Actuarial Society of South Africa

EXAMINATION

17 May 2019

Subject F205 - Investment

Fellowship Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Follow log in and saving instructions issued to you at the exam venue.*

2. *Save your work throughout the exam.*

3. *You are required to submit your answers in Word format only using the template provided. You MAY NOT use any other computer program (e.g. Excel) during the examination.*

4. *You have 15 minutes at the start of the examination 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. *You must not start typing your answers until instructed to do so by the invigilator/supervisor.*

6. *Mark allocations are shown in brackets.*

7. *Attempt all questions, beginning your answer to each question on a new page.*

8. *Candidates should show 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.

AT THE END OF THE EXAMINATION

Check that you have saved your work as per instructions given to you.
Hand in your question paper with any additional sheets firmly attached.

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

QUESTION 1

You are a consulting investment actuary and have been approached by an independent financial advisor (IFA). His business focuses predominantly on investments.

He has asked for your advice on his post-retirement living annuity book. For most of his clients he sets the initial income amount equivalent to a withdrawal rate of 4% of fund value, thereafter this rand amount is increased by inflation as measured by CPI every year. He has recently analysed his clients' drawdown levels and is concerned that, over the past five years, the drawdown percentages have increased to unsustainable levels. These increases have been necessary in order for clients to maintain their real level of expenditure, but the IFA feels it might be necessary for some clients to reduce the level of income currently being drawn. He has asked for your help to draft a communication to his clients.

The investment strategies underlying the clients' living annuities consist of one or more portfolios selected from a range of ten traditional, multi-asset class, long-only portfolios, all targeting CPI+5%. You have been provided with the following summary of the five year gross nominal returns on these portfolios to 31 March 2019:

	Return p.a.	Volatility
Best performing manager	9.5%	9.0%
Average	5.6%	6.0%
Worst performing manager	5.3%	5.4%

i. Briefly discuss the main points you would include in the communication to clients as to why their drawdown rates have increased as a percentage of fund value, and why the current level of drawdown may be unsustainable.

[4]

An investment manager has suggested that the IFA consider alternative assets, in particular hedge funds, to enhance portfolio returns.

ii. a. Outline the 3 main strategies utilised by hedge fund managers.

[3]

b. Explain how these might benefit clients, should they be incorporated into the current strategy and outline the practical considerations in relation to introducing an allocation to hedge funds into clients' living annuities.

[4]

As from 2015, hedge funds are regulated under the Collective Investment Schemes Control Act 2002.

iii. State the main changes introduced to the regulation when hedge funds were incorporated.

[4]

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The IFA also has a number of high-net worth clients who are interested in investing a portion of their discretionary investments in so-called Section 12J investments to supplement their income. A Section 12J investment is a tax-incentivised investment in venture capital companies (VCCs), introduced by authorities under the income Tax Act 2009, to contribute to economic growth. The Section 12J investment is fully tax deductible if the investment is held for at least five years. The VCC has to be registered with the FSB and approved by SARS. The IFA has also asked your opinion on Section 12J investments.

iv. Outline the main reasons why an investor would prefer a Section 12J investment compared with other alternative investments.

[2]

The IFA is considering the following Section 12J investment:

- The Section 12J manager buys flats around the University of XYZ and rents them to students attending the university.
- The terms of the lease agreement are negotiated on an annual basis.
- Students are offered (at an additional cost) meal coupons which can be redeemed at the university's canteen.
- Based on past experience of similar types of properties, the expected occupancy rate is 90%.
- Minimum investment is R1 000 000.
- The manager fee is 1.5% p.a. plus 30% performance fees charged if the portfolio outperforms the SA Listed Property Index total return. No other fees will be charged.
- Rental income (net of fees and maintenance costs) is distributed as dividends on a semi-annual basis.
- The value of the underlying properties as at the end of 5 years will be distributed proportionally to investors, in line with investors' original investments.
- The fund targets an internal rate of return (IRR) of 15% after fees.

v. Discuss the factors you would consider in order to assess the Section 12J opportunity, detailing any additional information you might require before recommending this investment to the IFA for client discretionary investment portfolios.

[17]

[Total 34]

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QUESTION 2

Actuaria is an emerging country in Africa with a GDP of US$50bn and a population of 25m people. Actuaria has an abundance of oil and gas reserves which are nationalised and have been well managed by the state over the last few decades. The excess cash flows generated by these assets have been invested in a sovereign wealth fund (SWF) which now has assets totalling US$100bn. The SWF's objectives include growing the fund assets for future generations, funding social and economic development and diversifying the economy away from the non-renewable resource which is currently Actuaria's most important source of national revenue.

You have been appointed by the Actuaria SWF's board of trustees to develop a formalised investment strategy for the fund.

i. a. Outline the information you would need for your analysis.

[7]

b. Describe the fund's liabilities and explain how these, and any other relevant factors, would influence the Actuaria SWF's investment strategy.

[9]

ii. Propose, with reasons, a strategic asset allocation for the SWF.

[3]

The assets of the Actuaria SWF are currently managed by an internal investment management team. You have been tasked with appointing the first external investment manager to manage an emerging market equity mandate for the SWF.

iii. Discuss the factors you would investigate as part of your due diligence into prospective investment managers.

[8]

The Actuaria SWF has been offered an opportunity to bid for a majority stake in a developed market, private healthcare company, MediCo. MediCo owns and operates 50 private hospitals across 10 developed countries.

iv. Discuss the key considerations in assessing the suitability of such an investment for the Actuaria SWF.

[9]

[Total 36]

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QUESTION 3

A very large South African Pension Fund converted from Defined Benefit to Defined Contribution a number of years ago. The Fund still has a significant portion of it liabilities in the form of pensions in payment to existing pensioners at the time of conversion. Assets backing this liability are ring-fenced and are currently invested in an actively managed bond portfolio, with a small allocation to an index-linked equity portfolio. The pensioner liabilities have always been fully funded, but a recent valuation shows that the funding level has fallen below 100% in respect of the pensioner liabilities.

i. Suggest the main possible reasons that may have led to the funding level falling below 100%.

[4]

The employer has expressed concern at the recent valuation results. The company's financial director has suggested that the fund adopt a more closely matched investment strategy for the assets backing the pensioner liabilities. She has already held discussions with the company's banking partner who has suggested that the Fund enter into an interest rate swap in order to hedge the pensioner liabilities.

ii. Explain how interest rate swaps can be used to hedge the investment risks associated with the pensioner portfolio.

[4]

iii. Discuss the main issues that the trustees should consider before deciding to hedge using swaps, as well as the advantages and disadvantages of the bank's proposal.

[12]

The trustees have agreed to adopt a more closely matched strategy but suggest that the assets allocated to the matched component are preferably managed by a specialist Liability Driven Investment ("LDI') manager, rather than entering into a swap directly with a bank.

iv. Discuss the relative advantages of each approach.

[6]

At a due diligence presentation, an LDI manager has commented that they could use repos to gain exposure to some attractively priced short-dated credit, while maintaining the interest rate hedge.

v. Explain how this could be done and highlight what the associated risks may be.

[4]

[Total 30]

[Grand Total 100]

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END OF EXAMINATION

