Subject SA2

CMP Upgrade 2020/21

CMP Upgrade

This CMP Upgrade lists the changes to the Syllabus objectives, Core Reading and the ActEd material since last year that might realistically affect your chance of success in the exam. It is produced so that you can manually amend your 2020 CMP to make it suitable for study for the 2021 exams. It includes replacement pages and additional pages where appropriate. Alternatively, you can buy a full set of up-to-date Course Notes / CMP at a significantly reduced price if you have previously bought the full-price Course Notes / CMP in this subject. Please see our 2021 *Student Brochure* for more details.

This CMP Upgrade contains:

- all significant changes to the Syllabus objectives and Core Reading
- additional changes to the ActEd Course Notes and Assignments that will make them suitable for study for the 2021 exams.

1 Changes to the Syllabus objectives

This section contains all the ***non-trivial*** changes to the Syllabus objectives.

The following objectives have been changed to:

3.1 Demonstrate <u>an understanding of</u> solvency assessment techniques.

- 3.1.1 Outline the valuation of assets, liabilities and solvency capital requirements under Solvency II.
- 3.1.2 Compare solvency assessment approaches between different jurisdictions.

3.2 Demonstrate <u>an understanding of</u> capital management techniques:

- 3.2.1 Explain the different types of capital assessment.
- 3.2.2 Describe the different sources of capital <u>employed within the life industry.</u>
- 3.2.3 Discuss the assessment of ongoing solvency, including practical modelling considerations.
- 3.2.4 Explain the relationship between capital, risk and <u>economic</u> value <u>generation.</u>
- 3.2.5 <u>Describe the capital management techniques used within the life industry.</u>
- 3.2.6 Describe the principles of asset-liability management and the use of derivatives.

3.3 Demonstrate <u>an understanding of</u> profit reporting approaches:

- 3.3.1 Outline the main requirements of different accounting standards, including International Financial Reporting Standards (IFRS) and US GAAP, in relation to life insurance business.
- 3.3.2 Compare profit reporting approaches between different jurisdictions.
- 3.3.3 Describe embedded value reporting approaches, including under Solvency II.

3.4 Analyse surplus and profits arising over a period.

- 3.4.1 Analyse supervisory surplus arising, including under Solvency II.
- 3.4.2 Analyse the change in embedded value.
- 3.4.3 <u>Identify</u> possible actions that <u>may need to</u> be taken following an analysis of surplus or profit.

4.3 Demonstrate <u>an understanding of</u> the management of with-profits business:

- 4.3.1 Describe the components of an asset share calculation and how they could be determined.
- 4.3.2 Compare different methods of distributing bonuses under the 'additions to benefits' method.
- 4.3.3 Discuss the concept of smoothing.

4.3.4 Describe investigations than can be performed in order to inform with-profits business management.

4.3.5 Evaluate different bonus distribution approaches.

4.3.6 Describe general with-profits management considerations, including:

- regulatory requirements and policyholder protection
- management actions
- managing closed with-profits funds.

4.4 Demonstrate an understanding of product design and pricing techniques.

4.4.1 Describe the factors to be taken into account when designing life insurance products.

4.4.2 Determine appropriate methods and bases for pricing such products.

5.1 Develop coherent proposals (or a range of proposals) and recommendations in relation to complex hypothetical scenarios, reflecting the overall management of life insurance companies.

5.1.1 Analyse complex problems, demonstrating an understanding of the Syllabus, including the following factors:

- profitability, capital management, risk, regulation and customer demand.

5.1.2 Assess the implications, relevance and interaction of such factors, integrating the results into a coherent whole.

5.1.3 Evaluate the results critically in a wider context, drawing appropriate conclusions.

5.1.4 Discuss the advantages and disadvantages of suggested proposals and recommendations, taking into account different perspectives.

5.1.5 Demonstrate an understanding of any limitations and elements of uncertainty inherent in the proposals or recommendations made.

2 Changes to the Core Reading

This section contains all the ***non-trivial*** changes to the Core Reading.

Chapter 4

Section 1.3

The fourth ('Current expectations …') to eleventh ('The table is for …') paragraphs of page 8 have been deleted.

Section 1.8

The penultimate Core Reading paragraph in Section 1.8 has been amended to end at **'…liberalising their rules.'**

Chapter 6

Apart from the reference at the bottom of page 10, all references to dates in 2019 have been updated to refer to 2020.

Chapter 7

All references to dates in 2019 have been updated to refer to 2020.

Section 2

The following sentence at the end of the first paragraph in this section has been deleted:

The student is advised, however, to keep abreast of developments by reading the financial and insurance press.

Section 6.2

The penultimate Core Reading paragraph of this section (page 21) has been updated. The first brackets within the final sentence now reads '**19%**' as opposed to '**falling to 17%**'.

