Subject SA1

CMP Upgrade 2023/24

CMP Upgrade

This CMP Upgrade lists the changes to the Syllabus, 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 2023 CMP to make it suitable for study for the 2024 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 2024 *Student Brochure* for more details.

We only accept the current version of assignments for marking, *ie* those published for the sessions leading to the 2024 exams. If you wish to submit your scripts for marking but only have an old version, then you can order the current assignments free of charge if you have purchased the same assignments in the same subject in a previous year, and have purchased marking for the 2024 session.

This CMP Upgrade contains:

- all significant changes to the Syllabus and Core Reading
- additional changes to the ActEd Course Notes and Assignments that will make them suitable for study for the 2024 exams.

0 Changes to the Syllabus

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

Objective 0.1 has been deleted.

Objective 1 has been amended so objectives 1.3 – 1.5 are included in objective 1.2. It now reads:

1 Health insurance products and general business environment [30%]

Understand the main features of health and care insurance business. Considers the impact of the general business environment on the business sold by a health and care insurance company.

1.1 Understand, in detail and analyse the major health and care insurance products offered.

1.1.1 The benefits and other main features of the following products:

- critical illness insurance
- income protection insurance
- long-term care insurance
- health cash plans
- major medical expenses
- private medical insurance
- group and individual covers.

1.1.2 Key features of the health and care insurance products outlined in 1.1.1:

- Customer needs.
- Interaction with State provision.
- Bundling and unbundling.
- Impact of unit-linked wrappers.

1.2 Assess the effect of the general business environment on the management of health and care insurers:

- products and distribution, including the roles of the State and employers
- underwriting approaches, including genetic testing
- use of counterparties.
- external influences – demographic, medical, economic, political and social, pandemics, climate change.
- key medical conditions, treatments and other current health issues

- how a health and care insurance company can ensure that it treats its customers fairly
- areas of best practice in international health and care provision
- considerations underlying the provision of national healthcare systems:
  - the importance of healthcare provision
  - different healthcare systems worldwide
  - different approaches to financing healthcare
  - quality adjusted life years (QALYs).

Objective 2 has been amended as follows:

2 Regulatory, legislative and taxation environment [10%]

Understand the key aspects of regulation, legislation and taxation as applicable to health and care insurance companies.

2.1 Explain the relevance of legislation to health and care insurance business, in relation to:

- consumer protection
- equality legislation.

2.2 Understand the implications of the taxation of health and care insurance business for policyholders and health and care insurance companies.

2.3 Describe regulatory frameworks for health and care insurance companies:

- objectives of regulators
- financial reporting requirements
- conduct of business rules
- supervisory tools, including rulebooks and reporting requirements
- statutory actuarial roles.

2.4 Demonstrate understanding of the over-arching Solvency II regulatory framework and its impact on business culture and strategy:

- background and scope
- structure
- Pillar 2 governance requirements
- Pillar 3 disclosure and reporting requirements
- group reporting requirements.

2.5 Compare regulatory, legislative and taxation environments between different jurisdictions.

2.6 Demonstrate how the regulatory, legislative and taxation environments affect the way in which health and care insurance companies carry out their business in practice.

2.7 Outline the requirements of actuarial standards in relation to actuaries practicing in or advising health and care operations.

The following text has been added below the Objective 3 heading:

Understand product design and pricing techniques and methods.

The following text has been added below the Objective 4 heading:

Reserving for health and care claims, capital management techniques and the principles of asset liability management for health and care insurance companies.

The following text has been added below the Objective 5 heading:

How to monitor a health and care insurance business and develop coherent solutions and courses of action for health and care insurance companies.

Objective 5.4 has been deleted.

Objective 6 has been deleted.

1 Changes to the Core Reading and ActEd material

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

Throughout the Course Notes, the time of writing has been updated to May 2023 unless otherwise detailed.

Chapter 1

Section 4

On page 10, the link in the first bullet point in Section 4.1 has been amended to:

actuaries.org.uk/qualify/curriculum/health-and-care/resources-for-sa1

Also on page 10, the link at the end of Section 4.1 has been amended to:

sias.org.uk/resources

On page 11, the link at the end of the page in Section 4.3 has been amended to:

actuaries.org.uk/qualify/curriculum/health-and-care/resources-for-sa1

At the top of page 12, the final link in Section 4.3 has been amended to:

actuaries.org.uk/standards/standards-and-guidance

Chapter 2

The syllabus objectives (1.1, 1.1.1 and 1.1.2) have been amended as outlined in Section 0 of this document.

Section 3

On page 25, the final paragraph of ActEd text has been amended to read:

Concerns such as these in the UK have led the government to propose establishing a lifetime cap of £86,000 to an individual's care costs from October 2025 in England. This cap does not include accommodation or food costs. At the time of writing (May 2023) it remains to be seen whether the insurance industry will develop products that could cover these capped costs.

Chapter 3

The syllabus objectives (1.1, 1.1.1 and 1.1.2) have been amended as outlined in Section 0 of this document.

Section 1

On page 5, final sentence of the first paragraph of ActEd text has been deleted.

Chapter 4

The syllabus objective (1.1.2) has been amended as outlined in Section 0 of this document.

Section 3

On page 14, the ActEd questions have been deleted.

Chapter 5

The syllabus objective (1.2) has been amended as outlined in Section 0 of this document.

Section 1

On page 3, the second Core Reading bullet point and the ActEd text below it have been amended to read:

- **Demographic factors – for example in many countries, there is a demographic trend that shows people are living longer, especially with disabilities or chronic conditions, than has historically been the case. Often, more than one chronic condition is diagnosed in an individual, described as comorbidity.**

  The term comorbidity is used to describe a situation where multiple diseases or conditions are present. This term is defined in the Glossary (Chapter 27).

On page 13, the final paragraph of ActEd text has been amended to read:

The whole life assurance product mentioned here has been released by VitalityHealth. The product offers different options such as LifestyleCare cover, which pays some benefit early if you need care due to an illness such as dementia. Another option gives a discount on the initial premium if the policyholder commits to premium increases at a fixed rate.

Chapter 6

The syllabus objective (1.2) has been amended as outlined in Section 0 of this document.

Section 2

On page 14, the Core Reading before the bullet point list in Section 2.5 has been amended to read:

There are a range of approaches to the regulation of the use of predictive genetic tests by insurers including guidance, legislation and moratorium. For example:

Section 4

On page 22, the ActEd text below the bullet point list has been amended to read:

In the UK, fertility rates have been reducing since 2012 following a period of relative stability from 1977 onwards. Although there are signs it may be starting to increase again with a slight rise in 2021.

On page 26, the ActEd text before the bullet point list has been amended to read:

The following are examples of conditions that have been added to some CI insurance policies in the UK market:

On page 27, the ActEd question and the sentence below it have been deleted.

On page 32, there have been several changes Replacement pages are attached.

Section 5

There have been a number of changes to pages 39 to 41. Replacement pages are attached.

On page 42, the final paragraph of ActEd text has been updated to read:

For example, in the UK, the 10-year survival rate for prostate cancer was around 25% in 1971-72 but by 2023 it was almost 80%. For breast cancer in women, the 10-year survival rate increased from around 40% in 1971-72 to almost 75% by 2023.

Chapter 7

Section 1

On page 10, the example has been updated to read:

The Serious Illness Cover from *VitalityLife* pays out a lump sum of between 25% and 100% of the sum insured, depending on the severity of the condition. There are seven severity levels and over 170 specified conditions are covered.

On page 18, the example has been updated to read:

'VitalityHealth' from the Discovery Group is an interesting individual PMI product. It gives premium discounts and a range of retail benefits (*eg* free coffee and cinema tickets each week), which are based on the insured's previous claims experience and on their participation in health-improving activities, such as achieving a minimum number of 'steps' per day or participating in parkrun. It also offers discounts to encourage healthy activities such as reduced gym membership fees and discounts on purchases such as trainers and bikes.

Note that the second paragraph of the example has been deleted.

Chapter 9

The syllabus objective (2.2) has been amended as outlined in Section 0 of this document.

Section 3

On page 10, the second paragraph of Core Reading in Section 3.3 has been amended to read:

UK heath and care insurers must now comply with IFRS 17, which came into effect on 1 January 2023.

Chapter 10

The syllabus objectives (1.2 and 2.3) have been amended as outlined in Section 0 of this document.

Syllabus objective 2.4 has been corrected to reference objective 2.5 (the text is correct).

Section 2

On page 12, there have been a number of changes to the Core Reading and ActEd text. A replacement page is attached.

Section 3

On page 19, the first paragraph of ActEd text has been deleted.

Section 4

On page 21, the final paragraph of ActEd text has been deleted.

On page 22, the penultimate paragraph of Core Reading has been amended to read:

The United Kingdom left the European Union on 1 January 2021 without an EU-wide arrangement for the operation and regulation of financial services. Prior to this the United Kingdom was part of the European Union and Solvency II applied to UK insurers. At the time of writing (May 2023) the UK government is considering reforming capital rules for UK insurers after leaving the European Union. It is assumed within this version of the Core Reading that Solvency II continues to apply to UK insurers.

On page 24, the final sentence of Core Reading has been amended to read:

This saw the establishment of a conduct regulator and a prudential regulator.

Chapter 11

The syllabus objective (2.4) has been amended as outlined in Section 0 of this document.

Section 0

The final paragraph of ActEd text (and the link below) have been deleted and replaced with the following text:

As mentioned in Chapter 10, there are currently changes to UK insurers capital being considered by the UK regulator. In 2021, the PRA began consulting on potential changes to how Solvency II regulation is applied in the UK, in particular the matching adjustment. This is now the Solvency UK project and more detail can be found here: bankofengland.co.uk/prudential-regulation/key-initiatives/solvency-ii/solvency-uk-pra-abi-insurer-engagement.

Section 4

On page 10, the final sentence of ActEd text before the sub-section 'Equivalence' has been deleted.

Chapter 12

Section 2

On page 8, the table of risk-free discount rates and the text before and after it have been updated to read:

The table below shows a selection of the risk-free discount rates published by EIOPA for April 2023:

Term (years)	*1*	*2*	*5*	*10*	*20*	*40*
Euro	3.673%	3.362%	2.932%	2.875%	2.738%	2.878%
UK	4.830%	4.510%	3.963%	3.639%	3.564%	3.167%
USA	4.817%	4.013%	3.278%	3.135%	3.127%	2.911%

The table shows that the yield curve is downward sloping for all jurisdictions shown. The rates of decrease vary though, with the USA rates reducing more steeply than the UK.

On page 9, the following ActEd text has been added to the 'Matching adjustment' section, before the link to the fundamental spreads:

As mentioned in the previous chapter, the PRA in the UK is carrying out work to reform to how Solvency II is applied in the UK. This includes broadening asset eligibility for the matching adjustment.

The link to the fundamental spreads has also been amended:

The fundamental spreads published by EIOPA can again be found on their website:

eiopa.europa.eu/tools-and-data/risk-free-interest-rate-term-structures_en

The data is in one of the spreadsheets available to download.

On page 10, the link to the EIOPA website has been updated to:

eiopa.europa.eu/tools-and-data/risk-free-interest-rate-term-structures_en

On page 11, the following text has been added at the end of the page:

The UK changes to Solvency II also propose reducing the risk margin required to be held. This could be achieved by reducing the fixed cost of capital rate from 6% or modifying the way the cost of capital rate is determined.

Chapter 13

Section 1

On page 3, the third paragraph of Core Reading has been amended to read:

It is unclear the extent to which this alignment will continue in the future. As discussed in previous chapters, the UK government is considering reforming UK insurers' capital rules to potentially reduce the capital requirements on UK insurers.

Chapter 14

There have been significant changes to this chapter. A replacement chapter is attached. The changes are outlined below.

