EXAMINATION

20 October 2014 (am)

Subject F205 – Investment Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. Candidates will be issued with instructions to log-in using a password (which you will be provided with at the exam center).

2. Candidates are required to submit their answers in Word format only using the template provided.

3. Save your work continuously throughout the exam, on your computer's hard drive with which you have been provided.

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 on exam papers.

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
Save your answers on the hard drive.

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.

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QUESTION 1

You are the appointed actuary to a large South African pension fund. The Fund is fully funded, with a strong positive funding level as at the last actuarial valuation in 2013. The assets backing the Pensioner Liabilities are ring-fenced and are invested in an actively managed Regulation 28 compliant balanced portfolio of domestic assets.

i) Discuss the principal risks presented by the existing investment strategy for the Pensioner Liabilities. [7]

The Fund's investment consultant has recently proposed that certain of these risks can be significantly reduced by adopting a Liability Driven Investment (LDI) approach for the assets backing the Pensioner Liabilities. She suggested this could be implemented using a portfolio of SA government issued inflation-linked bonds ("ILBs").

ii) Explain briefly how this approach could hedge the risks identified above. [4]

iii)

a) Provide an overview of the market in South Africa for ILBs, and

b) Discuss the main practical challenges which could be encountered using a portfolio of SA ILBs to hedge the liability. [8]

The Trustees are concerned that adopting an LDI approach will reduce returns, limiting the potential for above inflation increases in the future.

iv) Discuss the techniques which can be adopted to enhance the potential returns under an LDI approach and risks associated with them. [5]

The Trustees have identified a specialist LDI manager who will manage the LDI portfolio on behalf of the Fund.

v) Discuss considerations which should be taken into account when measuring the manager's performance. [5]

The Trustees have decided to proceed with the strategy, and have shortlisted potential asset managers. They have asked you to assist with the manager selection and due diligence process.

vi) List the issues which you believe should be covered as part of the manager due diligence and selection process. [10]

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QUESTION 2

You are advising Tom, a fund manager at an independent SA asset management firm. Because of the superior returns of SA equities over the past decade, he is contemplating maintaining an over-weight position in SA equities (relative to his peers) in his Regulation 28 compliant balanced fund.

i) Explain the issues you will include in your reply, commenting on

  a) the background to the strong SA equity returns since 2003 and
  b) why it might be dangerous to extrapolate this trend into the future. [17]

Tom is exploring ways of protecting the fund against a drop in SA equity prices while simultaneously maintaining some exposure to upside equity price movements.

ii) Outline the factors that Tom should take into account when selecting a hedging approach. [5]

iii) Describe two suitable derivative structures which can be constructed using European options that would achieve Tom's objectives, commenting both on the advantages and drawbacks of each. [5]

QUESTION 3

Active Share is a way of quantifying the degree of active management of individual unit trust funds. It is defined as:

$$\text{Active share} = \frac{1}{2}\sum_{i=1}^{N}\left|w_{fund,i} - w_{index,i}\right|,$$

where

$w_{fund,I}$ is the weight of share i in the fund's portfolio and

$w_{index,i}$ is the weight of the same share in the fund's benchmark index,

and the sum is computed over the universe of all shares.

Intuitively, Active share is the percentage of the fund's portfolio that differs from the fund's benchmark index. For an equity fund that has no leveraged or short positions, the Active share of the fund will always be between 0% and 100%.

The Active Share of a US equity fund (called ABC Fund) plotted over time is shown in the graph below. The Fund's benchmark is the S&P 500.

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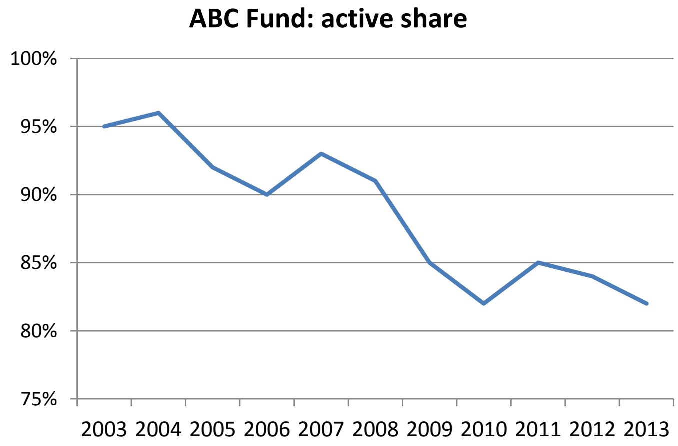

i)
   a) Discuss how active / passive ABC Fund is currently, and
   b) Analyse the trend in active share, providing possible reasons. [10]

You have been asked to calculate the Active Share for XYZ Fund, a R100bn South African equity value fund, run by a South African contrarian investment management firm. XYZ's benchmark is the JSE ALSI.

ii) Estimate XYZ's Active Share in absolute terms and in relation to ABC's (an exact figure is not required). Provide reasons for your answer. [5]

QUESTION 4

You have been approached by a financial product provider that is planning to launch a new investment product. They require advice on the structuring of the product.

i) Outline the key aspects of the South African tax regime that are applicable to investment returns earned by the following institutions:
   a) Charities
   b) Pension funds
   c) Life Assurance Companies
   d) Unit Trusts [6]

The product is aimed at High Net Worth individuals. It can be assumed that the individuals will own the product in their personal capacity, and not in complex trust structures.

ii) Compare the taxation treatment of the following potential structures for the fund.
   a) Clients own units in a unit trust
   b) Local private company in which the clients are issued shares, with all income paid out as dividends and valued at NAV
   c) Clients own life policies issued by a life company [13]

END OF EXAMINATION

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