CMP Upgrade 2020/21

Subject SP4

CMP Upgrade

This CMP Upgrade lists the changes to the Syllabus objectives, Core Reading and the ActEd material since last year that might realistically affect your chance of success in the exam. It is produced so that you can manually amend your 2020 CMP to make it suitable for study for the 2021 exams. It includes replacement pages and additional pages where appropriate.

Alternatively, you can buy a full set of up-to-date Course Notes / CMP at a significantly reduced price if you have previously bought the full-price Course Notes / CMP in this subject. Please see our 2021 *Student Brochure* for more details.

This CMP Upgrade contains:

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

0 Changes to the Syllabus objectives

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

There were no non-trivial changes to the Syllabus objectives for the 2021 Subject SP4 exam.

1 Changes to the Core Reading and ActEd material

This section contains all the ***non-trivial*** changes to the Core Reading and ActEd material since last year that might realistically affect your chance of success in the exam.

Chapter 2

There have been some minor changes, mostly addition of a few extra words (or rewords) for clarity, which are underlined below:

Page 3

The fifth paragraph of Core Reading now reads:

Often they are not recognised as such, <u>or fully understood</u>, by the potential recipients.

Page 5

The word 'however', has been deleted from the third paragraph of Core Reading.

Page 8

The second paragraph of Core Reading now reads:

Like the State, employers can play a role in educating and either encouraging or compelling their employees to plan <u>for their</u> benefit provision.

The second paragraph of Core Reading in the section 'Scheme provision' now reads:

This may enable <u>the employer</u> to have greater control over the benefits being provided and the costs involved in that provision.

Page 11

The second Core Reading bullet point now reads:

- **different groups within the workforce (*eg* single, married, with dependants, without dependants, young, old *etc*) can select benefits appropriate to <u>their needs and preferences</u>**

Page 12

The first sentence of Core Reading now reads:

The main role that individuals can play in the provision of benefits is as beneficiaries, often sharing the financing of benefits <u>with the employer</u>.

Page 13

The final sentence of Core Reading now reads:

Continuing Care Retirement Communities (CCRCs) <u>are also being established</u> outside the USA.

Chapter 5

Page 9

In the penultimate Core Reading point in the section 'Pattern of spending' the words '**(*eg* travel to work)**' have been added after '**such as travel costs**'.

Page 16

The words '**level and**' have been added before '**value of the State benefits**' in the second disadvantage of means-tested benefits.

Chapter 12

Page 12

Section 1.10 on longevity bonds and longevity swaps has been significantly rewritten and is given below. A corresponding description of longevity swaps has also been added to the summary.

Longevity swaps and longevity bonds

A major risk affecting defined benefit pension schemes is longevity risk. This can be mitigated by investing in longevity bonds or swaps.

Longevity bonds

Longevity bonds work where the coupon payments are linked to the mortality experience of a particular set of lives, such as a specific age group in the national population.

Coupon payments will reduce over time in line with the mortality experience of that population.

If longevity is higher than expected, the coupon payments received will be higher, thus hedging the longevity risks of the pension scheme.

The hedge is not perfect if the population underlying the bond is not the same as that in the pension scheme.

For example, if the pension scheme members live longer on average than the population being tracked.

The hedge will also not be perfect if investment returns and / or pension increases are at a different rate than expected.

The market for longevity bonds is currently very limited and they tend to be used only by the largest pension schemes.

Longevity swaps

These contracts may be written as derivatives or as insurance contracts and are generally offered to trustees of pension schemes by insurance companies.

There are two types of longevity swap, a named lives swap and a population index swap and these are described below.

The two types of longevity swap differ according to the reference population being tracked.

Named lives swap

This type of swap protects the pension scheme against members (generally just those who are already receiving a pension) living longer than expected over a pre-agreed term.

The payments are therefore linked to the mortality experience of the scheme's *actual* **membership rather than the national population.**

The cashflows are as follows:

Scheme pays:

- **expected pension amounts (which may include pension increases and spouses' pensions)** according to a pre-agreed formula
- **a contribution for the swap provider's expenses and profits.**

Swap provider pays actual pension amounts (which may include pension increases and spouses' pensions).