The syllabus objective (2.3) has been amended as outlined in Section 0 of this document.

Section 2

The majority of changes are to this section, deleting the material on IFRS 4 and updating the introduction to IFRS 17.

Chapter Summary

This has been updated to reflect the changes to Section 2.

Questions

Question 14.4 has been deleted.

Chapter 15

Section 2

On page 6, the ActEd text below the first bullet point on APS L1 has been amended to read:

The main statutory actuarial role relevant to Subject SA1 is the Chief Actuary. This was covered in more detail in Chapter 11.

On page 8, in Section 2.4 the paragraph of ActEd text has been deleted.

Also on page 8, the first two bullet points in Section 2.5 have been amended:

- **'Speaking Up: A Guide for Members' which sets out the IFoA's view of good practice in relation to speaking up. The IFoA has also produced a specific guide for employers of actuaries entitled 'Speaking Up: A guide for members 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 all non-mandatory guides can be found at:

  actuaries.org.uk/standards/standards-and-guidance/non-mandatory-guidance

- **Conflicts of interest: A Guide for Members'. This guide builds on the provisions of the Actuaries' Code in relation to conflicts of interest and set out views on good practice regarding identifying conflicts and how they might be managed and reconciled.**

On page 9, in the second paragraph of Core Reading the links have been updated:

The framework can be found on the Actuarial Standards page of the FRC's website (frc.org.uk/actuaries/technical-actuarial-standards). Links to the TASs can also be found on the Professional Standards Directory page of the IFoA's website (actuaries.org.uk/standards/standards-and-guidance/professional-standards-directory).

Also on page 9, the date for the UK FRC relaunch is now 2024.

Chapter 16

Section 1

On page 3, the sixth paragraph of Core Reading has been amended to read:

For a proprietary company, the available capital is a measure of the shareholders' capital currently invested in the company.

Summary

On page 19, under the 'Available Capital' heading, the third sub-bullet of the first bullet point (related to with-profits policies) has been deleted.

Chapter 20

Section 1

On page 3, in the solution to the question, the sixth point has been amended to read:

- identify non-recurring components of surplus, enabling appropriate decisions to be made about the distribution of surplus

Chapter 21

Section 4

On page 26, in the example the text after the bullet point has been amended to read:

However, if the data is being used for business sold in other territories, allowance must be made for differences in the insured population, product design, underwriting, claims control, *etc.*

Chapter 24

The syllabus objective has been amended to refer to the following part of objective 1.2:

1.2 Assess the effect of the general business environment on the management of health and care insurers:

- considerations underlying the provision of national healthcare systems:
  - the importance of healthcare provision
  - different healthcare systems worldwide
  - different approaches to financing healthcare
  - QALYs (quality adjusted life years).

Section 2

On page 6, the final sentence of Core Reading (before the link) has been amended to read:

In 2013, analysis undertaken by the European Observatory on Health Systems and Policies highlighted how undertaking comparisons of different health systems can drive improvements.

Section 6

On page 28, the following sentence has been added to the end of the first paragraph of ActEd text:

The increase in usage has slowed down since 2011 but is still generally increasing.

Also on page 28, the second paragraph of ActEd text has been updated and a sentence added below it:

The United States had the highest spending in 2020 at 18.8% (compared to 13.1% in 2000) and Turkey had the lowest at 4.6% (compared to 4.9% in 2000) for OECD countries. The UK spent 12% of GDP on healthcare (compared to 6.9% in 2000).

It is worth noting that some of these figures may have been affected by an increased spend due to the COVID-19 pandemic.

Chapter 25

The syllabus objective has been amended to refer to the following part of objective 1.2:

1.2 Assess the effect of the general business environment on the management of health and care insurers:

- areas of best practice in international health and care provision.

Chapter 26

The syllabus objective has been removed from this chapter.

Section 1

There has been additional Core Reading added to page 3. Replacement pages are attached.

Section 7

On page 18, the following bullet point has been added to the list of practise questions:

- one-year ASET (consisting of 2 papers from 2022)

Chapter 27

The syllabus objective has been removed from this chapter.

Section 0

On page 2, the first paragraph of ActEd text has been replaced with the following Core Reading and ActEd sentence:

This chapter provides the definitions mainly used in practice. Examiners will expect candidates to understand and be able to use all of the terms, but will not require candidates to reproduce definitions exactly.

You should be able to express the ideas with equal precision in your own words.

The following definitions have been amended:

Acute illnesses (SA1)

In some jurisdictions, PMI may only cover surgery and other treatment for illnesses deemed to be acute.

Anti-selection

People will be more likely to take out insurance contracts when they believe their risk to be higher than the insurance company has allowed for in the premium, *ie* the benefits are worth more than the premiums payable. This is known as anti-selection.

An example in critical illness cover may be where an individual begins to suffer pains in the chest, takes out a policy without mentioning the chest pains and then goes to the doctor to see if the pains are due to heart disease. If they are, then there is a greater likelihood of a claim for benefit.

Anti-selection is also recognised in the tendency for sick or sub-standard lives to legitimately renew policies or take up options providing additional cover without evidence of health.

Capitation

This term relates to the practice of charging for cover by forecasting the likely claims on an individual basis and charging this, adjusted for expenses and profit, as the premium.

In effect, the insurance company separates out a set of medical benefits (such as dental claims or mental health claims) and passes this risk onto the provider – giving it a proportion of the insurance premium for each person managed up-front rather than an amount per claim. The risk that funds are insufficient to cover treatment lies with the provider of the healthcare service.

In some jurisdictions, capitation may apply in the field of dental covers where the dentist anticipates the costs incurred by their patient.

Comorbidity

Comorbidity is where an individual has more than one disease or condition present at the same time. Conditions described as comorbidities are often chronic or long-term conditions. An example of comorbidity is that an individual with arthritis could commonly have other chronic conditions such as diabetes or heart disease.

Other terms can also be found in the medical literature for comorbidity, such as multimorbidity or polymorbidity.

Continuation option

A continuation option describes a benefit under an insurance policy whereby the insured can choose, without having to provide evidence of health, to continue the cover provided by the policy under circumstances where it has otherwise ceased. Such circumstances might apply where individuals have left their place of work and are no longer covered by an employer-sponsored scheme or where an individual policy has expired. The terms under which the option is effected are those applicable to a healthy life for the age at the date when the option arises.

Proportionate benefit

Under IP policies that use an 'own occupation' claims definition, a proportionate benefit can be paid to claimants who return to work but in a new, lower-paid occupation.

Under IP insurance policies, if claimants take up employment in occupations that are different to the ones from which they were originally incapacitated, the claim benefit may continue, but it is usual for the continuing benefit to be reduced. The reduction will relate to the ratio that the gross earnings from the new job bear to those from the occupation against which disability was being claimed.

It is a standard requirement that disability from the original occupation continues whilst a proportionate benefit is being paid. Unlike for a partial benefit, companies typically require a full claim to be established before a proportionate benefit can be claimed.

2 Changes to the X Assignments

Overall

There have been minimal changes to the assignments.

The changes are listed below.

Solutions X1

X1.3

In the solution to part (i), the third and fourth points in the solution have been amended to read:

If it is considering moving to setting up its own direct salesforce, this would lead to high costs associated with setting up the channel. [½]

These costs may include*:*

- recruiting and training staff for the own direct salesforce or for telesales
- setting up a website for internet sales
- advertising for brand awareness (as the company no longer has the IFA's recommendation).

[half for any sensible example, maximum 1]

The following point has been added to the solution for part (ii):

It should also consider the availability of suitable institutions such as banks that would be willing to act as a tied agent. [½]

In part (iv), the first point in the 'Initial commission' section has been amended to read:

For those earning more initial commission, the move is likely to result in a short-term reduction in their income as the initial fee is likely to be lower than initial commission. [½]

Solutions X3

X3.1

In part (iii) (a), the 'Other non-mandatory guidance' section has been amended to read:

The IFoA also publish non-mandatory guidance on:

- speaking up for actuaries – this should reassure the insurer that any issues within its business will be identified and raised in an appropriate way [½]
- conflicts of interest – this would ensure that any conflicts of interest within the insurers business were identified and managed appropriately [½]
- ethical data science – provides assurances that actuaries will also apply all professional and ethical guidance to the handling of data within their work. [½]

Questions X4

X4.3

The first sentence of the question has been amended to read:

A medium-sized proprietary long-term health insurance company has been selling critical illness, long-term care and income protection insurance for individuals in equal volumes for many years.

Solutions X5

X5.1

In part (ii), the second and third points on page 3 have been amended to read:

For example, if the company is in a country that has continued to publish prudent reserves in its statutory accounts, it may feel the accounting information it is publishing is not as indicative of the company's performance as it would like ... [1]

... whereas if the country has moved to a more fair-value approach (such as IFRS17) the company may see less value in continuing to publish EVs as well. [½]

3 Other tuition services

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

3.1 Study material

We also offer the following study material in Subject SA1:

- ASET (ActEd Solutions with Exam Technique) for 2022 (2 papers)
- Mock Exam and AMP (Additional Mock Pack).

For further details on ActEd's study materials, please refer to the 2024 *Student Brochure*, which is available from the ActEd website at **ActEd.co.uk**.

3.2 Tutorials

We offer the following online tutorials in Subject SA1:

- a set of Regular Tutorials (lasting a total of two days) or a Block Tutorial (lasting two full days)
- a mini Online Classroom.

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

3.3 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 2024 *Student Brochure*, which is available from the ActEd website at **ActEd.co.uk**.

3.4 Feedback on the study material

ActEd is always pleased to receive 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 **SA1@bpp.com**.

Solution

- More detailed sales procedures to ensure customers fully understand their cover.
- Greater disclosure requirements, *eg* Key Features Documents, Statements of Best Practice.
- Generally, more financial awareness among customers, possibly due to there being more articles in the media about personal finance.
- Potentially more competition, leading to more aggressive marketing, so that consumers are more aware of health insurance products generally.

Also, in an increasingly litigious society, policyholders are more likely to dispute claims that are refused.

Question

Outline the influences that may have led to health insurance policyholders being more litigious.

Solution

- Greater media attention being given to consumer issues.
- The ease with which complaints can be made, *eg* the complaints procedure may be clearly explained in policyholder literature.
- Increasing activity among law firms to offer legal representation in disputes, *eg* no-win no-fee offers.
- Increased consumer protection.
- Awareness of the increasing number of disputed insurance claims being settled.
- Influences from other countries, especially from the USA, where litigation is becoming more and more common.

Of course, any influences that are helping to ensure that all valid claims are being paid are to be commended. However, insurers should try to reduce the number of claims that involve disputes.

Although tight policy wording and good sales procedures will help to limit the number of disputed, but invalid, claims being paid, these measures can never be perfect. The insurer must therefore be aware of the risk of increasing numbers of claims being made and paid.

Furthermore, growing client sophistication is likely to be increasingly evidenced by choice of cash over care in order to arrange one's own medical outcome, or of private treatment in preference to State provision where benefits (in the shape of faster treatment, possibly more expert treatment and more comfortable surroundings) are seen as exceeding the costs (premiums).

4.6 Pandemics

Globally, the World Health Organisation (WHO) recognise that infectious disease in the form of a pandemic presents a huge threat to global health. The UK national risk register from 2017 considered that emergence of a pandemic influenza and/or a new infectious disease could lead to a civil emergency, and the threat was considered to be equal to or higher than that of extreme weather events. The report also indicated that there was considerable uncertainty about the timing of any event and what it would look like.

The coronavirus pandemic is a recent example of a significant pandemic which has had a significant impact on the health of the population in many countries and more widely on the global economy.

The outbreak of coronavirus (or COVID-19) was declared a pandemic by the WHO in March 2020. In May 2023, the WHO declared that COVID-19 no longer represented a 'global health emergency'. This does not mean the pandemic is over, just that the global emergency is.