Chapter 9

Section 8.3

Paragraphs three to five in Section 8.3 have been replaced with the following:

The China Banking and Insurance Regulatory Commission (CBIRC) was established in April 2018 by a merger of China's banking and insurance regulators, namely the China Banking Regulatory Commission (CBRC) and China Insurance Regulatory Commission (CIRC). The CBIRC is responsible for supervising the establishment and ongoing business activities of banking and insurance institutions. It is also responsible for taking enforcement actions against regulatory violations.

The CBIRC has implemented significant changes to its capital requirements, risk management and transparency disclosures through the introduction of its C-ROSS framework. The C-ROSS framework has similarities to Solvency II, although the C-ROSS framework is also intended to reflect the circumstances of the Chinese insurance market, rather than be a direct copy of Solvency II. This is discussed in more detail in the next chapter.

Section 8.5

The verb tenses throughout this section have been amended to reflect that the replacement of the FSB with the PA and FSCA has now happened.

Chapter 10

Any reference to 2019 has been updated to 2020.

Section 2.1

The Core Reading within Section 2.1 has been extended to include the following:

For example, the persons carrying out the internal audit function must not assume responsibility for any of the other functions.

The actuarial function is primarily responsible for the coordination of the calculation of the technical provisions. For example, the actuarial function must explain any material effect of changes in data, methodologies or assumptions on the amount of technical provisions. It must provide an opinion on the company's underwriting policy and the adequacy of its reinsurance arrangements.

If the company uses an internal model to determine its SCR, the actuarial function should specify which risks within their domain of expertise are covered by the internal model. The actuarial function should also contribute to how dependencies between these risks and dependencies between other risks are derived. This contribution should be based on a technical analysis and should reflect the experience and expertise of the function.

[Effectively, the current ActEd text in this section has been converted into Core Reading.]

Section 4.1

The words '**temporary**' and '**provisional**', beginning the two bullet points at the top of page 12, have been swapped with each other.

Section 4.3

The first paragraph of the Core Reading under '**Statutory actuarial roles under Solvency II'** has been replaced with:

The Regulatory environment chapter outlined how certain jurisdictions may have specific statutory actuarial roles. Under Solvency II there are particular statutory roles and responsibilities.

Note that in the UK, actuaries may have different statutory responsibilities under Solvency II. Possible statutory roles in the UK under Solvency II include the Chief Actuary and With-Profits Actuary.

The following Core Reading paragraph has been inserted at the beginning of the '**Chief Actuary**' section:

Solvency II requires that the actuarial function (as mentioned above) is headed by an actuary with appropriate and specific skills. For example in the UK, under PRA supervision, this role is named the Chief Actuary. The role can be called something different under another jurisdiction.

[Effectively, the current ActEd text in this section has been converted into Core Reading.]

Section 5.3

'CIRC' has been replaced with '**CBIRC**' throughout this section.

Chapter 12

Section 0

The Core Reading has been updated to refer to May 2020.

Section 2.1

A few changes have been made to this section. Replacement pages are attached.

Section 2.2

This second Core Reading paragraph in this section has been amended to reflect that there are now <u>six</u> core principles that all members of the IFoA are expected to observe. This change is included in the replacement pages mentioned above.

Chapter 14

Section 5

The Core Reading has been updated to reflect the latest Syllabus change, *ie* when referring to '**value**', this has been changed to **'economic value'**.

This applies to the following:

- the section heading
- the second sentence in the first Core Reading paragraph
- the main 'Value' box in the diagram
- the first sentence in the first Core Reading paragraph below the diagram ('The interactions between …')
- the reference to 'value creation' in the final paragraph of the section.

Chapter 17

Section 2.4

The first Core Reading paragraph has been updated to reflect the latest likely implementation date of IFRS 17, *ie* **2023**.

Chapter 18

Section 2.3

The following Core Reading paragraph has been inserted below the bullet points at the bottom of page 6:

Note the split of the EV into the components outlined above is EEV and MCEV specific. Other approaches to splitting the EV are also possible.

Section 4.3

A few changes have been made to the Core Reading and ActEd text of this section. Replacement pages are attached.

Chapter 25 (Glossary)

Section 1

The following definitions have been added to the Core Reading:

Closed fund

A closed fund is a portfolio of life insurance business that is closed to new business. The portfolio of business will run off over time until the final policy in the portfolio matures, which could be many years in the future. In some cases, closed funds could merge with other closed portfolios of business that the life insurer has or be transferred to another life insurance company.

Principles and Practices of Financial Management (PPFM)*

An insurer that has any in-force UK with-profits business must establish and maintain a PPFM document setting out how such business is conducted. Insurers in the UK are required to provide the PPFM to policyholders. The PPFM must contain enough detail to enable a knowledgeable observer to understand the material risks and rewards of a with-profits policy.

