EXAMINATION

September 2007

Subject ST5 — Finance and Investment
Specialist Technical A

EXAMINERS' REPORT

Introduction

The attached subject report has been written by the Principal Examiner with the aim of helping candidates. The questions and comments are based around Core Reading as the interpretation of the syllabus to which the examiners are working. They have however given credit for any alternative approach or interpretation which they consider to be reasonable.

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Chairman of the Board of Examiners

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Comments

Most candidates scored well on questions 1, 3 and 4 with many achieving full marks. Although some candidates scored well on questions 2 and 5 also, many candidates attained closer to half the available marks. Questions 6, 7 and 8 were the worst answered (7 in particular).

In every diet there will be candidates who are very close to the pass mark and yet receive an FA – indeed I suspect candidates would be very surprised to see just how tightly distributed the marks are; deciding where the pass mark falls will have a material impact on the numbers of candidates who are successful and the examiners take great care to ensure a consistency of standard across candidates, subjects and diets. That said, it was fairly clear where the hurdle should have been set. The examiners were pleased to see that the pass rate for this diet was slightly higher than last time even though the pass mark was somewhat higher. Where candidates scored lower it was typically because although they were able to reproduce the required bookwork for one or other question, they were unable to apply the bookwork knowledge appropriately.

Candidates should note the bias in the paper towards recognising higher level skills and practical application – this is intentional and will continue. Likewise the examination system does properly allow for prior subject knowledge to be assumed. Investment is a necessarily practical subject and at this level, the examiners expect candidates to demonstrate a breadth and depth of competency as would be expected from a practising actuary in what is a frequently evolving discipline. Hence simple regurgitation of bookwork will not be sufficient to ensure a Pass grade.

Candidates looking to progress should be aware that the SA series of exams, particularly investment related, are even less bookwork focussed and require the candidate to demonstrate a breadth and depth of competency as would be expected from a practising actuary in a constantly changing discipline.

In order to succeed, candidates should ensure they familiarise themselves with the current investment issues and general market background facing institutional investors in the 18 months preceding a diet and the solutions (and sources of) being debated by the various stakeholders. A recurring theme in recent years has been a move towards capital market rather than purely insurance and asset management solutions – hence a question regarding banking and derivative approaches to asset and liability risk management or modern financial theory and commercial applications should be considered likely scope for examination.

All extenuating and mitigating circumstances were considered in awarding grades.

1 (i) To correct market inefficiencies and to promote orderly markets
To protect consumers of financial products
To maintain confidence in the financial system

(ii) **Direct cost**

- administering the regulation and compliance of firms

Economic cost

- An alternation in the behaviour of consumers, who may be given a false sense of security and a reduced sense of responsibility in their own actions
- Undermining of the sense of professional responsibility amongst intermediaries and advisors
- A reduction in consumer protection mechanisms by the market itself
- Reduced product innovation
- Reduced competition

2 Money Market Instruments (Unit 5)

(i) Term loans
Evergreen credit
Revolving credit
Bridging loans
International bank loans
Trade credit

(ii) Commitment
Maturity
Rate of interest
Security

3 Money Market Instruments (Unit 5)

(i) Company A, AAA or AA with supporting argument
Company B, AA or A with supporting argument
Company C, BBB/Junk Bond

(ii) EDL = Value of Treasury Bond – Value of Corporate Bond
The expected default loss will go up from A through to C

(iii) (a) The following yields or similar would be expected (different yields would impact subsequent calculations illustrated).

Company	*Yield*
Company A	4.75%
Company B	6.00%
Company C	8.00%
Treasury Bond	4.25%

(b) Assume all trade at par.

Treasury Bond = 95.84
Company A = 95.36 loss = £0.48
Company B = 94.18 loss = £1.66
Company C = 92.31 loss = £3.53

(iv) All else being equal, all bond yields will increase by 100bps to reflect the change in government bond yields.