At the time of writing (May 2023), global deaths from COVID-19 are around 7 million.

The long-term impacts of the coronavirus pandemic (for example on mortality and morbidity rates) and understanding the reasons for significant differences in experience between countries and different population sub-groups are likely to take some time to understand in detail.

Many populations experienced excess mortality as a result of the pandemic, with the additional impact of increased morbidity likely to represent a long-tail event. 'Long COVID' is a term used to describe a range of symptoms that persist beyond 8 weeks from initial presentation.

The most recent data was released in March 2023 and suggests more than 1.9 million people in the UK may be experiencing self-reported long COVID:

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/30march2023

There have been several significant pandemics in the last two hundred years, mostly from influenza ('flu) viruses. These include the Spanish influenza of 1918-1920 with an estimated worldwide death toll of at least 50 million.

The HIV / AIDS pandemic that was first recognised in the 1980s remains active. Although now better managed through developed drugs, over 30 million have died from AIDS-related illnesses.

The risk of infectious diseases emerging has increased due to the human impact on the environment. For example, both the increased demand for meat due to a rising global population and deforestation leading to more intensive farming put humans and animals in closer contact. This increases the risk of pathogens spreading from animals to humas. Whilst this risk is not new, the probability of a pandemic event occurring in the future has increased.

Pandemics have the potential to materially impact all aspects of a health and care insurer's business.

As well as the clear link with mortality and morbidity rates, there could be significant impacts on:

- economic growth and therefore related factors such as asset values and demand for products
- operational aspects, including staff sickness.

The potential impact of pandemics on health and care insurers is likely to be an important consideration for regulators. In particular, regulators are likely to want to ensure that health and care insurers have sufficient capital to meet policyholder liabilities in the event of a pandemic. Regulators may wish to see health and care insurers carry out stress testing to show that they are resilient to realistic pandemic scenarios.

4.7 Climate change

As a recap on climate change from the previous chapter:

Whilst the scientific consensus is that climate change associated with global warming is in progress (IPCC, 2014), the scale and timing of its impacts are uncertain. The future actions of society in response to climate change, and their ultimate effectiveness in mitigating these impacts, are also unknown.

The effects of climate change could include impacts on health and mortality, physical assets, and financial markets. Therefore climate change could have significant implications for health insurers. In particular climate change could impact different areas of actuarial work including product design, pricing, reserving, risk management and investment.

Key terms in relation to climate risk are explained below.

Climate change risk categories

Climate risks are risks arising from adverse changes in the physical environment and secondary impacts in the economy at a regional or a global scale.

Climate risks for financial companies are categorised into:

- **physical risks**
- **transition risks**
- **liability risks.**

Physical

Physical climate risks are the first-order effects of environmental changes such as greenhouse emissions, pollution and land use. The effects may be chronic, such as global warming and sea level rise, or they may be acute events, such as instances of extreme weather.

Examples of physical climate risks are:

- **higher rates of ill health (morbidity) due to climate change-related rise in wildfires and resulting air pollution, leading to higher health insurance claims**

  Greater air pollution can have a significant adverse impact on those with existing respiratory conditions.

- **higher life insurance claims as a climate changed induced rise in heat waves increases mortality/morbidity among elderly populations with pre-existing health conditions or vulnerabilities.**

  These excess heat-related deaths principally arise from dehydration and increased cardiovascular strain, so those with heart conditions are particularly at risk. This could lead to early termination of long-term care insurance claims.

- **increased frequency and concentration of extreme weather events and natural disasters, resulting in higher health insurance claims**

  As well as claims arising as a direct impact of such events, morbidity and mortality rates tend to be increased for some time afterwards due to the vulnerability of the remaining population, *eg* from loss of housing or water supply.

- **chronic rise in temperatures and humidity are breeding ground for vector-borne diseases, increasing the likelihood and severity of epidemics and pandemics and causing higher health insurance claims**

  Vector-borne diseases result from infections transmitted through a living organism, such as mosquitos and ticks. Examples include malaria and dengue fever. Climate change can impact the abundance of the vectors each season and their geographic spread.

- **damage to coastal real estate due to sea level rise, which in turn increases morbidity and mortality claims causing**
- **failure of a crop harvest due to weather, pestilence or soil degradation which in turn increases ill health and leads to an increase in morbidity claims**

  Crops can fail for many climate-related reasons, such as an increase in flooding, drought, wildfire, insect damage (*eg* locust swarms) or soil erosion.

- **increased morbidity in an insured population due to pollution.**

It is possible that some combinations of changes to physical risks could lead to decreases in morbidity and mortality, for example if lifestyle changes in response include a more active way of living.

For example, an increase in global temperatures might allow an increase in physical activity and exercise during the colder months.

There are also operational risk impacts arising from physical climate risks, depending on geographical location. Companies who use a lot of outsourcing, on a global basis, are more exposed to the risk of extreme weather events impacting their operations.

Transition

Transition refers to economic, political and market changes as a result of efforts to mitigate climate change. Climate transition risks are risks arising from such changes.

Examples of climate transition risks are:

- **policy changes designed to reduce fossil fuel consumption (*eg* taxes, subsidies, limitations) resulting in investments in fossil fuels and carbon-intensive industries losing value**

  This may have an impact on the investments held by health and care insurance companies.

- **trends in consumer preferences towards 'greener' products and companies**
- **firms' investments in carbon-intensive industries result in reputational damage, making it difficult to attract and retain customers and staff**
- **technological innovation causing shifts in market supply and demand, *eg* renewable energy**
- **transition to low-carbon economy reduces demand for life insurance products, *eg* occupational pension plans, where firms' customer base is heavily exposed to conventional carbon-intensive industries.**

From a health and care insurance company's perspective, transition risk principally relates to:

- changes in the values of assets held, *eg* equity holdings in companies with a significant dependency on fossil fuels / carbon consumption, due to:
  - the direct impact on the underlying entities of policy changes
  - a shift in market sentiment towards sustainability
- changes in demand for certain health and care insurance products
- adaptation of operational models.

Liability

Climate liability risks can arise from injured parties seeking compensation for the impacts of climate change. These impacts may be the first-order physical impacts related to climate change, or the second-order transition impacts.

Examples of climate liability risks are:

- **new links are established between air pollution and adverse health conditions, resulting in a new class of latent claims**
- **firms that do not take into account the impact of their investment decisions on climate change experience direct claims for damages.**

These liability risks principally impact general insurers, in terms of the potential for higher claims arising from the liability insurance business that they sell.

However, health and care insurance companies would also be exposed in terms of:

- the impact on the market values of assets held in affected companies
- counterparty risks arising from any relationships with affected companies
- reputational risk resulting from poor investment decisions.

4.8 Environmental factors

Environmental conditions (other than climate change) could also be a factor on general health levels, for example air pollution, which has separate drivers from climate change.

It is estimated that each year in the UK, around 40,000 deaths are attributable to exposure to outdoor air pollution, with more linked also to exposure to indoor pollutants.

Exposure to air pollution can cause a range of health issues including exacerbation of asthma, respiratory conditions, cardiovascular disease and stroke.

Indoor air pollution can be caused by emissions from domestic appliances burning carbon containing fuel such as coal or wood. Cleaning and personal care products can also contain volatile organic compounds that can have adverse impacts on health. Tobacco smoke is also a form of air pollution which can increase the risk of lung cancer.

Other environmental factors that could impact health and care insurers include exposure to:

- ultraviolet (UV) rays – can lead to skin cancer and also cause eye issues such as cataracts
- noise – repeated exposure can lead to temporary or permanent hearing loss
- lead – found in old paints and pipes which can then pollute drinking water, can cause anaemia and kidney and brain damage
- radon in the environment – radon is a radioactive gas found everywhere, higher levels are found in buildings and some areas are prone to higher levels than others, it can cause lung cancer particularly amongst smokers and ex-smokers.

4.9 Mental health

It is estimated that each year, 1 in 4 adults experience a mental health problem [source: www.mind.org.uk/about-us/what-we-do/].

They range from common problems, such as depression and anxiety to rarer problems such as schizophrenia and bipolar disorder. Our understanding of the causes of mental health conditions, and how they are treated, has developed radically in the last century.

In the UK in 2017, mental health was the most common cause of claim on income protection insurance policies. As well as the factors mentioned in the Core Reading above, mental health can also include stress, post-natal depression, ADHD, eating disorders and addiction.

People with mental health problems can experience barriers in their everyday life, and these can be exacerbated when dealing with complex consumer products, such as insurance policies. Health and care insurance companies therefore need to consider carefully how they engage with customers (and employees) about their mental health, in order to remove barriers and to meet the needs of these customers.

Mental health conditions can also be directly relevant to underwriting. The health and care insurance industry needs to ensure that all underwriting decisions are based on the best information available and seek to improve this information where possible. Mental health is also often associated with other issues, such as financial stress and comorbidities; the industry should seek to understand the effects that may confound with other factors. Health and care insurance companies should also seek to be as transparent as possible about underwriting decisions and pricing aspects of mental health.

In the UK, the Association of British Insurers (ABI) has launched its Mental Health and Insurance Standards. These are a set of voluntary guidelines which insurers can subscribe to in order to ensure they are meeting customers' needs in the area of mental health. It covers all areas of customer engagement from improving accessibility to communicating decisions.

The standards are available here:

abi.org.uk/globalassets/files/subject/public/health/abi-mental-health-and-insurance-standards.pdf.

Question

Suggest ways insurers could improve accessibility to health and care insurance for customers who may experience mental health concerns.

Solution

- Give customers a choice of how to communicate with them (*eg* telephone, email, text message).
- Implement processes to support customers who may need assistance to complete the application process (*eg* have staff who will go through forms slowly with customers and explain all terms that may be confusing).
- Implement training and staff awareness programmes to empower front-line staff. This could include
  - developing a basic understanding of mental health problems
  - showing compassion to customers and their concerns
  - using appropriate language.

(These ideas are taken from the ABI Mental Health and Insurance Standards. You may have thought of other relevant ideas too.)

5 Key medical conditions

This section considers the key medical conditions that affect mortality and morbidity rates in various countries of the world. It then goes on to consider these conditions in more detail, in particular looking at the current issues affecting them.

5.1 Key medical conditions affecting mortality and morbidity

The main causes of mortality and morbidity, and any specific diseases in a jurisdiction may impact any health and care business written by an insurer. The following section looks at this in more detail.

Mortality

The drivers of mortality experience can be complex and can vary significantly over time and by population.

Of the 55.4 million deaths worldwide in 2019, more than half (55%) were due to the top ten causes. Heart disease and stroke are the world's biggest killers, accounting for a combined 15 million deaths in 2019. These diseases have remained the leading causes of death globally in the last 20 years. Heart disease alone was responsible for 16% of the world's total deaths in 2019.

Heart disease includes angina, myocardial infarction (heart attack) and sudden cardiac death.

Chronic obstructive pulmonary disease claimed 3.3 million lives in 2019, while lung cancer caused 1.8 million deaths making it the 6th leading cause of death globally.

Diabetes killed 1.7 million people in 2019. However, in reality this is likely to be much higher. There are challenges in recording diabetes as a cause of death, and in addition, the true prevalence of type 2 diabetes is not clear due to a significant proportion being undiagnosed.

Deaths due to dementia more than doubled between 2000 and 2019, making it the 7th leading cause of global deaths in 2019.

Lower respiratory infections caused 2.6 million deaths worldwide in 2019, representing a steady reduction since 2000. The death rate from diarrheal diseases fell from 2.6 million in 2000 to 1.5 million in 2019. Tuberculosis is no longer in the global top 10, falling to thirteenth in 2019 with a 30% reduction in global deaths. Similarly, HIV/AIDS is no longer among the world's top 10 causes of death, deaths from this cause have fallen by 51% in the last 20 years.