The following definition has been amended as follows:

Insurtech*

Insurtech is a term used to describe the use of innovations in technology to provide savings and/or efficiencies from the current <u>insurance industry processes.</u>

3 Changes to the ActEd material

This section contains all the ***non-trivial*** changes to the ActEd text.

Chapter 1

Section 5.2

The first ActEd paragraph of Section 5.2 has been amended to:

This was initially due to the significant falls in interest rates following the 2008 recession. The situation was worsened by further interest rate reductions due to the COVID-19 pandemic.

Chapter 2

Section 7.2

The first ActEd paragraph of Section 7.2 has been extended as follows:

In the UK, for example, the 2018 equity release market stood at £3.6bn, a 20% increase on the year before. The growth in demand combined with increased competition among providers resulted in product innovation and competitive pricing in this market. <u>However, despite potential customers continuing to seek ways to access cash, providers' willingness to lend has been impacted by the economic uncertainty arising from the COVID-19 pandemic.</u>

Section 9.2

The first ActEd paragraph of Section 9.2 has been replaced by the following:

These new markets include emerging markets, where there is a huge potential for growth.

Chapter 3

Section 1.2

The chart of the changes in the FTSE 100 on page 6 has been extended to include up to May 2020.

The following ActEd sentence below the chart has been deleted:

Turning to UK interest rates, these were cut steadily from 6.0% *pa* in 2000 to 3.5% *pa* in 2003.

The ActEd commentary, beginning at the start of page 7, has been amended as follows:

As shown in the graph above, the FTSE 100 share index recovered to earlier highs by the end of 2007, fell significantly during the financial crisis of 2008-9 and subsequently recovered again. <u>The most recent drop reflects the COVID-19 pandemic and the resulting impact on the economy.</u>

Turning to UK interest rates, these were cut steadily from 6.0% *pa* in 2000 to 3.5% *pa* in 2003. They were then steadily increased from the end of 2003 to 2007. However, the slowdown in the world economy from 2008 resulted in a series of substantial cuts, with UK base rates falling to 0.25% *pa* in 2016. In early 2020, they were reduced to an all-time low of 0.1% *pa* in reaction to the pandemic.

In the UK, new business levels for conventional with-profits business are now close to zero, although significant volumes of in-force business still exist.

From its peak in 2001 (£387 billion with-profits policy liabilities), the size of the UK with-profits market has been steadily reducing year by year. At the end of 2018, UK with-profits liabilities were around £250 billion.

However, in many parts of Asia participating (with-profits) business is is growing. Unlike in the UK, there has not been any adverse publicity associated with these products.

Chapter 4

Section 1.3

The first ActEd paragraph now refers to 'three' instead of 'two' such examples.

The following ActEd paragraphs have been inserted at the end of Section 1.3:

The latest COVID-19 pandemic

At the start of 2020, the stock market reacted to the worldwide pandemic of COVID-19 by falling significantly.

In the first quarter of 2020, the FTSE 100 suffered falls of around 25%, the Dow Jones of around 37% and the Japanese NIKKEI 300 of around 28%.

The stock markets began to slowly recover. However, at the time of writing (May 2020), the total impact on the worldwide economy is still uncertain.

Section 1.7

The ActEd paragraphs following the Core Reading bullet point: **'low interest rates in many development economies'** (page 15) have been amended to:

In the UK, the Bank of England base rate is currently 0.1% pa (May 2020). This low rate is in reaction to the COVID-19 pandemic and its adverse impact on the economy. Prior to this, the base rate had been at 0.75% *pa* or lower since March 2009, having previously remained below 6% *pa* since 2000. This was much lower than the rates experienced at times during the 1990s when the base rate ranged from 5% *pa* up to nearly 15% *pa*.

Similarly, the federal funds rate in the USA is currently 0.25% *pa* (May 2020), which is significantly lower than it was at the start of the 1980s at around 14% *pa*.

The two ActEd paragraphs (on page 15) following the Core Reading paragraph starting with: **'For example, in developed countries…**' have been amended to:

In the UK, the Office for National Statistics estimates that more than 24% of people living in the UK will be aged 65 or older by 2042, up from an actual proportion of 18% in 2016.

Japan has one of the highest dependency ratios (this is the ratio of old age dependants compared with the working population) at 46 per 100 compared to the UK which has a dependency ratio of 29 per 100. However, the UK ratio is over three times greater than in the emerging and developing economies of the world. For example, India has only 9 pensioners per 100 workers. The ratios quoted are as at 2018.

