EXAMINATION

6 October 2009 (pm)

Subject SA6 — Investment Specialist Applications

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*

2. *You have 15 minutes before 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.*

3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*

4. *Mark allocations are shown in brackets.*

5. *Attempt all three questions, beginning your answer to each question on a separate sheet.*

6. *Candidates should show calculations where this is appropriate.*

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

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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1 You are the consultant to the trustees of a defined benefit pension fund sponsored by a water utility company. Like many pension funds, this one has maintained a very high exposure to global equity markets. Three years ago, the fund purchased £100m of over-the-counter long duration interest rate swaps from High Risk Bank. Under the swap arrangement the pension fund received a fixed rate payment stream to mirror part of its expected pensioner payments over the next thirty years, based on assumptions about future economic and demographic experience. In return, the pension fund was required to pay a floating rate payment stream based on the National Inter-bank Lending Rate known as NIBOR. Due to a major recession and lack of liquidity in financial markets and following significant losses on its proprietary trading book, High Risk Bank has recently declared itself bankrupt.

(i) Describe the risks and possible losses the pension fund has been exposed to through this investment. [8]

(ii) Discuss how different assets can be used as collateral to mitigate the pension fund's or the bank's future exposure to losses. [10]

Following the collapse of High Risk Bank, Stable Bank has offered to take on the interest rate swap arrangement and assume responsibility for future payments. In order to help the trustees meet their requirement to generate a floating payment rate, Stable Bank offers two alternatives:

- investment in their Target Cash Fund which aims to outperform NIBOR by 0.5% p.a.

- a Guaranteed Deposit which will pay NIBOR plus 0.2% p.a. for the next ten years.

(iii) (a) Compare the two alternative investments offered by Stable Bank. [5]

(b) State with reasons which one of the two alternative investments offered by Stable Bank you would recommend to the trustees. [3]

As a result of losses on the swap arrangement and a general fall in global equity markets over the summer months, the pension fund is facing an increased deficit that the corporate sponsor will have to reflect in their accounts. At a meeting in early December, Stable Bank has proposed to the sponsoring company's treasurer that the current market environment offers the pension fund an opportunity to invest in corporate credit which is now yielding equity-like returns.

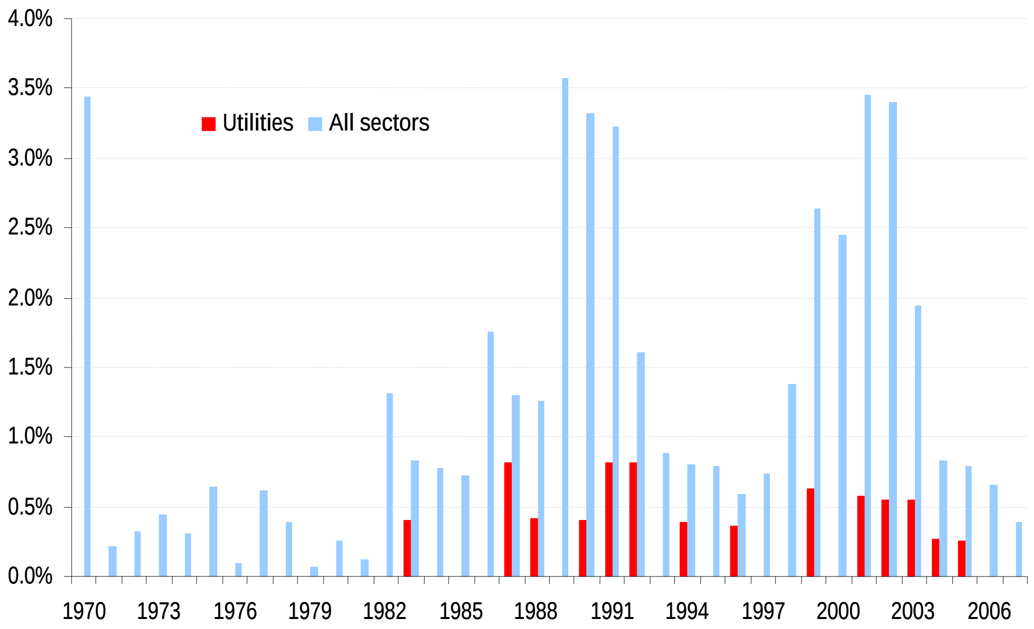
(iv) Describe the uses, characteristics and pricing of a credit default swap. [9]

Stable Bank has suggested that the pension fund can switch into a more favourable (risk/return) portfolio of corporate bonds while maintaining the overall expected return on the portfolio (and so not undermine the sponsor's accounting position). They have also suggested that the credit risk can be mitigated by carefully choosing the corporate bonds from a low risk sector such as utilities, whose default statistics do not justify the spreads over government bonds that these companies have to pay currently to attract new investors. They have encouraged the trustees to make an investment in the next two months to maximise their possible investment return.