Kidney disease is now the 10th leading cause of death globally. Mortality has increased from 813.000 in 2000 to 1.3 million in 2019. Kidney disease is one of the main complications that arise from poorly controlled diabetes.

Local factors mean that the main causes of death can vary significantly between jurisdictions.

People living in a low-income country are far more likely to die of a communicable disease than a non-communicable disease. However, causes of death from non-communicable disease are increasing, and those from communicable diseases decreasing in low-income countries.

Non-communicable diseases (NCDs) caused 70% of deaths globally, ranging from 40% in low-income countries to 88% in high-income countries. All but one of the ten leading causes of death in high-income countries, lower respiratory infections, were NCDs.

In terms of absolute number of deaths, however, 78% of global NCD deaths occurred in low- and middle-income countries.

Low-income countries had the highest mortality rate due to road traffic injuries. Road injuries were also among the leading ten causes of death in both lower-middle- and upper-middle-income countries.

Globally, life expectancy has increased by more than six years between 2000 and 2019 – from 66.8 years in 2000 to 73.4 years in 2019.

Sources:

WHO – The top 10 causes of death Factsheet, (December 2020), who.int/en/news-room/fact-sheets/detail/the-top-10-causes-of-death

WHO – The Global Health Observatory – Life expectancy and healthy life expectancy 2019, who.int/data/gho/data/themes/mortality-and-global-health-estimates/ghe-life-expectancy-and-healthy-life-expectancy

In the UK, there is some evidence of improvements in life expectancy over time. This is mainly because of falls in the death rate from coronary heart disease, lung disease, and some cancers. However, mortality experience can vary not only between jurisdictions but also within regions of a jurisdiction. For example, whilst overall life expectancy has improved in the UK, there remain significant regional differences in levels of health within the UK.

Further discussion of the main causes of death (and ill health) is given in Section 5.2 below.

More information on the impact of disease on life expectancy and other measures can be found in the Global Burden of Disease study. The results can be found here healthdata.org/data-visualization/gbd-compare.

Morbidity

The drivers of morbidity are similarly complex, with significant differences by region and jurisdiction. The following table illustrates the top five causes of rates of disability adjusted life years lost (DALY's / 100,000) in 2019 globally and by income level.

Note in the table below, the term 'Neoplasms' is used as an umbrella term for all malignant cancers.

Leading causes of disability, countries grouped by income, 2019:

Rank 2019	*World*	*Low Income*	*Middle Income*	*High-middle Income*	*High Income*
1	Cardio-vascular	Maternal & neonatal	Cardio-vascular	Cardio-vascular	Neoplasms
2	Neoplasms	Respiratory infections and TB	Neoplasms	Neoplasms	Cardio-vascular
3	Maternal & neonatal	Enteric infections	Musculo-skeletal	Musculo-skeletal	Musculo-skeletal
4	Other non-communic-able	NTD's & malaria	Diabetes & CKD	Mental disorders	Mental disorders
5	Respiratory infections and TB	Other non-communic-able	Other non-communic-able	Other non-communic-able	Neuro-logical

Source: *Global Burden of Disease Compare Visualisation Tool,* https://vizhub.healthdata.org/gbd-compare/.

Differences by region are covered in more detail in Section 5.3 below.

For the UK, the leading causes of disability are the same as for high income countries, shown in the table.

This data was collected before the COVID-19 pandemic. Initial data on the impact of COVID-19 on global deaths since the start of 2020 suggest it would be the 3rd largest cause of deaths. The impact would vary significantly by country. For example, since 2020, COVID-19 was the leading cause of death in Brazil, would rank in the top 5 causes of death in the UK and the USA, but only the top 10 in Australia.

There are some similarities between the main causes of death and ill health. For example, strokes are the third leading cause of death in England each year and the leading cause of disability.

Longer life expectancy and poorer health could have considerable implications for the overall population of a country. For example, there may be significant implications for individuals and local authorities in funding the costs of long-term care. A challenge for health and care insurers in the future will be to come up with innovative products that will help individuals to pay for their long-term care, at acceptable cost to the individual.

Some of the pressures being placed on long-term care insurers were considered in Chapter 2. Along with designing products that are able to meet customers' needs in terms of costs, insurers also need to try to identify customers who may be at higher risk of needing care.

One potential way to consider the progression of disability which is often quite predictable, is to consider instrumental ADLs (IADLs). These are activities that are not necessary for fundamental functioning, but they let an individual live independently in a community. Examples include shopping, doing laundry, cooking a hot meal and they can be used as early indicators of problems that may arise in the future. Individuals typically fail IADLs before the standard ADLs.

Thankfully for insurers (and most of us!) most of old age isn't spent being dependent on care, and where care is needed, unless 24 hour care is required, most of it is provided in the home by the spouse or children. Again, this poses more issues regarding the design of products to allow the variety of care needs that policyholders may require. The availability of a viable pre-funded insurance option could also change the provision of care.

Changes in longevity and morbidity rates may make an insurer's historic data less credible. An insurer may therefore need to access more / better data to properly price and reserve for its risks.

Question

Explain how an insurer could access more / better data in this situation.

Solution

It could seek expert advice from professional bodies, such as the IFoA, who may have carried out data and modelling work on trends as they have been identified. External consultancies may also be able to provide assistance. Reinsurers may offer more data but whether it is *better* would need to be assessed as it will relate to the same historic period as the insurer's own data.

Data from other countries is an alternative in this situation but great care would need to be taken when considering any demographic trends that have occurred in other countries and assessing whether the underlying causes are the same as in the insurer's own country.

For long-term care insurance products, it may also be particularly difficult to gather *additional* data given the lack of available data irrespective of any change in rate. For example, LTCI is not widely sold in the UK so there is a general lack of both industry and reinsurance data.

The insurer may need to consider different sources of data (such as published research from cohort studies, talking to medical experts, big data, wearable technology *etc*).

With respect to the use of wearable technology that was discussed in Chapter 5, improved data will provide the basis for a more structured approach to determining the discount schemes for using the wearable technology. To this end, a number of insurers are looking to use more accurate wearable devices to provide a better understanding of an individual's health and the correlations between the health readings and the impact on mortality or morbidity. There are a number of companies seeking to create more accurate models and build correlations between wearable data and health outcomes.

Data science was also considered in Chapter 5.

One of the limitations of wearable technology has been the need for some element of self-reporting by policyholders, leading a risk of mis-reporting the information. As discussed in Chapter 5, the data can also be misleading if not all activity is recorded accurately.

5.2 Specific diseases

Heart disease

The main risk factors for heart disease are:

- **smoking**
- **being overweight**
- **having high blood pressure.**

There are many other risk factors for heart disease such as:

- high blood cholesterol
- being physically inactive
- having diabetes
- a family history of heart disease
- ethnic background
- age and gender.

Cancer

Cancer, in its various forms, has become common in developed countries. Survival rates of cancer have been improving in many developed countries, particularly in respect of the most common cancers. For example more men are now surviving prostate and bowel cancer and more women are surviving breast cancer.

For example, in the UK, the 10-year survival rate for prostate cancer was around 25% in 1971-72 but by 2023 it was almost 80%. For breast cancer in women, the 10-year survival rate increased from around 40% in 1971-72 to almost 75% by 2023.

Unhealthy lifestyles are a significant contributing factor, for example it has been estimated that about a third of cancers are caused by smoking, diet, alcohol and obesity. In addition, many cancers are detected too late, despite there being national screening programmes for certain cancers.

In respect of statutory actuarial roles, a health and care insurer is often required:

- **to keep the actuary informed of the firm's business plans and to seek advice from the actuary of the implications of these plans for policyholders**
- **to pay due regard to the advice of the actuary**
- **to provide the actuary with adequate resources and provide such data and systems as may reasonably be required**

Note: The details of the roles and responsibilities of statutory roles under Solvency II are examined in more detail in Chapter 11.

2.8 Actions taken by regulators

Regulators will often have a range of powers available to them to meet their supervisory objectives, and in particular to protect policyholders. Where a health and care insurer is acting in a way that the regulator deems not to be appropriate, possible powers could include:

- **requiring the insurer to remedy the situation**
- **public censure**
- **fines**
- **requirement to purchase reinsurance**
- **requirement to hold additional capital**
- **revoking the insurer's permission to carry out regulated activities.**
- **revoking the ability of certain managers to hold senior positions in a health and care insurer**
- **requiring the insurer to pursue a merger or acquisition**
- **refusal to approve a transfer of liabilities between insurers.**
- **criminal prosecutions.**

In some jurisdictions, the regulator may only legally be able to exercise its powers in specific circumstances (for example where a health and care insurer's solvency falls below a certain specific level). In other jurisdictions, the regulator may have more discretion about the point at which it can take action and the extent of that action.

If the insurance company's financial position is serious, then the regulator may require it to close to new business. In less serious cases, the insurance company may be required to establish a recovery plan, and for this to be monitored closely by the regulator.

Where a regulator has the discretion to become involved then it will need to carefully consider the circumstances of each case before deciding on an appropriate course of action. In particular, actions taken by regulators should be proportionate to the nature, scale and complexity of the risks inherent in an insurer's business.

Possible factors the regulator will need to consider prior to taking action could include:

- **the proximity of failure of the insurer**
- **the level of confidence that the insurer will act on the instructions of the regulator**
- **the potential impact on policyholders and the stability of the financial system.**

This final point was of particular relevance in 2007, when the financial crisis demonstrated that certain financial institutions had become too large to fail. This is discussed further in the next section.

2.9 Treatment of groups

Some insurance companies are of such size, market importance and global interconnectedness that their distress or failure would cause severe adverse consequences across the global financial system. In this case, they may be subject to additional regulatory scrutiny.

For example, in 2013, the International Association of Insurance Supervisors (IAIS) announced its intended approach to the identification of 'global systemically important insurers' (G-SIIs). Shortly afterwards, the Financial Stability Board (FSB) published an initial list of nine such G-SIIs. This list was updated on an annual basis.

G-SIIs were subject to enhanced supervision, including the need to have in place systemic risk management plans, enhanced liquidity plans and effective separation of non-traditional or non-insurance business (where feasible and appropriate).

The FSB decided to discontinue the annual identification of G-SIIs in 2023. Going forward, the FSB will base its considerations of systemic risk in the insurance sector on the International Association of Insurance Supervisors (IAIS) Holistic Framework for the assessment and mitigation of systemic risk in the insurance sector.

In 2020, the FSB decided to suspend identifying new G-SII companies, following an adoption of a holistic framework: an activities-based approach for assessing systemic risk. This includes an annual assessment of potential systemic risk arising from specific activities and exposures across insurance sectors. From 2023, the FSB will publish an annual list of insurers that are subject to resolution planning and resolvability assessment. More details are available here: fsb.org/work-of-the-fsb/market-and-institutional-resilience/global-systemically-important-financial-institutions-g-sifis/

14

Profit reporting

Syllabus objectives

2.3 Describe regulatory frameworks for health and care insurance companies:

- financial reporting requirements.

(This is only part of objective 2.3)

2.5 Compare regulatory, legislative and taxation environments between different jurisdictions.

2.5 Demonstrate how the regulatory, legislative and taxation environments affect the way in which health and care insurance companies carry out their business in practice.

0 Introduction

Health and care insurance companies will normally report regularly on their financial position. These financial statements give information about the financial position and performance of the company to a range of users in making financial decisions.

The information reported will often be the value of assets and liabilities of the company at a particular point in time (*ie* the company's balance sheet), and profit or loss earned by the company over a period (*ie* the revenue statement), and a description of the approach taken in producing the information.

There are different reasons why the company could be disclosing its financial position. For example it could be to:

- **demonstrate that the company has sufficient assets to cover its liabilities**
- **show the size and source of profits earned by the company over a period.**

The users of this information can be varied and can include regulators, shareholders, creditors, employees, tax inspectors, and the general public.