The second ActEd paragraph following the Core Reading bullet point: **'low level of existing funding – 'the savings gap'** (page 15) has been replaced by:

A recent survey reports the UK is facing a savings gap of £66 billion, with many individuals under-providing for themselves in terms of long-term savings. According to the report, one in three individuals has no savings at all.

The following ActEd paragraph has been inserted at the end of Section 1.7:

The use of online services became paramount within the worldwide lockdown due to the COVID-19 pandemic. Some insurers needed to develop their infrastructure to ensure they were able to sell policies remotely, which should result in future cost savings.

Section 1.8

The penultimate paragraph of this section ('In particular, the relaxation …') has been replaced by:

For example, in the past few years China has loosened regulations relating to foreign investment and consequently has opened up the country's insurance sector to overseas companies.

Section 2.9

The second ActEd paragraph on page 24 has been amended as follows:

For example in the UK in 2018, over 70% of life and critical illness insurance sales were attributed to financial advisers and tied agents.

The third Acted paragraph has been amended by replacing 'insurance intermediaries' with 'independent financial advisers'.

Section 4.3

The following ActEd sentence has been added to the end of the section (page 30):

Closed funds are defined in the Glossary.

Summary

Likewise, the following is added to the end of the Summary:

Closed funds

When a life insurer stops writing business within one or more of its ring-fenced funds, that fund becomes closed. Closed funds are often created through the transfer of business from one life insurance company to another and will often require a formal legal process to be carried out.

Chapter 6

The dates referenced in this chapter have been updated from 2019 to 2020.

Section 3.2

The following paragraph has been inserted below the first Core Reading paragraph on page 10:

These taper limits were amended for the 2020/21 tax year, with the minimum annual allowance reducing from £10,000 to £4,000 and the income level increasing from £150,000 to £240,000.

Section 3.3

Likewise, the following paragraph has been inserted below the final Core Reading paragraph on page 10:

This limit was increased to £1.073m for the 2020/21 tax year.

Chapter 7

The dates referenced in this chapter have been updated from 2019 to 2020.

Section 3.1

The second ActEd paragraph on page 7 ('Prior to 2013 …') has been deleted.

Section 4.1

The command verb at that the start of the question on page 10 has been changed from 'Prove that' to 'Show that'.

Section 6.2

The first sentence of the second ActEd paragraph on page 21 has been deleted. The paragraph now starts with 'Historically the shareholder rate ...'.

Also on page 21, the third bullet point has been shortened and it no longer refers to plans to reduce corporation tax to 17%.

Chapter 9

Section 2.3

The reference to the date April 2019 (page 9) has been updated to refer to April 2020.

Section 8.3

The final ActEd paragraph has been deleted at the end of Section 8.3.

Section 8.5

The final ActEd paragraph of this section has been amended as follows:

<u>This change in supervision occurred in April 2018 and</u> can be compared to the approach taken by the UK in 2013 when the Financial Services Authority (FSA) was abolished and replaced by the PRA, which is responsible for prudential regulation, and the FCA which is responsible for regulation of conduct (as described earlier).

Summary

Chief Actuary has been deleted from the paragraph on APS L2 under the heading 'Professional guidance'.

Also, the penultimate paragraph within the summary on page 31 (under the heading 'China') has been amended to:

The China Banking and Insurance Regulatory Commission (CBIRC) is responsible for supervising banking and insurance institutions. It has implanted a C-ROSS framework which has similarities to Solvency II and is intended to reflect the different circumstances of the Chinese insurance market.

Chapter 10

Section 1.1

The link at the end of Section 1.1 has been amended to:

(see https://eiopa.europa.eu).

Section 2.1

As previously noted, the three ActEd paragraphs at the end of this section have been converted into Core Reading.

Section 5.3

The ActEd paragraph within the overview of this section has been deleted.

Section 5.5

The following ActEd text has been inserted at the end of Section 5.5:

This is now the responsibility of the Prudential Authority (PA).

Summary

'CIRC' has been replaced with 'CBIRC' at the bottom of page 26.

The second paragraph within the summary on page 27 has been amended to:

South Africa – The 'SAM' framework, introduced in 2018, is a risk-based solvency framework (largely based on Solvency II) for the prudential regulation of insurers in South Africa.

Chapter 11

Section 2.1

The table on page 9 showing the risk-free discount rates published by EIOPA has been updated to reflect the term structure as at April 2020.

The risk-free discount rates can be found on the EIOPA website at:

https://eiopa.europa.eu/regulation-supervision/insurance/solvency-ii-technical-information/risk-free-interest-rate-term-structures

The ActEd paragraph following this table has been amended to:

The table shows that the risk-free rate can be negative.

Section 3.2

The word 'bonds' has been deleted from the first ActEd paragraph on page 21.

Chapter 12

Section 2.2

The question and solution asking for the six core principles of the Code have been removed.

