

Actuarial Society of South Africa

EXAMINATION

21 May 2021

Subject F205 - Investment

Fellowship Applications

Time allowed: Three hours and fifteen minutes, plus an additional five minutes to allow for scrolling in the ASSA Exam Platform

Total marks: 100

INSTRUCTIONS TO THE CANDIDATE

1. Ensure that you are logged in and authenticated through Examity before you attempt the examination.
2. Questions are only available in the ASSA Exam Platform and may not be printed.
3. Submit all of your answers in the ASSA Exam Platform only. No uploads of answers (handwritten or otherwise) to the ASSA Exam Platform will be accepted.
4. You may not use any other computer program (e.g. Email, MS Word or Excel) or files, nor open any other browser during the examination.
5. You may not make use of a Formulae and Tables book during the examination. Any such information that may be required will be provided to you within the examination.
6. You are strongly encouraged to use the first 15 minutes as reading time only, however, you may commence answering the paper whenever you are ready.
7. Mark allocations are shown in brackets.
8. Attempt all questions.
9. Show calculations where this is appropriate. You may use blank paper to carry out rough work calculations. You may use a calculator from the approved list only.
10. You may return to your answers to review and amend during the allotted examination time. Once you are happy with your answers you need to **Finish all and Submit** your work. Once you have submitted you will not be able to make any more changes to your answers.
11. You must submit all work **BEFORE** the end of the allotted examination time. Take this into account when planning your review and submission. There will be no time announcements.

Note: Answers will be saved automatically during the examination if you are connected to the ASSA Exam Platform. However, the Actuarial Society of South Africa will not be held responsible for loss of data where candidates have not followed instructions as set out above.

END OF INSTRUCTIONS

QUESTION 1

- i. Define delta and gamma in the context of European call options on shares and explain the expected ranges for these measures over the course of each option's lifespan.

[4]

A highly shorted, thinly traded small cap share (ABC Co) has recently experienced a large and sharp spike in its share price. This unusual move has been attributed to a wave of investors buying out-of-the-money call options on the share.

- ii. Explain how the buying of out-of-the-money call options may have contributed to this price observation.

[5]

A pharmaceutical company (XYZ Co) develops and manufactures a wide range of drugs. The company is due to announce the results of a much anticipated and important drug trial which, if successful, will bring significant financial rewards to the company. XYZ's share price has already moved moderately upwards in anticipation of the announcement. You, as a fund manager, believe that the chance of a successful outcome of the trials is 50% and would like to invest in an option strategy that allows you to profit regardless of the outcome of the trial. The strategies you consider employing are long straddles and zero cost collars.

iii.

- a. Describe how these option strategies are constructed.
b. Explain which strategy is best suited to the described situation.

[7]

You are the investment consultant to a medium-sized South African medical scheme. You have been approached by a trustee who has requested your advice on adding a meaningful exposure to XYZ's shares to the scheme's investment portfolio.

iv.

- a. Discuss the suitability of XYZ as an investment in the medical scheme's portfolio.

[7]

- b. Outline how you would go about determining the intrinsic value of an XYZ share to assess its attractiveness, highlighting the issues requiring consideration.

[8]

[Total 31]

REMEMBER TO SAVE

PLEASE TURN OVER

QUESTION 2

An established lending company, SELender, specialises in secured lending to small enterprises; with loan sizes ranging from R2m to R10m. SELender is not a bank.

i. What information might SELender require or want to source for a loan applicant in order to carry out its credit vetting process?

[9]

ii. List the commonly used metrics that SELender might impose in the form of debt covenants on its customers (borrowers) including an indication of the likely range each metric might be restricted to (if appropriate).

[6]

You are the advisor to a large retirement fund (Big RF) which has an in-house private equity team. SELender has approached Big RF for capital. SELender has suggested that the COVID recession has created increased demand for lending to small businesses, and attractive rates can be achieved that more than compensate for any additional risk of default. An agreement has been reached between BigRF and SELender to set up a jointly owned SPV which will hire SELender to advance loans on its behalf to new qualifying customers, and administer the loans. In addition to equity investments into the SPV, the SPV will also issue debt to finance the loans. It is proposed that BigRF will be both an equity investor into the SPV, as well as one of several planned debt investors.

iii. Describe how the key risks being faced by BigRF could be potentially mitigated.

iv. .

[15]

v. Discuss the key factors to consider when SELender decides on suitable interest rates payable to debt investors in the SPV.

[7]

vi. Describe three alternative ways in which BigRF could obtain exposure to the above or similar loan assets, outlining the relative merits of each method.

[9]

[Total 46]

REMEMBER TO SAVE

PLEASE TURN OVER

QUESTION 3

- i. Explain the typical structure of a South African private equity fund and outline the roles of the various stakeholders.

[4]

ABC Capital Partners is a South African private equity fund manager. It has been managing private equity assets for many years and its current funds under management total R250bn.

CoverU is a long-established, large South African general insurance company with a highly regarded reputation. It underwrites a number of domestic-only risks including property, vehicle, business interruption and liability insurance. The expertise and infrastructure contained in CoverU is well developed. CoverU is listed on the JSE and its shares are widely held.

ABC is considering buying all of the shares of CoverU and de-listing it. ABC intends introducing various operational and strategic changes to CoverU in order to enhance its profitability. ABC also plans to expand the business in terms of the types of business written and the policy-holder base. This includes expanding overseas.

Following this restructure, ABC intends to re-list CoverU in 3 years' time in order to realise profits.

- ii. Describe the likely consequences of the business expansion plans on return on capital for the proposed investment in CoverU.

[3]

One of the intended enhancements to CoverU involves a revision of the investment strategy for the company's reserves. CoverU currently invests predominantly in local money market instruments and short dated bonds. ABC proposes investing a significant portion of the investible funds in high-yield debt securities, mortgage-backed securities and asset-backed securities. They also intend to separate a portion of the investments into currency baskets covering North America, Western Europe and emerging markets.

- iii. Discuss:

- a. The risks that the new investment policy would create or change in CoverU.

[3]

- b. The likely consequences of the new investment policy for CoverU and its stakeholders.

[5]

- iv. Discuss the factors to consider as well as the difficulties associated with a Retirement Fund selecting a private equity fund manager.

[8]

[Total 23]

[Grand Total 100]

REMEMBER TO SAVE

END OF EXAMINATION