For example, in the UK, insurance companies prepare two sets of financial information: supervisory reports for the financial services regulator and profit reporting (under separate legislation) that is tailored to the needs of shareholders and other external parties. The general aim of the supervisory reports required by the country's regulator is to assess the solvency position of a company and its available capital to meet the risks that it faces. The general aim of profit reporting (sometimes referred to as 'statutory accounts') is to assess profit and value creation. It therefore may include supplementary information on shareholder value, as described in the following Core Reading paragraph.

In addition to the information outlined above, some health and care insurance companies provide supplementary financial reporting in their financial statements with the aim of informing shareholders of the true value of their interest in the business, and of the change in that value over time as a result of the management of the company's resources. This is covered in more detail in Section 4.

With the implementation of Solvency II, supervisory reporting in Europe has been subject to much debate and developments over many years. Similar debates and developments have been, and continue to be, happening in profit reporting too, so the accounting landscape is not straightforward. This landscape is further complicated by the range of sources of accounting requirements and standards.

In addition to these various requirements, some proprietary companies choose also to supplement their published profit information in their accounts using embedded value (EV) methods. However this is becoming less common in many countries following the introduction of Solvency II.

1 Statutory reporting

1.1 Overview

As outlined in previous chapters, it is common for a health and care insurance company to be required by law to provide detailed regular reporting to its local regulator in the form of statutory accounts.

As described in Chapter 13, it is common for financial services regulators to require health and care insurers to provide them with detailed regular reporting. The regulator will normally set out the reporting requirements that have to be followed, subject to meeting any over-riding regulation such as the Solvency II framework. There is also likely to be separate legislation in place requiring insurers to produce regular statutory accounts, and to submit these to the appropriate government department.

In most countries, there will be a particular set of accounting standards ('standards') in place with respect to how a company should determine and present its statutory accounts.

The nature of the standards will depend on:

- **the purpose of the reporting**
- **the intentions of those who set the standards**
- **the intended users of the financial reports.**

In many countries an essential part of statutory reporting is that financial statements show a 'true and fair view' of the financial position of a company. In particular, the statements should be free from material misstatements and faithfully represent the financial performance and position of the company.

Unsurprisingly, there are a variety of different ways of approaching the production of accounts for a health and care insurance company. Section 1.2 below examines some of the decisions that can be made in the production of statutory accounts.

Although the relevant laws are passed by governments, the standards are often maintained by other bodies such as the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB).

These standards have evolved over time, and there is a trend towards codifying the generally accepted accounting principles (GAAP) employed in different jurisdictions.

In some cases, companies adopt standards which are not required by law, so that they may be listed on a stock exchange or otherwise attract investors. Therefore, the standards are often written with a broad audience in mind.

The two most adopted set of standards are the International Financial Reporting Standards (IFRS) and US GAAP. These standards are examined in more detail below.

1.2 Different approaches to company reporting standards

The following section outlines some of the possible approaches and decisions to be made in determining a set of company reporting standards.

Rules-based *vs* principles-based

Company reporting standards may be rules-based or principles-based.

Principles-based standards allow the management to use discretion to ensure that reports reflect the nature of the company, its liabilities and its risk profile. The exercise of that discretion can make it harder to compare one company against another. The element of discretion could also make it easier for management to manipulate the accounts to their advantage.

Both US GAAP and IFRS are principles-based.

Question

Give possible examples of areas where the exercise of discretion, in the production and presentation of statutory accounts, could make it difficult for the account users to compare across companies.

Solution

Examples include:

- the different approaches taken to allow for risk, *eg* in the rate used to discount the future cashflows or in the margins used in the valuation basis
- the disclosure of any sensitivity analysis under different valuation assumptions
- the level of consolidation, *eg* across entities, netting of reinsurance and/or tax.

Even though principles-based reporting allows for discretion, there are still rules which try to minimise the variability in approaches taken, as shown in Sections 2 and 3 below.

Going-concern vs wind-up basis

Financial reporting can be produced on either a going-concern basis or a wind-up basis.

While measures of solvency might be concerned with a wind-up event, measures of profit are more likely to assume that the company is a going concern, *ie* it will continue to sell new business.

Profit recognition

Commonly, profit is recognised in the period in which it is accrued, but the date of accrual may be ambiguous for a health and care insurance company.

Accrual means allowing for income and outgo when it has been earned or incurred, rather than the point at which it has actually been received or paid. For health and care insurance business, which is expected to remain in-force for a long period of time, it is not obvious when the profit arising under a policy is deemed to have been 'earned'.

Profit could 'accrue' at the point of sale or at the end of a contract; or it could also be evenly spread over the term of the contract or according to some other pattern. The accruals principle precludes the deliberate smoothing of earnings from one period to the next. However, where health and care insurance liabilities are smoothed (by exercise of management discretion) it could be more misleading not to allow smoothing to be reflected in profits.

Consolidation

The size of a company balance sheet depends on the consolidation (or offsetting) rules.

Consolidation relates to the level of granularity or detail at which figures are presented, and in particular whether individual components are presented before they are added to (or subtracted from) each other or presented only in aggregate.

Consolidation occurs in the following situations:

- **presenting liabilities net of reinsurance**
- **presenting the value of policyholder obligations net of future premiums**
- **netting the value of derivatives contracts**

  This refers to whether offsetting derivative positions (*eg* long and short) should be shown on a standalone basis or whether only the net residual position (possibly zero) should be shown.
- **adding the net value of a subsidiary (or fund) rather than presenting the assets and liabilities separately.**

The consolidation of information can make it harder to spot underlying trends. This is connected to the broader requirement of disclosures. Disclosures should be sufficiently detailed to serve the purpose of the customer, but without compromising a company's competitive advantage.

If too much detailed information is publicly disclosed, then competitors could use this to gain insights into a company's innovative business approaches and thus allow such approaches to be copied.

Calculation complexity

Valuing a health and care insurer's liabilities and capital requirements can involve stochastic (or even nested stochastic) calculations, which can take a long time. Users of financial reports desire information to be available as soon as possible. Thus, there may be a compromise between timeliness and computational complexity. Newer standards tend to reflect recent technological advances, demanding that complex calculations be performed quickly.

Reporting basis

The value of uncertain liabilities requires assumptions about insurable events, customer behaviour and market returns. Those assumptions could be best estimate or prudent.

Financial reporting standards that demonstrate solvency are concerned with risk and are more likely to require prudent margins than those that demonstrate the emergence of profit over time. Many older reporting standards require (or allow) prudent assumptions while newer standards tend to require best estimate assumptions with an explicit amount shown in respect of the risks.

This is similar to the evolution of solvency reporting in Europe. The pre-Solvency II regime used prescriptive rules to determine the prudent basis of the liabilities. With the introduction of Solvency II (covered in Chapters 11 and 12), solvency reporting now uses best estimate assumptions to calculate the liabilities (the BEL) with a separate risk margin calculation.

Consistency with other financial reports

Financial reports are most useful when they can be compared to other financial reports.

The comparison could be:

- **between a health and care insurance company and a company from a different industry**
- **between two health and care insurance companies**
- **for a single health and care insurance company at different dates.**

It is difficult to prescribe standards that ensure consistency (or comparability) in all cases. Solvency standards may be defined such that a health and care insurance company can be compared with each other, but not other companies. Statutory reporting standards are more likely to require consistency across companies of many industries.

Question

Explain why statutory reporting standards typically require consistency across companies of many industries.

Solution

A company's statutory accounts are used by potential investors in investment decision making and these investors are likely to be comparing across companies of different industries when deciding where best to invest their capital. An investor would want to be able to compare the statutory accounts of each of these companies in order to help in their decision making. The more consistent the standards are that have been used to prepare these accounts, the more straightforward this comparison will be.

As another example, an investor may be looking at investing directly in the UK's FTSE 100 index. Only around 10% of the constituents of this index are insurance companies, with industries such as mining, oil and gas production, banking, aerospace and defence, *etc,* making up the remainder. The investor would want to be able to analyse the statutory accounts of all of these companies in order to gain understanding of the potential risks and returns arising from investing in the index. The more consistent the accounts are in their presentation across the different industries, the easier this will be.

2 International Financial Reporting Standards ('IFRS')

2.1 Overview

The IFRS standards are the most widely adopted accounting standards in the world.

EU regulations require that all listed insurance companies use EU-adopted International Financial Reporting Standards ('IFRS') when preparing their consolidated financial statements.

In some jurisdictions, the requirement to use EU-approved IFRS is not uniquely for *insurance* companies. For example, in the UK, all listed companies must use IFRS for their consolidated accounts. However, its use is optional for other companies (*eg* unlisted companies, own accounts of subsidiaries).

Even in countries that continue to use local accounting standards, such as China, the local accounting standards are increasingly being influenced by IFRS principles.

The IFRS standards are produced by the IASB.

The term IFRS is often used to embrace both IFRSs and International Accounting Standards (IASs).

IAS 1 *Presentation of Financial Statements* sets out the overall requirements for financial statements. IAS 1 applies to all general purpose financial statements that are prepared and presented in accordance with International Financial Reporting Standards (IFRSs).

The other main IFRS standards of particular interest to health and care insurance companies are:

- **IFRS 17 *Insurance Contracts***
- **IFRS 7 *Financial Instruments: Disclosures***
- **IFRS 9 *Financial Instruments.***

2.2 IFRS principles

IFRS accounting standards are principles-based. The main principles underlying IFRS are:

- **fair representation**
- **going concern**
- **accruals based**
- **comparability**
- **compliance**
- **reporting period**
- **understandability**
- **offsetting.**

In the description of the various accounting requirements, the primary focus is the balance sheet and, in particular, how to put a value on the tangible assets (financial instruments) and on the policy liabilities.

Fair representation

The financial statements must 'present fairly' the financial position, financial performance and cashflows of an entity.

Going concern

The financial statements are normally prepared assuming the entity is a going concern and will continue in operation for the foreseeable future. The assumption here is that the reporting entity has no intention to liquidate or to adversely curtail its scale of activities. If this is not the case, then a different basis of reporting may be necessary and that basis must be disclosed.

Accruals based

An entity must prepare its financial statements, except for cashflow information, using the accrual basis of accounting. Accrual accounting is the recording of revenue when earned and expenses when incurred, irrespective of when the actual cashflows occur. This approach results in the most accurate representation of the financial position of a business.

For example a company should set up a liability for estimated bad debts (amounts owed that will not be paid) when the estimate is made, not when a debt is finally written off.

Comparability

The presentation and classification of items in the financial statements shall be retained from one period to the next unless a change is justified either by a change in circumstances or a requirement of a new IFRS.

Compliance

An entity that prepares its financial statements in accordance with IFRS must make an explicit and unreserved statement of compliance. An entity shall not describe financial statements as complying with IFRS unless they comply with all the requirements of IFRS.

Reporting period

There is a presumption that financial statements will be prepared at least annually. If the annual reporting period changes and financial statements are prepared for a different period, the entity must disclose the reason for the change and state that amounts are not entirely comparable.

Understandability

A primary characteristic of financial information is that it should be readily understandable by the user. This assumes the user has knowledge of the business, its economic activity and accounting concepts. This should not deter the reporting entity from including complex matters in the financial reports.

Offsetting

Assets and liabilities, and income and expenses, may generally not be offset.

2.3 Accounting for insurance contracts – IFRS 17

Overview

IFRS 17 took effect from 1 January 2023. 'IFRS 17 replaces the previous IFRS standard (IFRS 4). IFRS 17 is much more prescriptive than IFRS 4, and its adoption has led to a substantial change to financial disclosures and the systems and process that produce them.