Summary

The paragraph under the heading *'The Actuaries' Code'* has been extended to:

The Actuaries' Code is the overarching ethical code of the IFoA and is mandatory for its members. <u>It sets out six core principles.</u>

Chapter 14

Section 5

The following ActEd paragraph has been inserted below the diagram:

The phrase 'economic value' is used here to describe the value of the company to shareholders, after allowing for the cost of capital.

Summary

The amendment from 'value' to 'economic value' has been reflected in the summary.

Chapter 17

Section 2.4

The first ActEd paragraph ('In November 2018, …') has been deleted.

Summary

The summary on page 23 has been updated to reflect the IFRS 17 effective date of 1 January 2023.

Chapter 18

Section 2.3

The ActEd sentence below the Core Reading bullet points at the bottom of page 6 has been deleted.

Section 4.3

A few changes have been made to the Core Reading and ActEd text of this section. Replacement pages are attached.

Chapter 20

Section 1

The following ActEd paragraph has been inserted at the bottom of page 4:

At the time of writing (May 2020), with-profits providers are starting to reduce terminal bonus rates in reaction to, what has been described as, the fastest fall in equity prices on record, following the worldwide COVID-19 pandemic.

Section 6.1

The following sentence has been added to the end of the ActEd paragraph under the first Core Reading bullet:

At the time of writing (May 2020), the overall impact from the dramatic fall in the stock market due to the COVID-19 pandemic is still uncertain.

Chapter 21

Section 1

The third ActEd paragraph of this section has been amended as follows:

With-profits business accounted for 42% of total UK life insurance new business in 1985. <u>From 2012 to 2017, the number of with-profits policies held by ABI (Association of British Insurers) members dropped by over 50% from 5.2m to 2.5m.</u>

<u>There is now only a handful of UK companies selling with-profits polices.</u>

Chapter 22

Section 5.3

The following sentence has been added to the end of the ActEd paragraph at the bottom of page 16:

Similar restrictions were put in place during the COVID-19 pandemic.

4 Changes to the X Assignments

There have been some changes made to the X4 Assignment for 2021.

Question 4.2

The table on page 3 has been amended to:

Opening Embedded Value	
	Expected return on free surplus
	Return on in-force business
	– Expected return
	– Non-economic experience variances
	– Non-economic assumption changes
	New business contribution
	Investment return variances
	Other economic variances
	Economic assumption changes
	Exceptional items
	Return on EV before tax
	Attributed tax
	Return on EV after tax
	Capital raised
	Less Capital distributed
Closing Embedded Value	

Solution 4.2

The solution to X4.2 Assignment parts (iii) to (v) has been amended as follows:.

- The subtitle (top of page 13) 'Return on in-force business – experience variances' now reads '*Return on in-force business – non-economic experience variances'*.
- The second paragraph on page 13 has been amended by inserting *'non-economic'* before 'experience variances on the embedded value would be to:'.
- Any mention of 'operating assumption change(s)' has been replaced *with 'non-economic assumption changes'*.
- The point 'These will arise if non-economic assumptions have changed in the calculation of the BEL, ...' has been amended by inserting '*non-economic'* before 'assumptions'.
- The seventh paragraph under 'Investment return variances' now reads as follows:

  'Investment return variance on the VIF will reflect the actual investment return differing from the expected investment return, …

  … eg for UL business, if actual investment return over the year is better than had been previously expected in the VIF, the new VIF will be higher than before in relation to the profits arising from future charges.'
- The subsequent subtitle 'Effect of currency movements' has been replaced with the subtitle '*Other economic variances'.*
- The succeeding paragraph has been amended to:

  'As above, but now representing variances resulting from differences between actual and expected outcomes for other economic variables, such as currency exchange rates.'
- The second paragraph under 'Other items' has been amended by inserting *'development'* before 'expenses'.
- The third from bottom point within section (iv) now reads:

  'This may be treated as an exceptional item in the analysis.'
- The second point within part (v) has been deleted.

5 Other tuition services

In addition to the CMP you might find the following services helpful with your study.

5.1 Study material

We also offer the following study material in Subject SA2:

- Flashcards
- ASET (ActEd Solutions with Exam Technique) and Mini-ASET
- Mock Exam and AMP (Additional Mock Pack).

For further details on ActEd's study materials, please refer to the 2021 *Student Brochure*, which is available from the ActEd website at **www.ActEd.co.uk**.

5.2 Tutorials

We offer the following (face-to-face and/or online) tutorials in Subject SA2:

- a set of Regular Tutorials (lasting three full days)
- a Block (or Split Block) Tutorial (lasting three full days)
- an Online Classroom.

For further details on ActEd's tutorials, please refer to our latest *Tuition Bulletin*, which is available from the ActEd website at **www.ActEd.co.uk**.

