

EXAMINATION

April 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.

**M Flaherty
Chairman of the Board of Examiners**

28 June 2005

In general the examiners were encouraged by the standard of answers from candidates but some additional points are made below to help candidates appreciate what is being sought. Candidates need to be aware that at this stage in the examinations they will be examined on a limited amount of bookwork and that the majority of marks will come from application and higher order skills answers. The solutions given are not all inclusive and other points could be made that would receive marks. However they represent the level of detail expected.

On question 1 a number of candidates failed to read the question correctly and did not spot that the portfolio outlined was for the balance of investments in options (1) and (2) and not for the whole portfolio. This meant that they failed to pick-up numerous marks particularly in the "strategy risk" section but also in the asset description section. Many candidates failed to see the significance of the liability information given and in particular the large rise in outgo that was implied from year 11 to 25. Candidates should try to visualise the whole situation and not focus in too early on the specifics of the question. All information given is there for a reason and should be used.

Question 2 had an element of bookwork in it and this was generally well done. However, as in question 1, candidates were let down by their ability to apply their knowledge. this was particularly relevant in parts (iii) to (v).

SOLUTIONS

1 Liability features

Mortality is unpredictable and generally non-investible although "mortality bonds" are being developed.

The risk increases over time, so there is a particular difficulty with benefit payments many years in the future.

Arguably for the most distant cashflows, there may be little benefit in reducing other liability risks as mortality risk will be the dominant liability risk...

...although equity risks would still be larger, if there is a high equity allocation.

Duration can be matched in a large scheme where cashflows are relatively predictable.

Changes to the scheme may accelerate payments.

Can invest to minimise this risk, subject to market capacity constraints (particularly for longer-dated cashflows).

Salary growth is not investible, nor predictable.

Historically it has been believed that salaries are highly correlated to equity dividend (or earnings) growth...

...although this assumes a constant (or mean reverting) distribution of wealth in the economy between workers and owners of capital.

The evidence for a strong correlation is inconclusive, indicating a shifting distribution of wealth in the economy.

Inflation is investible, although inflation itself is not predictable.

Benefits are not fully linked to inflation, as most are subject to a 5% p.a. cap and there may also be some fixed benefits.

Asset risks

forward starting swaps
fixed income and RPI swaps
global equity
property
private equity
index-linked gilts
investment grade corporate bonds

Discussion of income profile from each asset
Comments on credit and volatility risks
Suitability for each asset class to match mortality, duration, salary and inflation risks

Strategy risks

Discuss how each of the 3 strategies matches the expected benefit payments due from the pension scheme, and (with reasons) the relative levels of risk remaining after the strategy has been implemented.

General points

Other strategies are possible, with description
Covenant of company — is a winding-up likely?
Pricing of strategies 1 and (especially) 2 — is now the right time due to shape of gilt/swap yield curve?
Costs of implementing strategies 1 and 2
Cost of dynamically altering strategies 1 and 2 especially if liabilities develop in a different profile to that assumed at outset, compared to strategy 3
Governance/monitoring for strategies 1 and 2 is different to strategy 3
Other relevant issues will also be given marks

2 (i) Fixed Benchmarks:

They have a solid basis of a long term asset allocation policy.

They have a propensity to re-balance towards value — forces selling of rising markets and buying of falling markets.

This is advantageous if the markets are rising and falling on sentiment rather than as a result of underlying economic trends.

However, this may prove to be a disadvantage where there is a longer term trend.

Can be used to improve diversification.

Capitalisation weighted benchmarks based on market size:

Will be affected both by breadth of market and also by stock prices.

They will automatically capture new developments in markets e.g. public to private enterprise such as mass privatisations.

Their weakness is that they re-inforce trends in the markets so that if prices rise through sentiment rather than fundamentals, they will encourage buying that sentiment and selling stocks that are out of favour.

Can lose diversification

Re-balancing due to constituent changes and capital changes will be an issue
GDP weighted benchmarks:

This will grant greater economic exposure in a portfolio to countries which have poor stock market representation relative to the size of their economies and vice versa.

There may be little correlation between a country or regional GDP and its investible securities.

With globalisation of companies, the country of quotation may not be relevant to the weight applied.

The securities bought may not reflect the underlying regional GDP.

Increases risk of being incorrectly weighted to smaller markets

Real time comparable data may be hard come by/ not available regularly or at the same time for each market.

All of the above have advantages and disadvantages, there is no absolutely correct answer.