IFRS 17 is the result of many years of work by the International Accounting Standards Board, with extensive input from a wide range of international stakeholders.

IFRS 17 represents the first comprehensive international accounting standard that can be applied to all types of health and care insurance contracts. IFRS 17 aims to make the financial statements of health and care insurance companies more relevant, comparable and transparent.

Under IFRS 4 there were no set international reporting standards. The guidance allowed companies to report using their own local accounting standards, provided they met minimum requirements. Alternatively, they could use a different methodology if it would improve the relevance of the results. This meant that even within a single country, companies could report results on various bases that make them non-comparable.

For many health and care insurance companies, IFRS 17 is expected to have a significant impact on their financial statements. Even if the reported numbers do not change significantly, IFRS 17 requires a lot of new information to be disclosed.

The implementation of IFRS 17 has taken much longer than planned, and for many health and care insurers it has been complex and expensive to implement.

Both Solvency II and IFRS 17 are moves towards more market-consistent valuations. One result of these developments is that in future the difference between solvency reporting and accounting value reporting in the EU will be much smaller than in the past. As will be seen in Section 4, developments in supplementary (EV) reporting have also been moving in this same general direction.

The main criticisms of IFRS 4 concerned:

- **the sensitivity of profits to reserving assumptions**
- **the lack of comparability of different health and care insurance companies**
- **the early recognition of premiums and profits for long-term contracts.**

IFRS 17 addresses each of these criticisms.

IFRS 17 measurement models

The standard describes three valuation methods:

- **The *General Measurement Model (GMM).* The GMM (also referred to as the *Building Block Approach (BBA)*) is described below.**
- **The *Variable Fee Approach (VFA)* may be adopted where a significant proportion of the cashflows vary in line with the value of a clearly defined pool of assets. This method is mandatory for contracts with direct participation features. For example for unit-linked contracts and contracts with 'discretionary participating features' (DPF) (*ie* with-profits). The VFA is discussed later in this section.**
- **The *Premium Allocation Approach (PAA)* is a simplified model that is similar to the unearned premium method used by general insurers. Like general insurers, health and care insurers may consider the Premium Allocation Approach for very short-term health and care business.**

The Premium Allocation Approach is not considered further in this subject.

GMM

The GMM defines how the initial measurement of the assets and liabilities of an insurance contract should be recognised and re-measured over time. It defines how the revenue and profit of a contract is realised over the life of the contract. The GMM is the default valuation methodology for any insurance contract under IFRS 17. This method is likely to be appropriate for traditional long-term life business such as term assurance and without-profit annuities.

The GMM has four building blocks:

- **the fulfilment cashflows**
- **the time value of money**
- **the risk adjustment (RA)**
- **the contractual service margin (CSM).**

IFRS 17 actually defines the 'fulfilment cashflows' as the probability-weighted estimate (*ie* expected value) of the present value of the future net cashflows out that arise as the company fulfils its obligations to policyholders, *including* the risk adjustment. Hence the term also encompasses the second and third point in the above list.

The four building blocks may look odd to actuaries used to producing regulatory balance sheets, but if we merge the first two building blocks and call it the best estimate liability (BEL), it should look more familiar. The following describes the three monetary values: BEL, RA and CSM.

Best estimate liability (BEL)

The methodology for calculating the BEL is similar to that required by Solvency II:

- **derive best estimate assumptions**
- **derive a discount rate from observable market data**
- **discount the projected cashflows**
- **allow for the cost of any guarantees.**

The actual IFRS value may differ from those calculated for Solvency II for a few reasons concerning the unbundling of contracts and the offsetting of profitable and unprofitable contracts, which will be discussed below.

Risk adjustment (RA)

The RA is similar to the Solvency II risk margin, representing the value of the guarantees not captured in the BEL (*ie* the non-market risks). The RA may be calculated in one of three ways:

- **Value-at-Risk (VaR)**
- **conditional tail expectation (CTE)**
- **cost of capital (CoC).**

IFRS 17 does not specify the confidence level at which the RA should be set – this is at the choice of the insurer.

Note: The RA calculation is likely to be calculated allowing for diversification of risk factors, but the RA must be attributed to individual contracts.

Contractual service margin (CSM)

The CSM is a new concept. At inception, the CSM is set equal to what would otherwise have been considered the day one profit, *ie* the initial premium, less the attributable initial expenses, less the BEL, and less the RA.

The initial CSM is set at inception ('day one', *ie* the point at which the policy is written) for each policy (or group of homogeneous policies), so that the total initial liability of BEL + RA + CSM equals the initial net cashflow of initial premium minus initial expenses. This means that zero profit arises at the point at which the policy is sold. Thus:

$$CSM = (\text{Initial premium} - \text{Initial expenses}) - (\text{BEL} + \text{RA}).$$

However, the CSM cannot be negative, either at issue or subsequently. Therefore, if BEL + RA exceeds the initial net cashflow, a loss would be recognised immediately.

For a contract that has been written to generate profit, as would normally be the case, the CSM would be greater than zero – provided the risk adjustment (RA) is not too onerous.

Question

Explain why the CSM would be expected to be positive for a profitable regular premium contract, despite initial expenses being likely to exceed the initial premium.

Solution

The CSM would likely be positive for such a contract because the BEL would be negative. This is because the value of future premiums deducted from the BEL would be expected to exceed the value of future benefits and expenses, due to the loadings in those premiums to recover initial expenses and to provide profit margin.

As long as the RA is smaller than the discounted value of all profit loadings, the CSM would be positive.

The CSM may be thought of as 'future profit' or 'unearned profit'. This is a key feature of IFRS 17 reporting – the CSM is released (*ie* profit emerges) over the term of the policy.

The initial CSM is written down (*ie* gradually reduced) over the term of the contract. This write-down is done in line with a chosen 'coverage unit' measure, such as the number of policies in-force. Contracts can be grouped, but have to remain in annual cohorts (*ie* policies written more than one year apart cannot be grouped together).

The release of CSM at each accounting date contributes to profit for that period. Doing this allows the profit loadings to emerge steadily over the policy term, thus smoothing or stabilising reported profit.

The fact that the CSM is set at policy inception and then written down in a defined pattern presented practical issues for insurers in relation to the implementation of IFRS 17. It was necessary to look back through historical data for policies in-force at the January 2023 implementation date to determine what the initial CSM would have been for each, and how it would have been written down. There were challenges for insurers in terms of capturing the appropriate historical data and performing these retrospective calculations.

Another feature of the CSM is that it offsets the change in value of the BEL and RA due to assumption changes, which means the profit reported in a given year will be affected more by actual experience and less by assumption changes.

In other words, if changes are made to non-investment assumptions (*eg* morbidity rates), the CSM is adjusted to offset any resultant change in the BEL and RA. The total liability remains unaffected by the assumption change, and this also contributes to the smoothing of profit emergence. However, if the CSM is not large enough to absorb an increase in BEL and RA, the shortfall will be recognised immediately as a loss.

Another IFRS principle is that profitable and unprofitable contracts should not be offset. Under IFRS 17, each policy should be categorised as one of:

- **loss-making at inception**
- **profitable with no significant risk of making a loss**
- **any other profitable contracts.**

The last categorisation is referring to policies which are profitable at inception but become loss-making or have a significant risk of making a loss.

When contracts make a loss, that loss is incurred immediately, and when contracts make a profit, the profit will be earned over the term of those contracts. This is deliberately asymmetric. It is not yet clear how the insurer will manage the third category of contracts (those that may incur losses over time), but it is likely to require a significant change in systems and processes.

Variable Fee Approach

The Variable Fee Approach (VFA) is a different calculation to that of the GMM, but the objectives are the same. Subject to the constraints mentioned earlier, the VFA may be used for unit-linked, with-profits or other contracts in which the fulfilment cashflows vary in line with a pool of assets.

The 'variable fee' element represents the fee payable to the insurer, which also varies in line with the value of the pool of assets. Since the variable fee is a transfer of funds within the insurer, rather than a cashflow, it is not part of the fulfilment cashflows and so not part of the BEL. The concepts of RA and CSM also apply to the VFA.

A key difference between the GMM and the VFA concerns the discount rate. For the VFA, the discount rate is calculated with reference to the pool of assets, and the CSM is unlocked at each future period to absorb the change in the value of BEL and RA as a result of the change in the discount rate. Under the GMM, the discount rate is based on market observable data, and the CSM is not unlocked when the discount rate changes.

For example if the discount rate increases, the BEL and RA will fall. Under the GMM approach, similar to Solvency II, this will create a release of profits (which will be shown in the profit and loss statement (P&L) or income statement). In contrast, under the VFA approach, this profit release will get absorbed by the CSM (*ie* the CSM will be increased by the same amount) and will only be released as the CSM unwinds.

Disclosure requirements

The standard also describes the various disclosures, including:

- **the insurance revenue earned**
- **insurance service expenses incurred**
- **insurance finance income and expenses.**

Transitional Requirements

An important area for many insurance companies were the transitional arrangements when IFRS 17 came into effect. Companies were required to calculate a transitional CSM for business that was already in-force when IFRS 17 took effect. This was a significant area for many insurers and will be a key part of the transitional balance sheet.

There were three possible approaches to determining the transitional balance sheet:

- **Full Retrospective Approach (FRA) – this must be used if it was practicable to do so and involves determining the position at transition as if IFRS 17 had applied throughout the full policy lifetime.**

If it was not possible to use an FRA basis, for example due to lack of historic data availability for older policies, then two alternative approaches could be used:

- **Modified Retrospective Approach (MRA) – a simplified version of the FRA calculations which used reasonable information which is available without excessive cost or effort to produce a result as close as possible to a full retrospective calculation.**
- **Fair Value Approach (FVA) – where there is not sufficient information to carry out an MRA calculation a company could determine the transitional CSM using the fair value of the policies less the fulfilment cashflows at transition date.**

2.4 Accounting for financial instruments

Accounting for financial instruments is currently contained in IFRS 9. IFRS 9 specifies how an entity should classify and measure financial assets, financial liabilities, and some contracts to buy or sell non-financial items.

Under IFRS 9, the default measurement is changes in fair value are recognised in profit and loss as they arise ('FVPL'), unless restrictive criteria are met for classifying and measuring the asset at either Amortised Cost or Fair Value through other Comprehensive Income ('FVOCI'). '

FVPL stands for ‘fair value through profit and loss’. The ‘other comprehensive income’ is referring to items of revenue that are not recognised as profit or loss in the IFRS accounts, for example some types of unrealised gains and losses.

This IFRS 9 approach is consistent with a move towards more ‘market-consistent’ recognition. Assets are mainly measured in the balance sheet at fair value (*eg* market value, if there is a deep and liquid market), with changes in that value coming through the accounts as profit (or loss).

3 US GAAP

3.1 Overview

The IFRS accounting standards outlined above have not been universally adopted. For example, companies which have a listing in the United States of America are required to prepare accounts under US GAAP, the generally accepted accounting principles adopted by the US Securities and Exchange Commission ('SEC').

US GAAP literature is developed by many different organisations. The primary body of guidance for the health and care insurance actuarial work, as well as much of the accounting work, lies in the publications produced by the Financial Accounting Standards Board ('FASB'). These standards are numbered in order of when they were officially released to the general public.

While IFRS is not expected to be used by US businesses in the foreseeable future, IFRS accounting standards are still relevant to many of them. Companies will be affected by IFRS at different times and to a different degree due to:

- **mergers and acquisitions – US companies looking outside the US for merger and acquisition targets will increasingly need to understand IFRS**
- **non-US stakeholders – US companies with non-US stakeholders may require IFRS financial information**
- **non-US subsidiaries – multinational companies will need to consider any IFRS requirements for their non-US subsidiaries.**

3.2 Principles

There are some similarities between US GAAP and IFRS, but also some differences.

US GAAP is also principles-based, but it also has some industry-specific rules.