However, the equity market has fallen which would imply that there is concern about the corporate sector's future economic prospects or that earnings have fallen.

This would suggest a widening of spreads on corporate borrowings relative to government debt.

The impact on each of the three companies will vary depending on the sensitivity of their existing and future revenue streams to the factors causing the economic downturn.

In practice, it is likely that there would be a "flight to quality" reflecting reduced liquidity in poorer credits and greater concerns about defaults.

This would mean that demand for higher quality bonds increases and the demand for lower quality bonds reduces.

This would imply that the spreads for companies A/B/C might increase from 50/175/375 bps to 50–75/200–250/425–500bps, before allowing for company specific factors.

4 Derivatives (Unit 7)

(i) The main uses of derivatives are as follows:

- Speculation

  Exchange-traded derivatives could be used for speculation; effectively betting on a strong view of a particular market movement. The difference between speculation using options and speculation using the underlying asset is that buying the underlying asset requires an initial cash outlay equal to the total value of what is bought whereas entering into a future contract or an option contract requires only a fraction of the initial cash outlay. Thus a much higher level of leverage (gearing) can be achieved.

- Arbitrage

  Arbitrage involves locking in a riskless profit by simultaneously entering into two transactions in two or more markets. Using various combinations of options and the underlying instruments, portfolios with the same return but with different constituent parts can be created. Arbitrage opportunities can arise when the prices of these different portfolios get out of alignment and a riskless profit can be made.

  In practice only very small arbitrage opportunities are observed in prices that are quoted in most financial markets. Also, transaction costs would probably eliminate the profit for all but the very large investment houses that face very low transaction costs.

- Hedging

  Hedging allows a fund manager to reduce a risk that the fund already faces. Hedging using options, for example, involves taking a long or short position in a number of options contracts which is the opposite to the position held in the underlying asset. Conceptually, a loss made in the underlying asset will be offset by an approximately equal gain on the options position.

  This technique is very useful where say a fund is going to sell its holding in two or three months and it wishes to avoid a fall in market values. However, if the market rises there will be a loss on the futures position approximately equal in value to gain on the underlying equities so the strategy does close off the opportunity for the fund to participate in any upward movements in the underlying assets while the hedge is in place.

- Portfolio management

  Options can be used to manage the reallocation of assets from one market to another. For example, call options on equity indices can be used to gain exposure to upside movements in the markets; put options can be used to remove exposure to downside movements in markets. Calls and puts can be used to change a fund's exposure to an asset category or to change a fund's exposure within an asset category.

(ii) (a) Margin — definition Unit 7 pg1.

(b) Initial Margin — the initial payment put down to cover the risk of the contract.

Variation Margin — the margin which is payable or received on a daily basis to mark to market.

(c) The clearing house is removing the credit risk and they need some form of compensation to cover themselves for this risk.

(iii) (a) Put — the right to sell an underlying asset for a certain price by a certain date.

Call — the right to buy an underlying asset for a certain price by a certain date.

(b) American — exercised at any date to expiry. European can only be exercised on expiry date.

(iv) Call the loss on the 3 month is 5p to 80p when break even then in the money. 6 month is 10p loss until 85p.

Put 3 month is in profit to 75p then loss of option, for 6 month is in loss at 80p.

5 Government Policy (Unit 11)

(i) Main forms of government policy

Monetary Policy
Fiscal Policy
National debt management policy
Exchange rate policy
Prices and income policy

(ii) Main economic indicators

Unemployment
Inflation
Balance of Payments
Economic Growth

(iii) (a) Individuals — reduce variable rate mortgage and debt payments (making people better off). Consumers likely to increase spending on non-essential services and luxury items. Reduced rate of interest will act as a disincentive for cash savings, although this may be offset by reduced debt payments for some. Imported goods likely to increase in cost due to impact on exchange rates.

