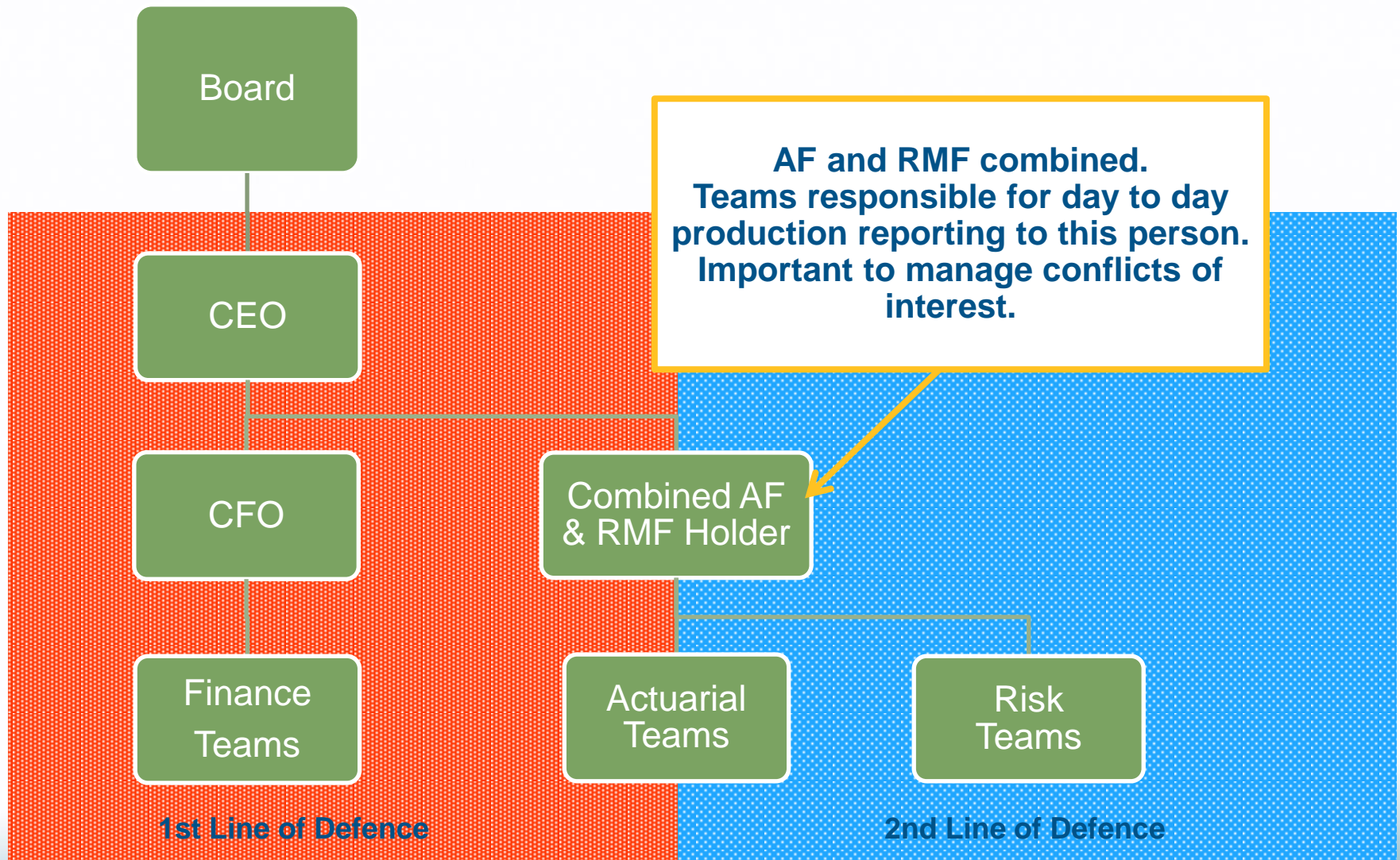
# Sample organisational structure #2 (SII)