The main principles underlying US GAAP are:

- **fair presentation**
- **going concern**
- **compliance**
- **historical cost**
- **revenue recognition**
- **matching**
- **full disclosure**
- **objectivity**
- **consistency**
- **offsetting.**

Fair presentation

The objective of the financial statements is fair presentation in accordance with US GAAP. This is analogous to the requirement under IFRS that financial statements must 'present fairly' the financial position, financial performance and cashflows of an entity.

As described in Section 1 above, an essential part of statutory reporting is that financial statements show a 'true and *fair* view' of the financial position of a company, *ie* the reports are free from material misstatements and *faithfully* represent the financial performance and position of the entity.

Going concern

The financial statements are normally prepared on a going-concern basis, unless liquidation is imminent.

Question

State the name of the basis which is the opposite to a 'going-concern' basis, where liquidation is imminent and where the value given to the assets is likely to be correspondingly lower.

Solution

A wind-up basis / break-up basis.

Compliance

Similar to IFRS, an entity that claims compliance with US GAAP must comply with all requirements of US GAAP.

Historical cost

Companies should value assets and liabilities at 'acquisition cost' rather than at fair market value. Whilst this means that information is reliable and non-subjective, it is not necessarily particularly meaningful from an economic perspective – and therefore there has been movement towards the use of fair values.

The historical cost principle is a trade-off between reliability and usefulness. The historical cost of an asset is completely reliable however it might not be very useful. For example, knowing that a company purchased a piece of land in 1950 for $10,000 does not really tell financial statement users how much the land is currently worth, which a fair market value would. Since fair market values and replacement costs are left up to estimates and opinions, the FASB decided to stick with the historical cost principle because it is reliable and objective. In recent years, the FASB as well as the IASB has become more open to fair value information.

Revenue recognition

Companies should record revenue when it is earned rather than when it is received. However, losses must be recognised when they become probable, whether or not they have actually yet occurred. In addition to this principle, US GAAP revenue recognition requirements are augmented by a number of detailed rules.

These detailed rules are highly specialised, being both transaction-specific and industry-specific, and many examples are also provided.

Matching

Expenses should be matched with revenues wherever it is reasonable to do so. Expenses are not recognised when they are incurred, but when the work undertaken (or product produced) makes its contribution to revenue. Only if there is no connection with revenue can expenses be charged to the current period.

Deferring the acquisition costs through the recognition of a Deferred Acquisition Cost (DAC) asset and deferring the insurance liability through the recognition of a Deferred Profit Liability (DPL) on the balance sheet follows the matching principle.

Recognising a DAC is a way of dealing with the distortion to reported profits caused by high initial expenses. This is done by setting up a notional asset (the DAC asset) equal to the deferrable acquisition costs, if it is expected that they can be recovered from future premiums or margins. Effectively, the DAC asset capitalises the value of these future margins. The asset is then written down (amortised) over time as the margins emerge.

Recognising a DPL is a way of dealing with the situation when the premium paying period is shorter than the insurance period.

Question

Describe how a deferred profit liability (DPL) could operate and how it relates to the matching principle.

Solution

If the premium paying period is shorter than the insurance period and the premiums were fully recognised when they were paid, it can be argued that the income and outgo is not being matched. The premium income would be recognised more quickly than the 'work' to which it relates (the provision of insurance cover).

Hence the insurer sets up a reserve on the balance sheet (the DPL) to offset the excess profits being earned over the premium paying period. This extra reserve is released (amortised) over the life of the contract. The effect is to smooth the emergence of reported profit, effectively by spreading out the recognition of future premiums in order to match more closely the provision of insurance coverage.

It is important to appreciate that the choice of accounting basis does not impact the total profit actually made, just the pace at which it is recognised (or allowed to emerge) in the financial statements. Equally, neither a DAC nor a DPL impacts the actual total profit, just the pattern in which it is reported.

For example, amortising a DAC more slowly would accelerate the release of profit. The write-down of the DAC asset in each period is equivalent to the reduction in value of any asset, thereby having a negative profit impact in that period. Having a smaller such profit reduction in each period allows profit to emerge more rapidly.

Full disclosure principle

Information disclosed should be sufficient to make a judgement, whilst keeping the costs of preparation and use of that information reasonable.

The interpretation of this principle is highly judgmental, since the amount of information that can be provided could be significant. To reduce the amount of disclosure, it is customary to only disclose information about events that are likely to have a material impact on the financial position or financial results.

Objectivity

Information should be factual and verifiable as far as possible.

Consistency

Information should be presented consistently from period to period.

Offsetting

Assets and liabilities, and income and expenses, may generally not be offset.

There are particular differences to IFRS – for example with regard to the treatment of derivatives.

The rules on the netting and offsetting of derivative contracts are complex under both US GAAP and IFRS, and differ in many regards. In particular, under US GAAP offsetting is optional whereas under IFRS it is required when the stated conditions are met.

3.3 Differences between US GAAP and IFRS

As outlined above some of the accounting principles are similar between US GAAP and IFRS. However, there are a number of areas where US GAAP and IFRS differ. Examples of areas where there are differences are:

- **The *definition* of an insurance contract differs between IFRS and US GAAP.**

  Under US GAAP, health and care insurance products are split into three categories, each of which is subject to a different accounting standard:

  – traditional non-linked (with separate rules for 'short duration business')

  – unit-linked, unitised with-profits, 'investment' and 'limited pay' contracts (where premium payments have ceased but coverage continues, *eg* immediate needs annuities)

  – non-unitised with-profits.

- ***Asset recognition* – there are differences in the *recognition and measurement* of financial and non-financial assets.**

  Under US GAAP, financial assets are allocated into the following categories:

  – trading – valued at market value

  – available for sale – valued at cost value (amortised for bonds) for the profit and loss account and at market value for the balance sheet

  – held to maturity – valued at amortised cost value.

- ***Compliance* – under US GAAP an entity does not need to make an explicit and unreserved statement of compliance, which is the case under IFRS.**

- **The IFRS consolidation principles differ from those of US GAAP.**

- ***Revenue recognition* – there are differences in how revenue is recognised under US GAAP and IFRS. US GAAP also has a number of detailed industry-specific rules.**

- **E*xpense recognition*– differences exist in the measurement and recognition of expenses.**

A detailed industry-specific comparison of the differences between US GAAP and IFRS is complex and beyond the scope of this course.

4 Supplementary value based reporting (long-term business only)

4.1 Background

The previous sections set out methods that are used for assessing the profit arising over a year for the purpose of reporting in the primary accounts within the annual financial statements. The aim of these methods is to show what the accountants refer to as a 'true and fair' profit, although the extent to which they do is still a matter for debate within the accountancy profession.

It is also, of course, a topic that is debated in the actuarial profession.

A 'true and fair' view is a dynamic concept that has regard to changes in accounting and business practice. It requires compliance with accounting standards except, exceptionally, where these would present a misleading picture given the particular circumstances of the reporting entity.

4.2 Development of supplementary financial reporting

The methods used to report profits in the primary accounts may include a level of prudence beyond that acceptable for accounting for companies generally.

The development of supplementary financial reporting in a long-term insurance company's financial statements primarily arose from the desire of health and care insurance companies to inform shareholders of the true value of their interest in the business, and of the change in that value over time as a result of the management of the company's resources. This has both defensive and capital raising benefits.

In particular, supplementary embedded value reporting recognises profit from selling new business. If profit and value are understated in the accounts, the company may be vulnerable to a takeover at a price that does not give fair value to the shareholders. This is why the Core Reading states that a more accurate statement of value may have 'defensive' benefits.

Similarly, the company's ability to raise all the additional capital it requires may be compromised, whether this is through issuing debt or equity. Understatement of value also goes against the general Stock Exchange idea that investors should have accurate information by which to judge a company.

This was a more important issue under previous solvency regimes where the requirement to hold prudent reserves led to significant new business strain when a policy was sold.

Embedded value techniques are intended to measure a realistic, risk-adjusted, valuation of shareholder cashflows arising from in-force business and net assets. Embedded values were developed to address this desire, as well as to provide the management of the company with a more realistic value measure to help manage the business.

A company's embedded value represents the present value of expected future transfers to shareholders from its existing business together with the value of any net assets separately attributable to shareholders.

Profit can then be defined as the change in embedded value over the reporting period plus the profit transfer.

At the time they were developed, embedded-value techniques filled an obvious 'information gap' given the prudent and risk-insensitive approaches, for example in the UK of Solvency I and Old UK GAAP. As we have seen, increasingly solvency reporting (Solvency II) and accounting standards (IFRS 17) are becoming more realistic and risk-sensitive. This has led many to question whether there will continue to be a need for embedded values in future and whether firms will continue to publish EV results. We return to this point later in this chapter.

The usefulness of the supplementary financial reporting was impaired by the lack of consistency and transparency in the methods and assumptions adopted by health and care insurance companies. This led to the development of standards for supplementary reporting. Examples of these standards are European Embedded Value (EEV) principles and Market Consistent Embedded Value (MCEV) principles.

The European Embedded Value Principles were designed to address the shortcomings of traditional embedded values and to improve the consistency and transparency of embedded value reporting.

EEV and MCEV principles are outside the scope of the current Subject SA1 syllabus.

4.3 Implications of solvency regime

The applicable solvency regime for an insurer can have significant implications for the embedded value calculation, and consequently the analysis of any change in embedded value over a period.

In jurisdictions where statutory reporting is performed on a prudential basis, then the emergence of those prudential margins form the PVIF (*ie* present value of future shareholder cash flows from in-force covered business) component in the analysis of change in 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.

Even where no prudential margins are expected to emerge on a supervisory valuation basis, the insurance company may still determine a PVIF component of the embedded value in relation to:

- **profits that are expected beyond the Solvency II contract boundaries**
- **any difference between the best estimate investment returns assumed in the embedded value projection basis and the discount rates used in the BEL (including any matching or volatility adjustment)**
- the release of the risk margin, after allowing for the cost of holding it.

Under Solvency II, the 'required capital' component of the EV calculation would include the Solvency (or Minimum) Capital Requirement (SCR or MCR). It could also include the risk margin, unless the release of the risk margin is instead allowed for in the PVIF – as mentioned in the final bullet point above.

The 'free surplus' component broadly equates to the consolidated shareholder 'own funds' (as described in Chapter 12) in excess of those required to cover the SCR (or MCR).

Question

Explain why the word ‘shareholder’ is important in the sentence above.

Solution

Embedded value represents the value to the shareholders of the existing business of a company or portfolio. It includes the value of any free surplus (or net assets) attributable to shareholders, and therefore should only include the shareholders’ share of Solvency II ‘own funds’ in its calculation.

With the decreased size of the PVIF component, the embedded value of many companies will be increasingly similar to the supervisory balance sheet results.

In particular, if

- there is no PVIF, and
- the company considers the Solvency II risk margin to be an appropriate measure of the cost of residual non-hedgeable risks and the ‘lock-in’ cost of holding regulatory capital

then the embedded value will simply equate to shareholder ‘own funds’.

This can be seen in more detail as follows:

Embedded value = Free surplus +

Required capital minus cost of holding this capital + PVIF

Under Solvency II, ‘own funds’ is the excess of assets over technical provisions. In the situation where PVIF is zero, ‘required capital’ must be defined as the total of the risk margin and SCR (*ie* the risk margin is being treated as part of the required capital component rather than being released into the PVIF). Therefore ‘free surplus’ is the excess of assets over the sum of the technical provisions and the SCR. Hence:

‘Own funds’ = Free surplus + SCR

So: Embedded value = {‘Own funds’ – SCR} + {SCR + RM – RM} + PVIF

With PVIF = 0, this simplifies to just ‘own funds’.