In practice, rather than the swap provider paying the benefits directly to members, the scheme will make the payments as usual, and **a net** 'correction' **payment is made at regular intervals, such as annually** equal to the difference between the amounts paid by the scheme and the swap provider, as set out above**.**

This type of swap requires a lot of administration and documentation, as it is necessary to track the actual scheme membership**. It is, therefore, suitable only for large pension schemes** with sophisticated administration systems**.**

Population index swap

Under this type of swap, the reference measure is a population index (such as the national index for the membership's location), rather than the actual scheme's experience.

Again, these contracts do not offer a perfect hedge if the population underlying the bond is not the same as that in the pension scheme.

The swap provider pays out if the reference population experiences fewer deaths than expected over the pre-agreed term, say 10 years, of the contract.

In other words, if the reference population lives longer than expected, the swap provider pays out an amount equal to the difference between:

- the total pensions payable based on the actual mortality of the reference population
- the pensions payable based on the expected mortality of the reference population

These contracts require far less administration. This is because it is not necessary to track the actual membership of the scheme.

These contracts tend to be focused on hedging improvements in longevity for members who are under pension age.

Chapter 13

Page 2

The following Core Reading was added to the introduction:

At the time of writing (Spring 2020) the full effect of the Covid-19 pandemic on both the global economy and financial markets will not be known for some time. This version of the Core Reading (*ie* for the 2021 exams) **does not attempt to address these areas.**

Page 7

The following Core Reading has been added to the end of Section 2.1:

Another increasingly relevant consideration for trustees is environmental, social and governance factors (ESG) as well as social impact investing. These are described in more detail later.

A new section 4 on ESG investing has been added, for which replacement pages are attached.

Chapter 23

Page 12

The words '**from an insurer**' have been added to title '**Deferred or immediate annuities**'.

An additional option for discontinuing a pension scheme, 'transfer to a non-insurance consolidator' has been added:

Page 13

Transfer to a non-insurance consolidator

These are commercial organisations not operating as insurance companies.

Under this option, a scheme's liabilities and assets are transferred to the consolidator organisation. There may also be a need for a one-off additional payment from the scheme sponsor in order to increase the level of funding. The consolidator will set the entry terms such that it targets making a profit over the term of the liabilities taken on.

The consolidator organisation then meets the future benefit payments, and there is no ongoing link to the original scheme sponsor or trustees.

As the consolidator is not subject to the reserving and regulatory requirements of an insurance company, the protection of members' benefits may not be as strong as it would be with annuities purchased from an insurer.

However, the cost of transferring liabilities to the consolidator may be lower than the cost of purchasing annuities from an insurer.

Glossary

The following definition for 'Environmental, Social and Governance (ESG)' investment or 'Responsible Investment' has been added:

A strategy and practice to incorporate environmental, social and governance factors in investment decisions and active ownership. Factors considered under such a strategy might include climate change, employee relations and tax strategy.

See also *Social Impact Investing*.

The following definition for 'Social Impact Investing' has been added:

An investment principle which focuses on investing in companies and projects that manufacture goods and services designed to have an explicit positive impact on society, while ensuring investors received a fair return on their capital contribution.

See also *Responsible Investment*.

2 Changes to the X Assignments

There have been no significant changes to the X assignments.

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 SP4:

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

For further details on ActEd's study materials, please refer to the 2020 *Student Brochure*, which is available from the ActEd website at **www.ActEd.co.uk**.

3.2 Tutorials

We offer the following (face-to-face and/or online) tutorials in Subject SP4:

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

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

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 2020 *Student Brochure*, which is available from the ActEd website at **www.ActEd.co.uk**.

3.4 Feedback on the study material

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

If you have any comments on this course please send them by email to **SP4@bpp.com**.

3.5 Fees

Investors always need to be aware of the fees they are paying to investment managers.

These fees can eat significantly into the total investment returns over a long period and are easily overlooked.

More complex investment products generally bring higher fees, along with active management as it requires much more research and decision-making by the investment manager.

Such extra fees would be difficult to justify in efficient markets, where it is difficult to outperform.

