EXAMINATION

September 2005

Subject SA6 — Investment Specialist Applications

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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Candidates appeared to have good background knowledge and were able to cover the bookwork sections reasonably well. They were very poor, however, in applications parts of the questions and generally gave too little detail in the higher order skills elements of questions. Many candidates appeared to be unaware of what was required by the verb used to ask the question and there was a tendency to treat "write down headings", "set out", "outline" and "describe" as requiring similar answers when the examiners were looking for increasing levels of detail.

Q1 Part (i) was well answered although there was a tendency for candidates to answer in a general manner rather than in the context of the fund in question and several still managed to avoid any consideration of liabilities in determining strategy. In (ii) many candidates wrote complete report structures rather than giving just headings. This caused them a few issues in the next part but where points were covered in (ii) rather than (iii) marks were still awarded, candidates being given allowance for this being under examination conditions rather than in a day to day context. Answers to (iv) covered the main points but often lacked focused comment on the assertions. In (v) we had a good example of candidates failing to do what was asked by "describe" and just listing or outlining points rather than "describing the arguments" and as a consequence they failed to pick up as many marks as they should have done.

Q2 Answers to this question were very disappointing. It was alarming that candidates could not produce balance sheets or income statements in part (i) and many appeared to have no idea as to how these should look and what they should contain. Most concerning was that many treated management fees as income to the trust. In (ii) and (iii), whilst many could remember the theory, few could apply it. The cost of repayment was ignored by many and the impact on the trust's ability to pay dividends was missed. Most worked out the zero's rate of accumulation and could reference it to the rate being paid on the current loan and current rates but could not "evaluate" its impact and few realised how important the covenants might be for this. The equity-linked note brought a whole range of responses but little evaluation or cohesive argument. Candidates did earn marks for arguing an appropriate view on the notes even if they had little information on which to base their arguments. Part (iv) answers were frightening with many candidates showing a complete lack of understanding of either structured products or derivatives. Given the popularity of such products in institutional investment over the last 18 months, the lack of knowledge shown demonstrates a severe lack of "reading around" the basic syllabus or being able to apply basic knowledge. It is as well for many candidates that we do not negatively mark because their answers showed a worrying lack of understanding. However, despite the shocking responses to (iv), (v) did have some good structured answers although these tended to be from those who had given better understanding in (iv).

The examiners would emphasise to candidates that they are sitting a paper in specialist investment and that they should have a broad understanding of all investment topics. Knowledge of CT2, CT7, CT8 and CA11 is expected along with ST5. They should also at least be aware of the ST6 course of reading as it contains relevant background information although passing both ST5 and ST6 is not a requirement for sitting SA6.

1 (i) The principal aim is to meet its liabilities as they fall due.

The investment strategy should:

- minimise actuarial risk

- consider the liabilities i.e.

  - Nature (fixed, real or varying)
  - Currency
  - Term
  - Level of uncertainty both in amount and timing
  - Accounting constraints
  - Contribution and expense flows
  - Tax considerations

The investment strategy chosen will aim to most closely match their liabilities by nature, currency and term. Even if such a strategy cannot be adopted, alternate strategies should be evaluated against this benchmark position.

Uncertain liabilities (e.g. leavers, deaths in service) means that marketable assets must be held.

The pension fund will also need a strategy that will satisfy the requirements of the trust deed and rules as well as the Pensions Act 1995.

Subject to these points, the pension fund will seek to maximise the investment return.

Under trust law the trustees have a duty to seek the best possible return in relation to (acceptable) risk.

The attempt to maximise return may involve departing from the benchmark position and hence conflict with the minimisation of risk. The value of the assets relative to the liabilities will determine the risk involved.

Risk tolerance will depend largely on the attitudes of the sponsoring employer and of the trustees.

For the purposes of the MFR, assets are taken at market value while, in most cases, liabilities have to be discounted at rates reflecting equity returns for active and deferred members and gilt returns for pensioners. The discount rate is gradually adjusted from the equity level to the gilt level during a switch-over period in the years leading up to retirement. The matching portfolio consists of a mixture of gilts and equities depending on the maturity of the scheme and for schemes which are close to 100% solvency level there is a significant risk in departing from this portfolio. [*It was recognised that MFR is being abolished and so candidates may not have made these points.*]

Similar considerations apply to assessing the true solvency position with an ostensibly gilts based target.

Pension funds are exempt from most taxes tax and returns the strategy should make allowance for this.

The trustees need to consider the sponsors position — the value in the company's accounts is tied to corporate bond yield discount rates.