5.3 Marking

You can have your attempts at any of our assignments or mock exams marked by ActEd. When marking your scripts, we aim to provide specific advice to improve your chances of success in the exam and to return your scripts as quickly as possible.

For further details on ActEd's marking services, please refer to the 2021 *Student Brochure*, which is available from the ActEd website at **www.ActEd.co.uk**.

5.4 Feedback on the study material

ActEd is always pleased to get feedback from students about any aspect of our study programmes. Please let us know if you have any specific comments (*eg* about certain sections of the notes or particular questions) or general suggestions about how we can improve the study material. We will incorporate as many of your suggestions as we can when we update the course material each year.

If you have any comments on this course please send them by email to SA2@bpp.com.

1 Principles of professional conduct

1.1 Overview

Given the variety of roles that actuaries carry out, it is very difficult for actuarial organisations to put in place one definitive set of rules that will cover every aspect of work that could be carried out by its members.

Consequently, many actuarial organisations around the world choose to adopt a more principles-based approach to regulation in place of a prescribed set of rules. This principles-based approach often extends to organisations' codes of conduct, which set out the standards of professional conduct expected of members.

Examples of the types of high level principles that might be included in an actuarial organisation's codes of conduct include:

- **a requirement to act honestly and with the highest standards of integrity**
- **a requirement to perform professional duties with competence and care**
- **a requirement to ensure communications are clear, appropriate for the intended audience, and meet all applicable reporting standards**
- **a requirement to act with impartiality**
- **a requirement to comply with all relevant legal, regulatory and professional requirements**
- **a requirement to perform duties with courtesy and professional respect.**

The codes of conduct of actuarial associations will normally also provide some additional guidance on the types of behaviours expected from their members with regards to the principles contained in the codes of conduct.

1.2 Scope

The codes of professional conduct of actuarial associations will specify the scope of application with regard to its members.

For example, whether the code applies to all categories of membership of the actuarial association (*eg* students and qualified actuaries), regardless of where the actual member is located.

2 Professional standards framework – United Kingdom

2.1 Overview

An example of actuarial professional standards is the approach taken in the United Kingdom.

This section sets out the approach taken by the Institute and Faculty of Actuaries (IFoA) to actuarial professional standards of practice. The IFoA in the United Kingdom is responsible for setting and maintaining ethical standards for its members.

The IFoA has a responsibility under its Royal Charter to regulate the actuarial profession in the public interest. As part of that regulatory function, it sets and maintains a framework of mandatory standards for its members. Those standards, and the non-mandatory guidance produced to assist with their application, aim to support members in achieving and maintaining the level of quality and professionalism expected of them.

The IFoA's current standards framework is made up of:

- **The Actuaries' Code ('the Code')**

  This is an overarching, mandatory and ethical code of practice, focused around the following high-level principles:

  - **integrity**
  - **competence and care**
  - **impartiality**
  - **compliance**
  - **speaking up**
  - **communication.**

  The Code applies at all times to members' conduct in relation to an actuarial role. It also applies to other conduct if that conduct could reasonably be considered to reflect upon the actuarial profession.

- **Actuarial Profession Standards (APSs)**

  These standards build upon the principles of the Code and impose specific requirements upon members, often for particular practice areas or types of work.

- **Non-mandatory guidance.**

  This provides guidance to assist with the application of the IFoA's standards framework. It includes guidance on the Actuaries' Code and general topics such as 'speaking up' and 'conflicts of interest', which will be of value to all members, including those involved in data science work.

There are also some Guidance Notes for specific topics, although these are no longer produced by the IFoA. Guidance Notes are a mixture of mandatory and non-mandatory material.

The IFoA also requires members carrying out work that is within UK geographic scope to comply with the Financial Reporting Council's (FRC's) Technical Actuarial Standards (TASs). (UK geographic scope is defined in the FRC's Scope and Authority document.)

The Code, all current APSs and non-mandatory guidance can be found under the 'Upholding Standards' section on the IFoA's website. The FRC's TASs can be found on the FRC's website [Framework for FRC technical actuarial standards].

2.2 The Actuaries' Code

The Code is the overarching ethical code of the IFoA. All members of the IFoA are expected to uphold the Code. The Code applies at all times to members' conduct in their work as actuaries and is also taken into consideration where members' conduct in other contexts could reasonably be considered to reflect on the actuarial profession.

As shown above, the Code sets out six core principles that all members of the IFoA are expected to observe to support the IFoA in acting in the public interest.

The content of the Code is outside the scope of this Subject, however all members (students and actuaries) of the IFoA are expected to be familiar with the Code and comply with its principles.

2.3 Actuarial Profession Standards (APSs)

Members are required to comply with all applicable provisions of APSs.