Some countries will place a cap on the fees that can be charged.

For example, in the UK the fees are capped in the default strategy of a scheme used for meeting the employer's auto-enrolment responsibilities.

3.6 Hybrid schemes

Some pension schemes will offer benefits that are partially DB and partially DC. The investment considerations here will depend on the specifics of the benefit structure.

Examples might include:

- **DB and DC benefits accruing alongside each other.**

  The investment considerations for each will be separate, but the DB 'safety net' might allow members to take more risk with their DC funds.

- **A DB scheme with a DC underpin.**

  The investment strategy here will depend on whether the underpin is expected to 'bite'.

  If it is then funds will be invested largely as for a DC scheme, and if not then it is essentially a DB scheme.

Question

Discuss the factors to consider in determining an appropriate investment strategy for a pension scheme that provides DC benefits with a DB underpin.

Solution

It is important to know the level of contributions and hence how likely the DB underpin is to bite.

If it is unlikely to bite, the situation is very similar to that for a DC scheme.

If it is very likely to bite, the situation is really the same as for a DB scheme.

An appropriate investment strategy could be determined using stochastic asset liability modelling techniques to explore the likely outcome of different investment strategies.

4 Environmental, Social and Governance considerations (ESG)

4.1 Introduction

The United Nations' Principles for Responsible Investment (PRI) defines responsible investment as 'a strategy and practice to incorporate environmental, social and governance factors in investment decisions and active ownership'.

Factors typically considered in ESG are listed below:

Environmental

- **climate change**
- **resource depletion**
- **waste**
- **pollution**
- **deforestation**
- carbon emissions
- water management

Social

- **human rights**
- **modern slavery**
- **child labour**
- **working conditions**
- **employee** and local community **relations**

Governance

- **bribery and corruption**
- **executive pay**
- **board diversity and structure**
- **political lobbying and donations**
- **tax strategy**

ESG is described in more detail in the next three subsections. It is not necessarily the same as social impact investing, which is described the final subsection.

4.2 Relevance of ESG factors to investment performance

An investment strategy taking into account ESG factors may be driven by ethical principles.

This may negatively impact on investment performance as:

- **it may restrict the range of assets available for investment**
- it may restrict the underlying company's business activities, and so reduce sales and profit
- it may increase costs for the underlying businesses, and so reduce profit
- it may increase the costs for the scheme of monitoring investments
- it may increase transaction costs for the scheme, *eg* if disinvestment must take place from companies that no longer comply with the scheme's desired ethical standards.

However, arguments exist to support the view that incorporating ESG factors can improve investment performance through increasing returns and/or reducing risk.

For example, ESG-motivated companies might:

- **reduce costs through more efficient use of energy and raw materials**
- **be subject to less financial impact if governments** subsequently make changes to legislation that raise standards, *eg* **impose pollution taxes or minimum wages**
- **benefit from any government incentives and subsidies designed to encourage global goals on climate, energy and sustainable development – this is discussed in more detail below**
- **avoid reputational damage from controversial practices such as modern slavery**
- **see greater returns arising from better working conditions for staff which aids recruitment, retention and motivation (a virtuous circle).**

Question

Explain why ESG risks should be allowed for when determining a company's credit rating.

Solution

A credit rating agency will assess a company's long-term financial strength …

… *ie* its likelihood of default and potential losses in the event of default.

A good ESG rating will positively affect the 'goodwill' towards the company:

- increasing demand for its products and so its profitability
- increasing demand for its shares
- reducing its cost of borrowing
- reducing political risks for the company …

… and so ESG risks should be included as they are likely to be a key indicator of financial strength.

Strong risk control and governance mechanisms are likely to include ESG issues …

… which are an indication of a company which will achieve long-term business success …

… and may be demanded by investors as ESG is seen as an important factor.

4.3 Climate change

There is scientific consensus that warming of the climate is unequivocal and linked to increasing atmospheric concentrations of greenhouse gases, of which a key driver is the burning of fossil fuels.

The effects are already apparent and further warming is inevitable due to inertia in the climate system which means it can take decades for the full effect of emissions to be felt.