Other points that may be made are:

- funding level may influence risk appetite
- diversification needed to control risk
- self investment risks
- fund size can influence options
- SIP

(ii)

- Past performance
- Client Relationship Management
- People
- Investment Process
- Business Management
- Custodial Services

(iii) 1. **Past Performance**

Investigate past performance relative to the appropriate benchmark and style. This is an uncertain guide to the future but need to identify the factors that led to that level of performance and to determine if they are likely to persist or not.

Look at comparative rolling 3 year returns as a good indicator of fund management ability across cycles.

Compare this with other large investment managers.

In additional look at the volatility of performance relative to the benchmark — this is a good indicator of the risk profile of the manager.

Compare with other similar managers.

In-house volatility — look at the dispersion of returns achieved by the manager for a portfolio with similar mandates to this scheme to determine level of consistency.
Attribution analysis — analyse where the performance relative to its benchmark comes from i.e. asset allocation, sector allocation, stock selection etc., and how this compares with the stated investment philosophy and style.

Portfolio style analysis — analyse the makeup of your scheme's stock portfolios to make sure there is a bias towards the manager's chosen investment styles, for example a growth style typically contains stocks that have low dividend yields or high price to book ratios and high expected earnings.

2. Client relationship

The quality and speed of delivery of the quarterly investment reports is a good indication of the efficiency of the manager's mid and back office. Given the size of your scheme's assets, your relationship should be at the manager's executive board level.

3. People

The importance of the senior people who work for the investment company is self-evident.

Research will examine:

- The quality of senior people — their experience, track record and commitment to the business.

- Depth of resources — the number of investment staff involved for each major sector, systems at their disposal, the dependence on any "star" fund managers.

- Continuity of staff — this is a critical determinant of success. It is important to examine whether the investment fund managers who have achieved the returns for the scheme are still employed by the company, and if not, what changes have been made. We will also examine how the company plans to retain key staff.

4. Investment process

The firm should have a clear process of how it expects to outperform the competition/benchmark.

Analyse this process in detail, looking at how research is carried out, buy and sell disciplines and how asset allocation is determined. It is important to try to evaluate the consistency of the process so that the exploitation of market inefficiencies is repeatable. Relate this process to the performance attribution analysis carried out. The decision structure will also be analysed in terms of its ability to enable making fast effective decisions.

5. Business management

Examine growth in funds under management how they have planned for and coped with growth.

Look at:

- Investment in new capacity — hiring new staff ahead of the new business or improving the technology and systems to allow fund managers to cover more clients.

- Maintaining the quality of staff/not impairing the investment process by having more people involved.

- Solving the liquidity problem of growth — this could affect the firm's ability to buy/sell stocks and may require adjusting the investment process.

6. Custodian

This may need to be changed if fund management contract is changed

Other relevant points were awarded appropriate marks.

(iv) Total investment return = risk free rate plus differential market impact (beta) plus manager impact (alpha).

Most studies conclude that asset allocation contributes the bulk of historic returns, around 80% or more.

If assets are managed passively then asset allocation will contribute 100% of return.

Passive management can be achieved by sampling, optimization or replication.

Most institutional managers employ replication and achieve tracking errors within 0.5% p.a. of the relevant market indices.

Past performance suggests that over the longer term, the average active manager performs in line with the index.

So if you want average performance you might as well have a passive manager.

The return is likely to be achieved and at lower cost.

However by definition, 50% of managers do outperform the market over any time period.
A diligent selection process should identify managers with persistent skill.

In a low nominal return environment, excess alpha will add disproportionately to returns.

However genuinely skilful managers may cost more to employ and add to the variability of returns which may be too risky for the trustee and sponsor to bear.

If a passive policy is adopted though, the trustees become entirely responsible for the returns generated.

There may be a significant increase in governance time and cost on the part of the trustees which may offset the management savings.

(v) A "manager of managers" can be expensive because two layers of investment manager need to be paid

However the manager of managers may improve returns because:

- Allows assets to be managed by the best managers by each asset class and region.

- May allow better management of outperformance targets by combining managers with different risk controls and tracking errors.

- Benefit from research of investment managers by the manager-of-managers.

Risk may be reduced if managers are chosen such that style bias is removed, however this may lead to benchmark returns.

Client is too small to make a bespoke multimanager programme viable so a third party offering may be optimal.

Multimanager is an increasingly popular way for consultants to generate increased annuity income from their clients.

Claims to improve efficiency of implementing recommendations across client base.

