

Actuarial Society of South Africa

EXAMINATION

19 May 2020

Subject F205 - Investment

Fellowship Applications

Time allowed: Three hours and fifteen minutes

INSTRUCTIONS TO THE CANDIDATE

1. *Ensure that you have your candidate number handy to input as part of the exam.*
2. *Questions are only available in Moodle and may not be printed.*
3. *You are required to submit your answers in this Moodle learning platform only. You MAY NOT use any other computer program (e.g. MS Word or Excel) during the examination.*
4. *You have 15 minutes at the start of the exam in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*
5. *Mark allocations are shown in brackets.*
6. *Attempt all questions. Your work is saved automatically during the exam.*
7. *You are required to submit your answers in this Moodle learning platform only.*
8. *At the end of the exam, if you have time left, you may return to your attempt to review and make any changes to your answers. Once you are happy with your answers you need to **Finish all and Submit** your work after which you will NOT be able to make further changes. Take this into account when finishing early - once you have submitted you will not be able to make any more changes to your answers.*
9. *It is the student's responsibility to ensure that all work is submitted BEFORE the end of the exam time. Take this into account when planning your review and submission.*
10. *You should use your scrap paper to work on any calculations where this is appropriate.*

Note: 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. List, from a bank's point of view, the primary risks associated with banking. [3]

A pension fund is planning to enter into a long-term, uncollateralized interest rate swap with a major South African bank. As this represents a major portion of the fund assets, they will do in-depth due diligence on the major South African banks before entering the swap.

- ii. Discuss the issues the fund should consider as part of the due diligence for each bank. [10]

You are a portfolio manager for the pension fund and your portfolio includes exposure to South African banking shares. A trustee has asked you to comment on the potential impact that a sustained economic downturn, coupled with a sovereign credit downgrade, would have on the banking industry.

- iii. Outline the main points in your reply. [5]

The trustees of the pension fund are aware that the South African Government is pursuing a policy of land expropriation without compensation (EWC). The country's constitution is to be amended to enable this policy (details of which are not available currently).

- iv. a. Explain the potential risks that this legislative change could present to the South African banks; and
b. Outline ways that the banks could mitigate these risks. [5]

[Total 23]

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QUESTION 2

You are the investment advisor to a large South African charitable trust called ABC and have been contacted by the chairman. ABC's primary purpose is to provide financial support for the provision of medical and social services to poor members of selected rural communities within South Africa. ABC is reliant on donations from the general public to finance its operations but is also fortunate to have an investment portfolio worth R500m. The investment portfolio is currently invested in a 50/50 mix of Government bonds and money market funds.

ABC's chairman has been approached by a consortium of farmers from one of the regions in which ABC operates. The farmers are looking to sell their farms and have offered ABC the opportunity to make an offer to buy the farms. The farms are an important source of employment within the local community. The crops cultivated on these farms are primarily wheat, maize and sugar cane.

The chairman has asked you to prepare a report examining the suitability of ABC investing in the farms.

- i. a. Outline the key pieces of information you would need to carry out this task.
- b. Discuss the suitability of the farms as an investment for the foundation, highlighting the key considerations that the trustees should consider in coming to a decision on whether ABC should invest in the farms.

[19]

As part of your research into ABC's potential investment into the farming consortium, you come across the futures curves for wheat, maize and sugar cane. The futures curves for wheat and maize are in contango, while the curve for sugar is in backwardation.

- ii. a. Explain why a farmer (in general) might make use of agricultural commodity futures.
- b. Explain what is meant by contango and backwardation and set out possible reasons why the wheat/maize curves are in contango while the curve for sugar is in backwardation.

[7]

[Total 26]

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QUESTION 3

You are approached by Mr Rich, a high net worth individual, who is dismayed by the returns generated by the local (South African) equity fund he has been invested in over the last 5-year period.

- i. Suggest possible reasons for the fund's poor returns and contrast the JSE's return over the last 5 years ending December 2019 with returns from some other major global equity markets over the same period (i.e. ignore the impact of Coronavirus outbreak on markets).