Risks and opportunities from climate change

In its 2015 report, 'The impact of climate change on the UK insurance sector', the Prudential Regulation Authority described three categories of risk arising from climate change:

- **physical risk**
- **transition risk**
- **liability risk.**

More details can be found at:

https://www.bankofengland.co.uk/prudential-regulation/publication/2015/the-impact-of-climate-change-on-the-uk-insurance-sector

Physical risks

Physical risks arise from the effects of a changing climate itself.

Such risks may arise:

- **in the short-term; from damage to property and from business disruption due to extreme weather events**
- **in the longer-term; chronic impacts may dominate, such as rising temperatures, rising sea levels and changes to rainfall patterns affecting use of land for agriculture.**

Transition risks

Transition risks arise from the shift away from fossil fuel use.

Sources of transition risk include:

- **policy measures (*eg* carbon taxes and energy efficiency standards)**
- **technological change (*eg* a move to renewable energy and electrical vehicles)**
- **changing customer preferences (*eg* increased demand for 'green' products).**

Transition risk is a particular concern for fossil fuel-dependent companies and associated infrastructure.

Liability risks

Liability risks relate to the potential costs from third parties seeking compensation because they have suffered loss or damage from the effects of climate change.

It is possible that actuaries and their clients could face legal claims themselves in future if they fail to consider climate-related risks.

Climate change brings opportunities as well as risks. Companies that offer solutions to climate change, such as lower emission technologies and energy-efficiency measures, are well placed to benefit from a low carbon transition.

Financial impacts of climate change

It is currently very unclear where the world will end up on the spectrum between rapid transformation of the energy system (with associated transition risks) and massive climate change (with associated physical risks).

There is widespread concern among policymakers and financial regulators of the damage that climate change could cause to the financial system and, conversely, the role that the financial system can play in achieving an orderly transition to a low carbon economy.

In May 2017, the IFoA issued a risk alert highlighting that actuaries are expected to consider climate risks and communicate their approach.

The details can be found at:

https://www.actuaries.org.uk/system/files/field/document/Risk%20Alert%20-%20Climate%20Change%20FINAL.pdf

A particular challenge is that the future may look very different to the past, so models that are calibrated using past data may give misleading results.

Question

Discuss how a pension scheme's investments could be affected by climate change.

Solution

Government bonds

There is likely to be less of a direct impact on government bonds.

There may be a secondary impact as prices may increase due to falling demand for other assets.

Corporate bonds

Lower company profits increase the risk of investing in corporate bonds, leading to falls in prices.

The collateral used as security may reduce in value, also increasing risk.

Equities

Additional costs arise for companies in dealing with climate change issues.

This reduces their profitability, and so dividends, and so their share price.

Industries that contribute to climate change may do particularly badly, *eg* the oil industry …

… whereas 'green' industries may do well, *eg* renewable energy providers.

Property

Property may be at greater risk of natural disasters (*eg* fires and floods) due to climate change …

… especially in certain locations and for older properties …

This may reduce demand and so prices.

The costs of dealing with the physical effects of climate change may be expensive.

4.4 Legislative requirements and regulatory expectations

One of the drivers for the rising interest in ESG investment has been increasing legislative requirements and regulatory expectations.

Many pension schemes may choose to take account of ESG investment considerations as part of their investment strategy.

However, schemes who had chosen not to reflect ESG principles in their investment strategy may find that they are more affected by increasing legislative requirements.

Trustees' fiduciary duty

For the reasons outlined above, it is now widely agreed that incorporating ESG factors can improve investment performance and hence that consideration of ESG factors forms part of trustees' fiduciary duty to act in the best interests of beneficiaries.

In the UK for example, this has been clarified by The Pensions Regulator's guidance which says that 'when considering investment decisions / setting investment strategy, you should take into account all ESG and other factors that are financially material to the performance of an investment'.