(b) Businesses — Capital investment and economic growth likely to increase due to reduced opportunity cost of committing funds. Increased economic activity likely, offset by lower domestic currency rates which will increase cost of imports.

(c) Economy — increased inflation and growth expectations (from a low base), possible recovery and increase in inward foreign investment. Longer term concerns about uncontrolled inflation may begin to emerge.

6 Hedge Funds (Unit 5)

(i) (a) Global Funds
Event-driven Funds
Market Neutral Funds

(b) Describe the main investment characteristics of a Hedge Fund
Placing large bets on different asset classes
High level of borrowing
Mix of investments
Willingness to trade in derivatives
Illiquid
High Fees
High risk

(ii) Partial market coverage
Survivorship bias
Selection bias
Marking to market bias

(iii) Issues for scheme, trustees and sponsors

Capital management or financing

Pension management

- Liability cash flow management
  - Compensation for inadequacies of bond markets
- Deficit reduction
  - Regulatory, financial and peer group pressures
  - "Finite" repair term imposed by regulators – scope for absolute return structures
- Surplus control
  - Short term "fix" may prove over cautious

Sponsor may be more concerned with volatility of deficit and earnings/corporate activity impacts rather than size of deficit itself

- Cash flow hedging coupled with Regulator proposals for Deficit Repair terms change pension funds from Relative (to yields, inflation) to Absolute/Targeted Return investors
- Alternative assets, including hedge funds, have obvious role in Deficit Repair

- Market neutral hedge funds plus swaps/bonds equal "Liabilities Plus" fund
- Bulk of exposure is through Fund of Funds

Hedge funds have a role as the alpha generator in new products, but could lose their separate identity

- Not all managers, perhaps even the majority, are skilful
- Need a rigorous and different process to identify and invest in persistent skill

7 (i) Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events.

Operational risk includes IT, legal and compliance risk.

Operational risk differs from market or credit risk as it is typically not directly taken in return for an expected reward

Operational risk exists in the natural course of corporate activity

Operational risk is more difficult to quantify and measure compare with market or credit risk.

Operational risk is very important as it seems to have been responsible for more spectacular corporate losses than the other financial risks.

(ii) The control of operational risk essentially depends on good management practices.

To manage operational risk, the investment manager would need to identify, assess, put together a series of risk mitigation strategies — one for each non-trivial risk.

Good management practices include:

Established and documented chains of reporting and responsibility

Separation of duties as between say, front office and back office staff in the issuing of trading instructions and the confirmation & settlement of such instructions.

Documented and robust procedure for carrying out essential tasks and for taking on new activities or developing new products

Ongoing monitoring of risks and their mitigation techniques

8 (i) A listings authority is responsible for ensuring that any new issue of shares is conducted in an orderly and fair way, and that the conduct of the company remains consistent with the listing of the shares after the issue.

A listing authority will ensure that a reasonable amount of financial information is in the public domain.

Listing authorities are normally concerned with:

- The production of relevant business and financial information on the issue of shares.

- The process by which shares are offered to potential shareholders and the price is set for the issue of shares.

- Continuing production and dissemination of business and financial information on a timely basis on companies with listed securities.

- The continuing conduct of the market in listed securities with a view to ensuring that the market is fair to all participants, and that the pricing process is fair and reasonable.

- Rules to ensure that companies with listed securities and connected parties continue to behave in a manner that does conflict with other objectives of the listing authority.

(ii) The value of the company will be driven by the level and likelihood of future profits.

General factors

- Information about the management and an assessment of their ability to deliver in a public company.
- The type and quality of the products sold
- Prospects for market growth
- How the company fairs against the competition
- Details of operating costs
- Details of past retained profits
- The history of the company

Financial measures

- Financial accounts and accounting ratios
- Dividend and earnings cover
- Profit variability and growth
- Level of borrowing
- Level of liquidity
- Growth in asset values
- Comparative figures for other similar companies

END OF EXAMINERS' REPORT