The following Actuarial Profession Standards were described in the Regulatory environment chapter:

- **APS L1: Duties and Responsibilities of Life Assurance Actuaries – relevant to all members appointed to one of the statutory roles.**

  The statutory actuarial roles covered in the Regulatory environment chapter and the Solvency assessment (1) chapter are the Chief Actuary (or Actuarial Function Holder), the With-Profits Actuary and the Appropriate Actuary.

- **APS L2: The Financial Services and Markets Act 2000 (Communications by Actuaries) Regulations 2003 – guidance relating to the statutory obligation to 'whistleblow'.**

  Chief Actuaries, Actuarial Function Holders, With-Profits Actuaries or Appropriate Actuaries may need to communicate certain matters to the regulators if they have concerns about an insurer. This is commonly referred to as whistleblowing.

  Matters that may need to be communicated to the regulators include:

  – contravention of legislation by an insurer
  – significant risk that an insurer's assets may become insufficient to meet liabilities
  – significant risk that the insurer did not or may not take into account policyholder interests.

Also of relevance to life insurance actuaries are:

- **APS X1: Applying Standards to Actuarial Work (effective 1 July 2017) – sets out principles to be applied by members to determine which standards they must or should be applying to a piece of work.**

  APS X1 is mainly relevant to members undertaking work which is outside the UK geographic scope of the TASs.

- **APS X2: Review of Actuarial Work – applies to all members and relates to the need to consider the extent to which review (including independent peer review) is required for any actuarial work, *ie* work undertaken by a member in their capacity as a person with actuarial skills on which the intended recipient of that work is entitled to rely.**

  APS X2 outlines a number of factors to consider when deciding whether a piece of actuarial work should be reviewed, *eg* the complexity of the work, its significance and the extent to which judgement is required. Reviewers should have appropriate experience and expertise and be able to perform the review objectively.

- **APS X3: The Actuary as an Expert in Legal Proceedings – applies to actuaries who are appointed to act as an expert witness in legal proceedings held before courts, tribunals or similar.**

  Members of the IFoA must not act as an expert witness if they do not have the necessary level of knowledge and skill or if their advice is not independent and objective. The fee paid to the expert witness should not be linked to the outcome of the proceedings.

2.4 Guidance Notes

Guidance Notes include specific mandatory requirements which members are expected to comply with, as well as non-mandatory material. Guidance Notes are beyond the scope of this course.

2.5 Non-mandatory resource material

The IFoA also provides non-mandatory guidance and resource material for members, their employers and other stakeholders.

This includes:

- **'Whistleblowing: a guide for actuaries' and 'Whistleblowing: a guide for employers of actuaries'. These guides are intended to help all actuaries (and their employers) understand their whistleblowing obligations, both professionally and legally, and to alleviate concerns that they may have about such responsibilities.**

  A replacement guide for the former, now called 'Speaking up: a guide for members', was issued in May 2019.

  The IFoA has also put in place a confidential advice line that gives advice on when and how best to raise concerns. Details of the advice line and the above guides can be found at: https://www.actuaries.org.uk/upholding-standards/standards-and-guidance/non-mandatory-guidance

Question

A life insurance company determines its supervisory reserves using a similar regime to Solvency II, *ie* using best estimate assumptions with no prudential margins.

The company calculates its embedded value in accordance with European Embedded Value Principles, *ie* splitting it into free surplus, required capital and PVIF components.

Explain the impact that a new regular premium without-profits contract would have on the change in the company's embedded value over the year.

Solution

The new business (if profitable) should:

- ***Change in free surplus:***
  - increase assets by the premiums received during the year on this contract
  - reduce assets by the initial expenses
  - reduce assets by any other expenses incurred during the period between inception and year end (*eg* investment expenses, monthly renewal costs, if applicable)
  - decrease assets by the investment return earned on the (negative) net cashflows up to the end of the year
  - reduce the total supervisory reserves, as the best estimate liability for the contract should be negative; this is because the value of expected future premiums should outweigh the value of future expenses and benefits due to loadings for profit and initial expense recovery
  - overall increase free surplus
- ***Change in required capital:***
  - increase capital requirements due to the extra capital required to cover the extra risk (allowing for any diversification benefits)
- ***Change in PVIF:***
  - have no impact, as there are no prudential margins so there should be no PVIF element
  - unless there are contract boundaries imposed in the supervisory valuation which are not imposed in the embedded value calculation, or differences in the discount rate used *eg* via the use of a matching adjustment or similar, *etc*.

Overall, if the contract is written on a profitable basis, the reduction in supervisory reserve and increase in assets (from the initial premiums) should outweigh the reduction in assets (due to initial expenses) and the increase in cost of required capital, resulting in an increase in embedded value over the year, *ie* an embedded value profit.