Greatest risk to consultant is conflict of interest and business risk — underperformance of multi manager programme may lead to total loss of advisory mandate.

Concern over independence of advice and transparency of fees.

As this is not a core business for the firm, it may not get the proper investment to make it viable.
This could lead to underperformance.

2 (i) This is a straightforward calculation but needs to show the yield that is required on the underlying portfolio to achieve the dividend.

Balance Sheet

Assets	*£'000s*	*Liabilities*	*£'000s*
UK Equity Investments	240,000	Shareholders' Funds	210,000
		Debt	30,000
Total Assets	240,000	Total Liabilities	240,000

Cost of Dividend = 200m * £0.045 = £9.0m
Management Fees to Income = £210.0 * 0.01 * 0.25 = £0.525m
Interest Cost to Income = £30.0 * 0.075 * 0.25 = £0.563m
Fixed Costs = £0.375m
Total Income Required = Sum of above = £10.463m

This would then be re-sorted into a conventional income statement.

(ii) Using an approximation to current 10-year gilt rates, the premium that needs to be paid on early redemption needs to be determined. The balance sheet and income account then need to be reworked to see what conclusions can be drawn.

The yield that is needed on the equity portfolio to produce the income required is 4.36%.

Redemption yield on loan = 4.5% + 100bps = 5.5%
Value of loan = $30.0\ [7.5a_{10}^{-(2)} + 100v^{10}]/100 = 30.0 * 115.84 = 34.752$

Ignoring dealing costs, marketability issues, tax implications and other expenses and assuming that early repayment is permitted,
the fund will shrink to £205.248m.

Assuming that the portfolio has been prorata reduced i.e. the yield is still the same, the income received will be £8.949m.

This is insufficient to meet the dividend and so a dividend cut is likely to be a consequence of the repayment.

(iii) Each bond needs to be evaluated to show the impact that it would have. The zero might have some attractions given that income could be enhanced but breakeven points will need to be determined. The equity loan stock is interesting and draws out the effect of stock selection and dividend yield on returns.

First the current breakeven position needs to be determined. The capitalised costs are £1.575m + £1.688m = £3.263m or 1.36% of total assets.

The yield requirement from earlier was 4.36% and so the total return required is 5.72%.

Zero Coupon Bond

The annual return on this is 6.25%.

By replacing the debt, total assets become £280.248m and net assets are £205.248m. The breakeven capital cost becomes £6.227m = 2.22% of gross assets. The income required to meet the other costs and the dividend becomes £9.888m = 3.53% of gross assets, giving a total return requirement of 5.75%.

The quality of the portfolio is likely to have improved since the equity dividend yield required has fallen from 4.36% to 3.53% c.f. 3.05% for FTSE All Share.

Equity Index Loan Stock

Assume that we replace the loan with £75m of this stock. Therefore the fund size and management cost figures are the same as the zero. However the annual return for this bond is variable as the capital cost is a function of the index return and so therefore will the breakeven.

To cover the management cost charged to capital requires 1.539/205.248 * 100 = 0.75%.

The income costs are 9.0 (dividend), 0.375 (fixed), 0.513 (management) and 2.288 (bond yield) = 12.176 = 4.34%.

Assuming that it is market movement that covers the cost and not good stock selection — the latter would not result in a capital cost for the debt — the return required is 5.09%.

A variety of conclusions are possible and so this should show understanding by candidates. Comments on quality of income yield, early repayment risk, stock selection v market return v fixed cost comparisons should be made in coming to a view. There is no single appropriate answer and this should be brought out by candidates.

(iv) This is a case of showing the bond/derivative combinations required to make these happen. The first is capital orientated and uses zero coupon bonds + bought derivatives.

Between 75% and 80% of the investment goes into zero coupon bonds with an annual return of ~5.25%. This provides the capital "guarantee".

The balance is used to buy FTSE100 call options at the current market level.

Changing volatility levels will result in different levels of participation being offered.

The second product uses income bearing bonds and complex derivatives.

The above average income is achieved through the use of corporate bonds and the cross-subsidy from the capital only version to the income versions.

The derivatives are of the up and out and down and in variety being triggered when the index hits one or other of the 70%/140% levels of the start value. They are dependent on each other and only one is ever exercised.

These are normally issued in the form of notes by the investment bank and so the product has a credit risk related to the bank.

(v) This again allows the candidates scope but in essence we are looking for answers relating to gearing investment view, alternative asset classes, low costs and enhanced returns.

END OF EXAMINERS' REPORT