Embedded value equating to shareholder ‘own funds’ is consistent with the concept of technical provisions being the amount that would have to be paid to another insurance company in order for them to take on the best estimate liability.

The similarity between results has led many in the EU to question whether embedded values will still be needed in the future, as the ‘information gap’ they filled is now much smaller than it was at the time at which embedded value techniques were first developed.

Some health and care 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.

Companies that do continue to produce an embedded value have likely aligned their embedded value reporting with the Solvency II process.

Question

Outline the possible benefits of bringing these processes in line.

Solution

Possible benefits of bringing these processes in line include:

- creation of efficiencies to reporting processes and resource synergies
- Solvency II implementation provided firms with an opportunity to get their processes in order and to avoid more manual intervention and spreadsheet-based processes to reflect the new reserving and capital requirements
- producing embedded value results from the Solvency II balance sheet will allow greater comparability of the two metrics and reconciliation, providing improved transparency and comparability
- providing an opportunity to align pricing and risk management decisions with performance reporting, which in turn will support the use test for companies adopting an internal model
- improvement in quality of embedded value reporting, as Solvency II has raised the bar in terms of data requirements, review and documentation.

The analysis of embedded values is considered Chapter 20.

The chapter summary starts on the next page so that you can keep all the chapter summaries together for revision purposes.

Chapter 14 Summary

IFRS

- The IFRS standards (produced by the IASB) are the most widely adopted accounting standards in the world. EU regulations require all listed companies to use them when preparing their consolidated financial statements.
- IFRS standards of particular interest to health and care insurers are:
  - IFRS 17 Insurance Contracts
  - IFRS 9 Financial Instruments
  - IFRS 7 Financial Instruments: Disclosures.
- Principles-based, main principles are fair representation, going concern, accruals based, comparability, compliance, reporting period, understandability and offsetting.

IFRS 17 Insurance Contracts

- IFRS 17 took effect from 1 January 2023. Addresses criticisms of previous regime (IFRS 4).
- General Measurement Model (GMM) – has four building blocks:
  - the fulfilment cashflows
  - the time value of money
  - the risk adjustment (RA)
  - the contractual service margin (CSM)
- Variable Fee Approach (VFA) – may be used for contracts in which the cashflows vary in line with the value of a pool of assets (*eg* unit-linked, with-profits).

Accounting for financial instruments

Currently contained in IFRS 9.

Chapter 14 Summary continued

US GAAP

- Set of generally accepted accounting principles adopted by the US Securities and Exchange Commission ('SEC'). Developed by many different organisations with the primary body of guidance for the health and care insurance actuarial and accounting work being produced by the Financial Accounting Standards Board ('FASB').
- Principles-based, with some differences from and some similarities to IFRS.
- The main underlying principles are:
  - fair presentation
  - going concern
  - compliance
  - historical cost
  - revenue recognition
  - matching
  - full disclosure
  - objectivity
  - consistency
  - offsetting.

Supplementary reporting

- Embedded value (EV) techniques are intended to measure a realistic, risk-adjusted, valuation of shareholder cashflows arising from in-force business and net assets. Profit then defined as the change in embedded value plus the profit transfer.
- The usefulness of supplementary EV reporting impaired by a lack of consistency and transparency in the methods and assumptions adopted by different insurance companies. Led to the development of the European Embedded Value (EEV) principles and Market Consistent Embedded Value (MCEV) principles.
- Under Solvency II, the basic liability (BEL) is determined on a best estimate basis and so there are no prudential margins to be released in the EV PVIF.
- May still be a PVIF component in relation to:
  - profits expected beyond the Solvency II contract boundaries
  - any difference between the best estimate investment returns assumed in the EV projection basis and the discount rates used in the BEL (including any matching or volatility adjustment)
  - the release of the risk margin, after allowing for the cost of holding it.
- Some health and care insurers in jurisdictions that have implemented Solvency II are no longer reporting on EV.

Chapter 14 Practice Questions

14.1 Discuss how the contractual service margin (CSM) under IFRS 17 acts to smooth the emergence of reported profit. [7]

Exam style

14.2 Outline the main principles underlying US GAAP.

14.3 Explain how IFRS 17 addresses the main criticisms of IFRS 4.

The solutions start on the next page so that you can separate the questions and solutions.

Chapter 14 Solutions

14.1 ***Initial CSM***

When a contract is written, an initial CSM is set up which results in a zero profit at that point. [1]

This is done by setting the CSM to be equal to the initial premium minus initial expenses, minus the sum of the best estimate liability and risk adjustment (RA) liability components. [1]

Without the CSM, the profit loadings expected to arise over the term of the contract (in excess of the RA) would be capitalised at inception. [1]

This would result in significant profits being reported when new business is written. [½]

Instead, the profit loadings are released smoothly over the policy term. [½]

This is done by writing the CSM down gradually (*ie* releasing it) over the policy term. [½]

However, if there is a loss on the contract, this is recognised immediately … [½]

… because the CSM cannot be negative. [½]

Hence losses are not smoothed over the policy term. [½]

Assumption changes and experience

The CSM also smooths profit emergence through its absorption of assumption changes. [½]

If non-economic assumptions used to determine the best estimate liability are amended (*eg* mortality, expenses), the resultant change in liability is added or deducted to the CSM so that the total liability (best estimate liability + RA + CSM) is unchanged. [1]

However, if the CSM is not large enough to absorb an increase in BEL and RA due to a non-economic assumption change, the shortfall will be recognised immediately as a loss. [½]

The CSM does not absorb or smooth out the direct impact on profit arising of actual experience differing from that expected. [½]

It also is not adjusted for economic assumption changes, *eg* discount rates, under the General Measurement Model. [½]

However, under the Variable Fee Approach (applicable to unit-linked business), the CSM is 'unlocked' at each future period to absorb the change in the value of the best estimate liability + RA as a result of a discount rate change. [1]

This smooths out the impact of the discount rate change, by releasing any profit difference only as the CSM unwinds. [½]

[Maximum 7]

14.2 *US GAAP – main principles*

Fair representation

Financial statements must 'present fairly' the financial position, financial performance and cashflows of an entity.

Going concern

The financial statements are normally prepared on a going-concern basis, unless liquidation is imminent.

Compliance

An entity that claims compliance with US GAAP must comply with all requirements of US GAAP.

Historical cost

Companies should value assets and liabilities at 'acquisition cost' rather than at fair market value.

Revenue recognition

Companies should record revenue when it is earned rather than when it is received.

Losses must be recognised when they become probable, whether or not they have actually yet occurred.

Matching

Expenses should be matched with revenues wherever it is reasonable to do so.

Expenses are not recognised when they are incurred, but when the work undertaken (or product produced) makes its contribution to revenue.

Only if there is no connection with revenue can expenses be charged to the current period.

Full disclosure

Information disclosed should be sufficient to make a judgement whilst keeping the costs of preparation and use of that information reasonable.

Objectivity

Information should be factual and verifiable as far as possible.

Consistency

Information should be presented consistently from period to period.

Offsetting

Assets and liabilities, and income and expenses, may generally not be offset.

14.3 ***Sensitivity of profits to reserving assumptions***

One of the criticisms of IFRS4 was that the profits it shows are sensitive to the reserving assumptions. Under IFRS 17 General Measurement Model (GMM), the CSM offsets assumption changes. The profit will therefore be more affected by changes in the actual experiences.

Lack of comparability

Another criticism of IFRS 4 was that results were not comparable between health and care insurance companies. Under IFRS 4, companies could report profits determined using various methods, including local accounting standards. This led to companies calculating profits in many different ways.

IFRS 17 is a comprehensive international acccounting standard, applied to all types of health and care contracts. It also requires a lot of information to be disclosed. This should make it easier to compare results between insurers.

Early recognition of premiums and profit for long-term contracts

Finally, IFRS 4 was criticised for recognising premiums and profits too early within the policy term.

Under IFRS 17, profits are relased when they are occurred. Most long-term health and care contracts will be measured using the GMM approach. This requires a Contractural Service Margin (CSM) to be established at the start of the contract. The CSM starts being equivalenet to the day one profit that they policy would have made. The CSM is released over the term of the policy to reflect the profit emerging.

1 Examples

There is no explicit syllabus objective for this chapter.

As part of their preparation for the assessment, candidates must demonstrate knowledge and understanding of the subject as a whole, in order to apply and produce solutions to problems relating to health and care as follows:

- **Recommend coherent solutions and courses of action in relation to the overall financial management of health and care insurance companies.**
- **Analyse complex problems in terms of actuarial, economic and financial factors to a level where appropriate analytical techniques may be used.**
- **Assess the implications and relevance of such factors, integrating the results into a coherent whole.**
- **Evaluate the results critically in a wider context, drawing appropriate conclusions.**
- **Propose solutions and actions, or a range of possible solutions and actions, based on this evaluation.**

Examiners will expect candidates to be able to apply the knowledge and understanding they have developed through the study of the Core Reading for this subject to produce coherent advice and recommendations for the overall management of a health and care insurance company.

Some examples could be:

- **Discussion of advantages and disadvantages of current or new product structures.**

  Different product structures were described in Chapters 2, 4 and 7.

- **Discussion of the implications of different regulatory structures**

  Regulatory regimes were discussed in Chapters 10 and 13.

- **Analysis of proposed product concepts.**

  You may therefore be given a question detailing a complex proposed health and care product, and be asked to comment on its suitability or on its problems.

- **Recommendations regarding the various investigations that an actuary might undertake to assess the appropriate levels for the assumptions underlying a new basis or to judge the continuing validity of existing assumptions.**

  Setting a basis was discussed in Chapters 8 and 19 and also in Subject SP1.

- **Demonstration of understanding of the appropriate regulatory valuation of assets, liabilities and capital requirements.**

  The rules and regulations concerning the valuation of assets and liabilities and capital requirements were covered in Chapters 11 to 13.

- **Comparison of various investment strategies and their appropriateness for a particular health insurer under given circumstances.**

  Investment was covered in Chapter 18 and in Subject SP1.

- **Demonstration of how the long term finances of a health insurer would be measured and monitored.**

  The need for regular monitoring was covered in Chapter 19 and also in more detail in Subject SP1.

- **Assessment of risks involved in a given situation and recommendation of strategies to mitigate those risks.**

  The consideration of risk when setting strategies under a number of scenarios was covered in Chapters 22 and 23.

2 The Subject SA1 examination

The Subject SA1 exam will be a test of your ability to analyse problems, make judgements and communicate clearly. So analysis, judgement and communication are far more important than simply learning and recalling.

The exam will consist of up to four questions, and you may still need to include some bookwork knowledge. Furthermore, you should be aware of the health insurance and healthcare scene in the UK, including current issues.

Sometimes the examiners are convinced that some candidates seem to have read up on a current topic and been desperate to write about it, even when it has not been especially relevant to the question. Guard against this. By the time of the exam you should aim to know so much about health and care insurance that you don't have a 'pet topic'.

Bear in mind that a large part of the answer could well be fairly straightforward, so make sure that you give this in your answer. However, the examiners will want you to answer the question that they have set, so also make sure that your answer is relevant to the situation in hand. This is true of most day to day actuarial work: 80% of the solution may well be straightforward. The skill of the actuary (and hence the candidate in the exam) is to recognise this and give the 'standard 80%' but then to give the 20% that is relevant to the specific situation in hand (or apply the standard 80% to the specific problem).

Also, most of the marks on offer will be for the basic theoretical and technical aspects ('the cake'), with relatively less credit for the fancy current aspects ('the icing'). A common reason why candidates fail is that they give too much icing and not enough cake. So make sure that you state the obvious and try not to be *too* clever.

Finally, your answers should not be confined to theory. They should also show a practical outlook. If 'traditional actuarial methods' don't work for a given situation, then you should not be afraid to say so and to suggest other approaches that may give a practical solution to the problem that has been described in the question.