4.3 Impact of solvency regime on analysis of change of embedded value

As outlined above, the applicable solvency regime for an insurer can have implications for the embedded value calculation, and consequently the analysis of change in embedded value.

In jurisdictions where supervisory reporting is performed on a prudential basis, the emergence of those prudential margins form the PVIF component of the embedded value.

Where the statutory reporting regime requires that liabilities are stated on a best estimate basis (for example, under a Solvency II or similar regime), then there would be no explicit future release of prudential margins to form the PVIF component. In this case the PVIF component would be zero, and the analysis of change in embedded value would effectively be an analysis of change in free surplus and required capital, net of the cost of holding required capital.

The total of the free surplus and required capital is equivalent to the 'net assets' of the company (*ie* assets minus liabilities). If the PVIF is zero, then the analysis of change in embedded value is therefore broadly the same as an analysis of change in net assets. The process required to perform this analysis would be the same as that described in an earlier chapter for the analysis of surplus.

However, as indicated above, it may also be necessary to analyse separately the changes in free surplus and in required capital (net of the cost of holding it). The required capital component would change, for example, as the result of any changes in methodology or parameters, or because the policies in force are different from expected at the end of the reporting period, *eg* due to new business.

Question

Explain briefly the process for analysing the change in net assets over a year.

Solution

The process for performing this analysis is based on rolling forward the balance sheet (both assets and liabilities) from the start of the year, allowing cumulatively in turn for corrections, assumption changes, changes to economic conditions, experience variances, new business and any other possible sources of movement, to produce an expected year-end balance sheet.

The change in net assets after each step is attributed to that particular source.

The difference between the actual and the final projected year-end balance sheets comprises the 'unexplained'.

However if there is material PVIF, the model now also needs to assess a revised PVIF at the end of the period of analysis under each projection step, plus an additional element that is not included in an analysis of surplus: the expected return on the PVIF, *ie* the 'unwind' of the discount rate.

Even where no prudential margins are expected to emerge on a supervisory valuation basis, it is possible that the insurer may expect some PVIF beyond that allowed for in its supervisory liabilities. For example, this will be the case under Solvency II where profits are expected beyond the Solvency II contract boundaries.

In some jurisdictions where with-profits business is written, the embedded value may include the present value of future shareholder transfers and any interest in the estate as PVIF, to the extent that this has not already been included in the embedded value as part of the shareholder own funds.

In the cases described in the two paragraphs above, the analysis of change in embedded value would therefore need to include determining the reasons for movements in these PVIF elements. It therefore could not be based solely on an analysis of change in net assets or 'analysis of surplus'.

To the extent that the embedded value calculation includes the value of the release of an explicit margin (for example, the risk margin under Solvency II), after allowing for the cost of holding it, then any changes to these calculations will also form part of the analysis.

As mentioned in Section 3, the release of the risk margin may form part of the PVIF. Alternatively, it may be included in the required capital. Either way, understanding the reasons for changes in its value, or in the allowance for the cost of holding it, would again need to form part of the analysis of change in EV.

Some life companies in jurisdictions where Solvency II has been implemented no longer report on an embedded value, and therefore no longer carry out a regular analysis of change in embedded value.

If the PVIF is zero or immaterial under Solvency II, as may be the case for many EU insurers, there is no added value achieved by performing an analysis of change in EV beyond what is already obtained through performing an analysis of surplus.

5 Customer value

Customer value measurement and management relates to the value that is placed on an existing or potential new customer throughout their lifetime.

'Customer value' is often monitored through persistency rates. However, it may also be based on embedded value measures, including profits arising from the expectation of multiple future policy purchases through cross-selling, or fulfilling customers' changing needs over their lifetime.

Analysis of the impact on customer value of different business decisions (*eg* changes to marketing, distribution channel, underwriting approach, product design, pricing) can help the company to maximise its profits or embedded value.

Simulation approaches can be used to achieve this, although the modelling requirements are typically complex, including a need to allow for the potential impact that a change in strategy may have on customer behaviour. There is often limited data or experience on which to base such assumptions, and similarly in relation to potential future policy purchases, and thus these approaches are relatively subjective.

Embedded value analysis techniques (as described earlier in this chapter) can be used to identify drivers of profit or loss at customer level.

Similarly, life insurance companies with large 'legacy' portfolios or closed funds may perform customer value analysis in order to maximise the profit that can be extracted from that portfolio or fund, subject to meeting the need to treat customers fairly.

Managing customer value is therefore a combination of:

- persistency management
- maximising cross-selling opportunities
- ensuring that product design reflects changing customer needs over their lifetime
- monitoring and modelling customer behaviours
- applying embedded value analysis techniques in order to identify sources of profit or loss at customer level.