# Sample organisational structure #3 (SII)



# Sample organisational structure #4 (SII)



# Question – how many actuaries?



**Appointed Actuary / Signing Actuary  
Chief Actuary  
Actuarial Function Holder**

# Managing conflicts of interest

Clear  
delineation of  
responsibilities

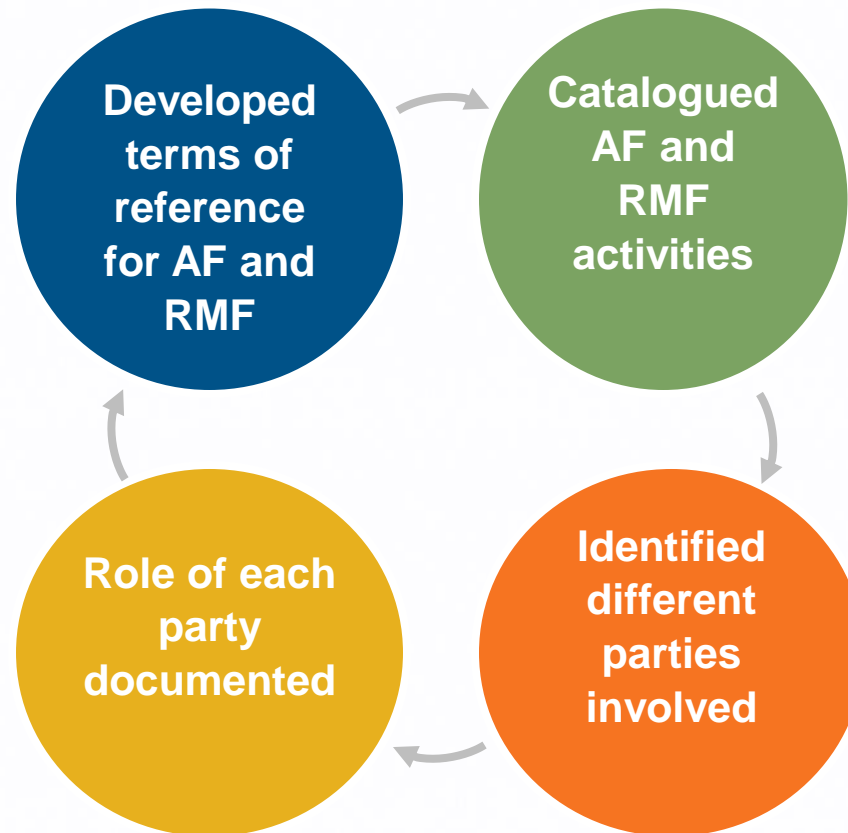
Oversight  
Committees

External  
Review

Remuneration

# Case study #1 – terms of reference

Worked interactively with client – medium sized life insurer (AUM ca.€5bn)



3. For each activity, either AFH or CRO ultimately accountable. Supporting roles of others were defined.

1. Activities based on the various responsibilities set out in the Solvency II texts

2. Parties included:

- External AFH
- Internal actuarial team
- CRO
- CFO
- Group financial shared services

# Case study #2 – outsourcing AF

Large insurance group with  
life & non-life subsidiaries in Ireland

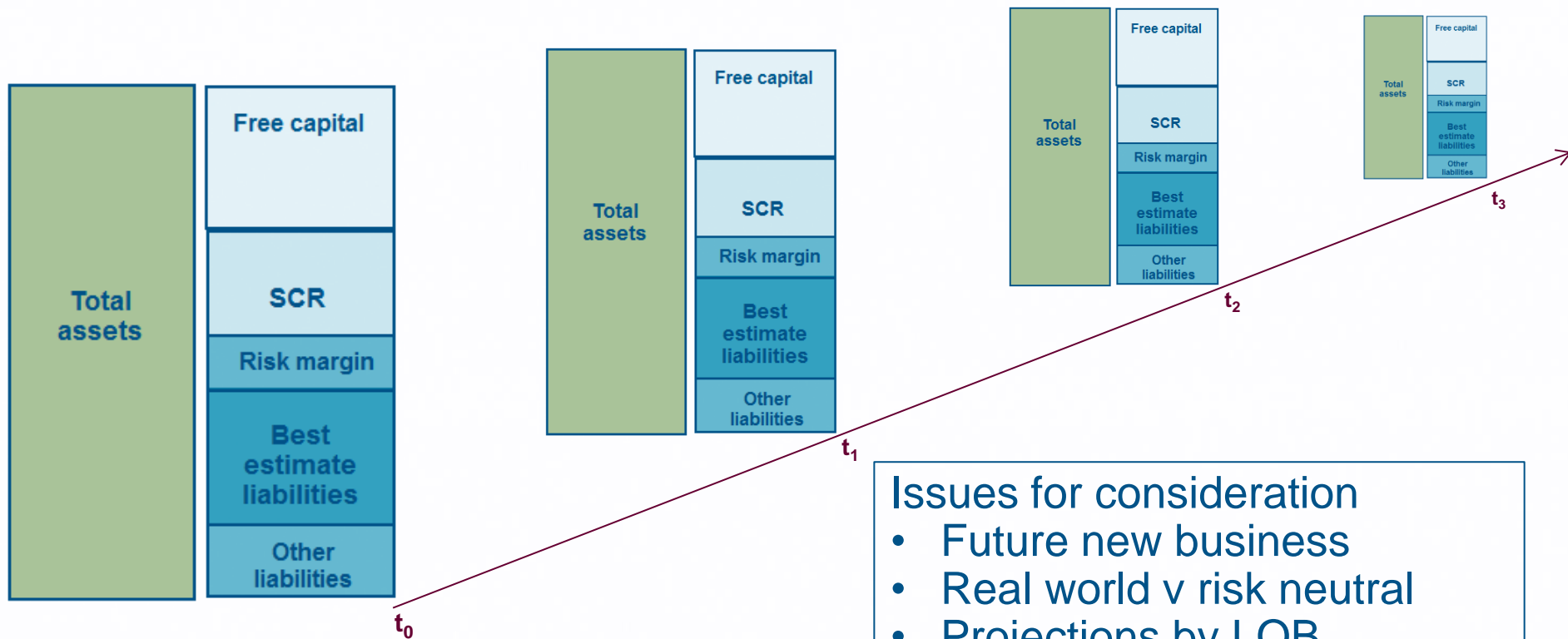
Outsourced life assurance  
Appointed Actuary (AA) role  
Continuous and wide ranging role

Outsourced non-life assurance  
Signing Actuary (SA) role  
Narrower role than AA role

Under Solvency II AF responsibilities will be  
same for life and non-life

Currently working with client to define working  
model, processes and procedures

# Case study #3 – building a projection model



- Issues for consideration
- Future new business
  - Real world v risk neutral
  - Projections by LOB
  - Complex SCR projections
  - Projecting Risk Margin
  - Reinvestment of surplus