(ii) **Unquoted Securities**

Advantages:

Diversification, although if the unquoted companies operate in the similar industries to quoted companies in which the fund invests there may be less diversification than first thought.

Potentially higher returns as the security may be less well researched, leading to pricing anomalies.

Unquoted companies are often small and therefore can still grow rapidly even in relatively mature industries.

Disadvantages:

The risks will be higher as often the company and the management will have no track record.

The investment will be very illiquid and may need to be held for long time.

It will be difficult to value.

The company may be more dependent on one person.

It will require specialist knowledge to invest in this area, this will mean higher management fees. It is unlikely that the in-house team will possess the necessary skills, therefore a third party fund manager will need to be employed, thus increasing costs.

The companies are likely to be less financially stable and will have less ability to raise additional capital should the need arise.

Commodities

Advantages:

Investment in commodities would provide diversification for the pension fund.

It is possible to make significant profits from investing in commodities in short periods, however there is also the opportunity to lose large amounts in equally short periods.

Disadvantages:

Like investing in unquoted securities, the Trustees will almost certainly need to employ third party fund managers.

Use of commodity shares (mining, exploration companies) gives less diversification from equity market than physical would.

Institutions do not invest directly in commodities as this would involve shipping and storage of large amounts of material and institutions do not have the necessary skills or facilities.

Commodities do not naturally fit into an asset liability model as they are neither real assets or fixed rate assets, therefore unless the Trustees can identify an institution with a very good record in this area there is little to justify investing in this area.

(iii) **Unquoted companies**

As with quoted equities the Trustees, with the help of their advisors, should investigate the fund managers that invest in unquoted securities. Investing in unquoted equities requires a different skill set to investing in quoted equities.

In order to diversify the risk a portfolio of unquoted securities need to be purchased.

The easiest way for this to occur is via some form of collective vehicle.

The collective vehicle may be quoted e.g. an investment trust.

Or it may itself be unquoted.

If unquoted then liquidity is likely to be very low.

And valuations will be infrequent.

The fees charged to manage venture capital investments are generally higher than those charged to manage quoted investments.

Commodities

Should an institution wish to gain exposure to commodity price movements it can do so in 3 ways.

The most obvious is via commodity derivatives which are widely traded on major exchanges such as LIFFE and the Chicago Mercantile Exchange.

Options and futures are also available.

The futures which are available to trade fall into five main categories

Alternatively institutional investors do invest in companies whose share price is influenced by commodity prices.

Typical examples of this is the oil and mining companies.

Investing in these companies also overcome the problems of investing directly in the commodity itself and are generally less volatile than the commodity futures.

There are, however, a number of disadvantages if these companies are used as a proxy for commodity investment, these are:

It is unlikely that there will be exposure to just one commodity.

The company's management may alter the exposure via acquisitions or disposals or by hedging its position.

The company's share price may be influenced by other factors.

The company will incur various operating expenses which will dilute the overall return.

- (iv) The value of the company prior to being bid for may be artificially depressed e.g.

When the VC buys the company the market may be depressed.

Or the industry in which the company operates may be going through a tough time.

Investors may perceive that there are better opportunities elsewhere and therefore ignore the company in question, this is particularly true of small companies.

When the company is re-floated sentiment may have changed and/or markets have risen.

The company may be suffering from failing management and if owned 100% by the VC, management change becomes easier to implement.

Renewed management may turn around the company's fortunes or improve its perception.

The company may need to restructure its operations, this may be difficult in the quoted arena especially if investors take a short term view as the restructuring may significantly reduce short term profitability.

VC's are generally given longer term mandates than their quoted equivalents.

The capital structure may need to be changed, possibly returns need to be geared up or possibly the company need to reduce its borrowings. Again this can be easier if the VC owns 100% of the equity.

When the company is floated it may be more liquid either as a result of changing the shareholder structure (e.g. removal of a controlling interest) or as a result of increased size.

The VC may bring about corporate activity, which has improved returns.

The above list is not exhaustive any reasonable comment should be accepted.

- (v) Given that unquoted companies are not traded frequently a market based price is not available.

One solution would be to value the company at book cost, however this would not take account of any changes (good or bad) that had occurred since acquisition.

The company could be compared to a similar quoted company and a valuation arrived at by putting the unquoted company on the same PE, or yield etc. Any such valuation would then need to be revised downwards to take account of the lack of liquidity.

A DCF valuation could be used with the weighted cost of capital being increased to take account of the increased risk/reduced liquidity.