The Pensions Regulator's guidance can be found at:

- **https://www.thepensionsregulator.gov.uk/en/document-library/regulatory-guidance/db-investment/investing-to-fund-db**
- **https://www.thepensionsregulator.gov.uk/en/trustees/managing-dc-benefits/investment-guide-for-dc-pension-schemes-**

In relation to 'non-financial factors', The Pensions Regulator's guidance continues to say that 'trustees may take account of non-financial factors if:

- **they have good reason to think that scheme members share a particular view**
- **their decision does not risk significant financial detriment to the fund'.**

For example, the Pensions Regulator's guidance with regard to ESG investment states that considering ESG factors involves looking at:

- the financial materiality of ESG factors, and allowing for this when developing and implementing an investment strategy
- the short and long-term financial risks and opportunities of investing by looking at the current practices of the businesses invested in (if investing directly)
- the demographics of the scheme and issues that may affect the risk adjusted returns
- the ESG approach of the available funds (if a pooled approach is used), when selecting and monitoring funds.

Sustainable finance

Sustainable or 'green' finance is a popular topic among policymakers wishing to use financial markets to help them achieve sustainability and climate change objectives.

Climate change

As noted above, climate change is a particular concern of policymakers and financial regulators. Concerns about these systemic risks has catalysed various initiatives around the world. For example, the European Insurance and Occupational Pensions Authority (EIOPA) includes climate change in its stress tests for pension schemes from 2019.

4.5 Social impact investing

Social impact investing focuses on investing in companies and projects that manufacture goods and services designed to have an explicit positive impact on society, while ensuring investors received a fair return on their capital contribution.

An example of ESG investing, but not necessarily social impact investing, might be investing in a restaurant which sources its food and staff from within its general locality.

An example of social impact investing might be investing in a restaurant which aims to rehabilitate ex-offenders through teaching the relevant skills to enable them to find employment within their kitchen or elsewhere.

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

Chapter 13 Summary

DB scheme Investment

The fundamental risk for benefit scheme investment is being unable to meet the scheme liabilities when they fall due.

The behaviour of the assets relative to the liabilities is important, so need to consider:

- the nature of the liabilities
- the nature of the assets and the extent to which matching to the liabilities can/should be achieved.

A 'matched' investment position involves holding an asset portfolio that will behave broadly in the same manner as the liabilities.

Considerations when setting investment strategy include the needs of stakeholders, trust law, risk and balancing this risk with return.

Investment risk

Risk can be broken down into several components:

- volatility of income or capital values
- marketability
- diversification
- liquidity
- reinvestment
- cashflow mismatching
- liability mismatching
- currency mismatching
- default
- poor net returns (*eg* due to expenses and tax).

Balancing risk and return

This balance is often expressed as 'maximise return subject to an acceptable level of risk'. A high funding level will enable a scheme to worry less about the risk of meeting its liabilities and to concentrate on maximising returns.

DC schemes

Risk appetite

Members of DC schemes will have varying risk appetites depending on their wealth and flexibility over retirement age. A greater risk appetite may give a higher benefit or lower contribution rate.

Lifestyling

As members of DC schemes get closer to retirement, they may want to move from risk-seeking assets into better matching assets.

They could move into cash and short-term bonds to match a lump sum, bonds to match an annuity, or assets best matching their spending pattern under income drawdown.

Member choice

Members may be offered a choice of investments. Members who do not have the knowledge to choose their own investment strategy could invest in the default fund.

Fees

Members need to be aware of investment manager fees as these can be significant. In some countries fees are capped by regulation. Active funds tend to charge higher fees.

Hybrid schemes

Setting an investment strategy for hybrid schemes is complex, it will depend in part on whether any underpin is likely to bite.

Environmental, Social and Governance considerations

Environmental issues include climate change, resource depletion, waste, deforestation and pollution.

Social issues include human rights, modern slavery, child labour, working conditions and employee relations.

Governance issues include bribery and corruption, executive pay, board diversity and structure, political lobbying and donations and tax strategy.

The key risks of climate change are:

- physical risks – arising from the effects of a changing climate itself
- transition risks – arising from the shift away from fossil fuel use
- liability risks – relating to potential costs from third parties seeking compensation because they have suffered loss or damage from the effects of climate change.

Social impact investing focuses on investing in companies and projects that manufacture goods and services designed to have an explicit positive impact on society, while ensuring investors received a fair return on their capital contribution.