[5]

Mr Rich's financial advisor has suggested switching from the local equity unit trust fund into a local 130/30 equity fund (130% long exposure; 30% short).

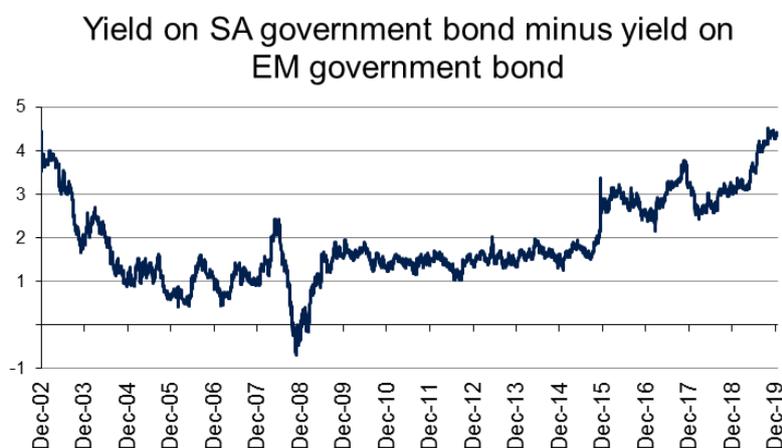
- ii. Outline reasons why the 130/30 equity fund might be considered a more popular option compared with a long-only equity fund, while highlighting the possible drawbacks.

[6]

- iii. Outline the challenges in managing a 130/30 fund.

[6]

Mr Rich recently read an article which highlighted the spread between the yields on SA government bonds and the yields on other emerging market government bonds of similar term. The article included the following chart and made the argument that the widening spread showed how SA bonds offer excellent value.



- iv. Explain the underlying reasons for the widening spread, highlighting key events over the past 5 years which have contributed to the moves in the spread offer reasons why the article's conclusion (that SA bonds offer excellent value) might be incorrect.

[5]

[Total 22]

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QUESTION 4

A unit trust, called the “SA Equity Bond Unit Trust”, has only ever held South African Equities and South African Bonds, plus a small cash balance which is maintained for the day-to-day running of the unit trust.

- i. Explain the different taxes payable by an individual investor owning units in the unit trust and how these are recovered by the tax authority.

[5]

Investment in the unit trust is also available to individual investors by way of an Endowment Policy purchased from a life company, which invests solely in the SA Equity Bond Unit Trust.

- ii. Contrast the amount of tax paid between individual investors holding units in the unit trust with those who have invested in the same unit trust but via the endowment policy.

[4]

A linked investment service provider (LISP) has had the SA Equity Bond Unit Trust on its platform for the last 20 years. As a newly appointed actuary at the LISP, you have discovered that since 1 January 2016 the LISP has used incorrect prices on its platform. Each daily unit price from this date to the present was incorrectly multiplied by a factor of 0.9 meaning that the unit price on any day was 90% of the actual price of the SA Equity Bond Unit Trust on that day. There is no bid-offer spread. The LISP uses a fee class of the unit trust that incorporates a platform fee of 0.5% p.a and an ongoing advisor fee of 0.3% p.a. The unit price is gross of these fees but net of the underlying portfolio fee.

- iii. a. Explain what is meant by a LISP.
b. Describe how clients, advisors and the LISP would have been impacted, depending on when the clients’ units were bought or sold.

[10]

You have proposed that the unit price on the LISP platform be changed to the correct price from 1 July 2020.

- iv. a. Describe the required unit adjustments to ensure that all clients are treated fairly (you should ignore adjustments required with respect to tax).
b. Explain when the most appropriate time would be to carry out the calculations and perform the adjustments.

[7]

- v. Explain why the capital gains tax paid by some LISP clients may have been incorrect (you should ignore clients who invested through life wrapped policies, like endowment policies).

[3]

[Total 29]

[Grand Total 100]

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END OF EXAMINATION