The following information has been provided by Stable Bank.

Industry	*Company*	*Rating*	*Currency*	*Amount Outstanding (Local Currency)*	*Maturity*	*Yield (Local Currency) %*
Electric	A	A	GBP	500m	2028	7.97
Gas	B	AA–	GBP	400m	2038	7.02
Water	C	A–	EUR	500m	2016	6.26
Electric	D	A	USD	40m	2037	7.72
Gas	E	A	GBP	700m	2028	6.71
Water	F	BBB+	GBP	330m	2028	7.21

Historical Default Rates for the Utilities vs. all Sectors



The chairman of the trustees has asked you to prepare a report for next week's investment committee meeting. The investment committee is comprised of trustees, including the independent chairman and the sponsoring company's treasurer and finance director. The chairman reminds you that "past performance is no guide to the future" and has queried whether the returns are sustainable over the longer term to meet the pension fund needs, especially as the default rates data given by Stable Bank are not strictly comparable with long term levels until the 1980's, given utility companies were largely state-run until then.

(v) Describe the likely profile of the assets and liabilities of the pension fund. [6]

(vi) (a) Explain the differences in Local Currency yields.

(b) Discuss how the pattern of default rates may evolve over the next few years. [7]

(vii) Describe the factors that the trustees need to consider in assessing this proposal and getting exposure to the required investments. [6]

[Total 54]

2 An investor has agreed to invest £200m in an Emerging Markets Fund offered by a large well established international investment manager. The investor is offered the following three management fee options:

- A flat fee of 40 basis points per annum.
- A flat fee of 10 basis points per annum with 10% of any outperformance of the benchmark return on a quarterly basis. Outperformance is calculated on an arithmetic return basis.
- A flat fee of 10 basis points per annum with 15% of any outperformance of the benchmark return on a quarterly basis. A high watermark is applied to the performance related fee element.

The high watermark agreement states that a performance fee is only payable when the cumulative level of the Emerging Markets Fund outperformance of the benchmark is greater than the previous highest level recorded.

The subsequent performance of the Fund and its benchmark is as follows:

	Benchmark return	*Emerging Markets Fund return*
Q1 Year 1	5%	8%
Q2 Year 1	5%	5%
Q3 Year 1	–2%	0%
Q4 Year 1	8%	12%
Q1 Year 2	0%	–2%
Q2 Year 2	–5%	–4%
Q3 Year 2	8%	4%
Q4 Year 2	–5%	–10%
Q1 Year 3	10%	10%
Q2 Year 3	5%	5%
Q3 Year 3	10%	10%
Q4 Year 3	2%	2%

Notes

A cashflow of £50m was received at the end of Q2 Year 2.

Flat fees are calculated based on the investor's asset value at the end of each year. Any performance related fees are based on asset values at the end of each quarter.

(i) Evaluate the Fund's performance and the total fees payable over three years under each option. [10]

(ii) (a) Comment on the strengths and weaknesses of each management fee option from the investor's viewpoint.

(b) Explain which management fee option would be preferred by the investor for:

1. a passive emerging market investment
2. a fund with highly volatile returns

[6]

Another investor is considering a similar investment in the same fund. However this investor's local currency is the Euro and they wish to hedge the currency exposure in the emerging markets equity holding.

(iii) Explain how this investor might hedge their currency exposure themselves on either an active or passive basis. [4]

(iv) Describe the difficulties this investor might experience in managing a passive overlay portfolio against the Emerging Market Fund. [3]

As an alternative, both investors have been offered a segregated emerging markets equity account to be managed by a small boutique asset manager that has been successful in managing a number of small segregated accounts for US pension funds and is looking to develop its business in Europe.

(v) Outline the respective advantages of the two investment management options for getting exposure to emerging markets. [9]
[Total 32]

3 The government of a European country issues carbon emissions allowances to companies domiciled in its country. These emissions allowances limit the amount of carbon dioxide that a company can emit during the course of their business activities. It is normal for the amount of carbon dioxide emissions planned by a company to be either more or less than the quota issued to that company, and hence a market has arisen for the trading of these allowances. Speculative investors have now begun buying and selling these allowances.

(i) Explain why a speculative investor might wish to buy tradable emissions allowances. [4]

(ii) Describe the risks there might be for a speculative investor in buying tradable emissions allowances. [6]

The government has announced its plans to raise additional corporation taxes from companies that exceed their allowances to demonstrate their environmental credentials.

(iii) Outline the issues the government should consider in setting such a policy. [4]
[Total 14]

END OF PAPER