Subject CA1 — Core Applications Concepts

Paper One

EXAMINERS' REPORT

September 2008

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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General comments

As the title of the course suggests, this subject examines applications of the core techniques and considers broad actuarial concepts in practical situations. To perform well in this subject requires good general business awareness and the ability to use common sense in the situations posed, as much as learning the content of the core reading.

The main weakness that candidates show is an inability to read the question carefully, and having done so, to answer the question that the examiners asked. Too many candidates write randomly around the subject matter of the question, and gain few marks.

The notes that follow are not to be interpreted as model solutions. Although they contain the majority of the points that the examiners were looking for, they also contain more than even the best prepared candidate could be expected to write in the time allowed in the examination room.

Comments for individual questions are given within the solutions that follow.

1 (i) The three types of advice are:

Indicative advice – Giving an opinion without fully investigating the issues, for example in response to an oral question.

Factual advice – Advice based on research of the facts for example interpretation of legislation.

Recommendations – Advice based on fully researching the requirements and weighing up the potential alternatives, for example specific advice about decisions to be taken.

(ii) Before providing advice the actuary should consider whether he has the necessary experience to provide the advice. The actuary may need to consult other actuaries, for example from within their firm, who have the relevant experience. Alternatively the actuary may have his work peer reviewed.

At all times the actuary should be aware of any conflict of interests. Conflicts could arise if the actuary is advising more than one associated party or from within the insurance company.

There may be professional guidance notes or other relevant legislation that must be complied with.

The implementation of an accounting standard requires interpretation of legislation and accounting requirements.

Whilst an actuary may be able to provide input for the implementation of the accounting standard, it is unlikely that they have the necessary experience and qualifications to act without involving other professionals such as accountants and lawyers.

Most candidates remembered the bookwork for part (i). In part (ii) the better candidates read the whole question and so tailored their answers to show that they knew what really mattered here. In particular it is necessary to emphasise competence – and in this case the actuary may not have the expertise – the need to consult other professionals, and the specific conflicts that may arise and why. Simply stating "avoid conflicts" was not enough.

2 (i) Required total return = Required risk free real return + expected inflation + inflation risk premium (if relevant) + asset risk premium.

Credit was given if a candidate gave only one risk premium but explained correctly what it covered. Marks were also given to candidates who covered inflation risk premium correctly in their answer to part (ii).

(ii) The term to redemption is the same for each bond. But the coupon and redemption patterns will be different so durations are not identical, which matters more if the yield curve is not flat.

Hence part of the difference in yields can be explained by a risk premium (part of the asset risk premium in the formula) relating to differing volatilities arising from the different discounted mean terms.

Index-linked (IL) government bonds give a real return that can be taken as risk-free in most territories if held to redemption, subject to any delay between the reference dates for calculating coupon/redemption amounts and payment.

From part (i), the formula for the required return on the fixed-interest non-government bond is required risk free real return + expected inflation + inflation risk premium + bond risk premium.

Hence, from the formula, the difference between the yields can be expressed as expected inflation + inflation risk premium (IRP) + bond risk premium.

The yield on a fixed interest (FI) government bond of the same duration would be an intermediate step because:

FI government bond yield = IL government bond yield + expected inflation + IRP.

The difference in yields between government FI and IL bonds of similar terms reflects expected inflation + IRP.

The bond risk premium can then be approximated as the difference between the yields on the non-government bond and an FI government bond of the same duration.

This risk premium will incorporate margins for any differences in:

- Credit/security. Depending on the issuer (and the government), the corporate bond will suffer from a greater risk of default (in general).

- Marketability. It is likely that the corporate bond will be more difficult or expensive to deal in. This depends on relative issue sizes and also the extent to which institutions have a "buy and hold" mandate. Some IL government stock is held as a match and is not traded whereas blue chip corporate bonds have large and liquid markets.

- Other features of the bonds such as options, guarantees or conversion terms and dates

The difference is between quoted market yields and so the above reflects the views and conditions of the "average market investor".

Individual investors will have different views on suitable risk premiums and expected inflation.

However, there may be circumstances where the formula cannot explain the yield gap. That is the market is pricing on other issues apart from relative risk. For example supply and demand constraints could distort the relative yields – some territories may require certain investors to hold government stock.

Part (i) was generally answered correctly. Some candidates failed to break down the risk premium into its two components, though credit was given if their understanding of the two components was clear from part (ii). The quality of the answers to part (ii) varied, with many candidates showing a very good understanding. Some candidates lost needless marks by giving the difference between the two bonds on a (nominal – nominal) basis whereas the quoted redemption yield on index-linked bonds is always in real terms. There was some misunderstanding of the inflation risk premium, with candidates attaching this to the index-linked return rather than the fixed interest return. Answers were penalised if acronyms were not defined and then used ambiguously.

3 (i) One of the reasons for the acquisition would be for the multinational to gain entry to a market that is dominated by one supplier.

Thus it is likely to continue to manufacture the main line of business at the existing site. Hence insurance will still be needed in some form. Minor products might be reorganised, which might mean more or less production from this site. Hence the scope of cover may change.

The multinational is larger, operates from more territories, and has more diverse business. Thus it can benefit from pooling risks internally, rather than needing an insurance company to effect the pooling among many different companies.

Insurance company premiums will include profit loadings. Thus if the multinational retains risk, profits should increase.

But some risks will be too large for the multinational to retain, and it will look to insurance companies to cover them.

Some of the risks currently covered by the small company's insurance arrangements may be transferred to any existing insurance arrangements that the multinational has. This may result in lower overall premiums.

Some insured risks will be specific to the small company, and may not fit well in the multinational's insurance arrangements. The small company may continue to insure these specialist risks.

(ii) Employer's liability
Product liability
Public liability
Business interruption (consequential loss)
Pecuniary loss
Fidelity guarantee
Commercial Property – fire, theft, explosion, storm, flood, escape of water

Damage to plant and machinery
Motor vehicle (if the company has its own distribution fleet or if cars are provided to staff)
Patent protection (e.g. covering legal costs)
Key person insurance
Sickness and/or critical illness insurance cover for staff
Life assurance for staff

(iii) The likely changes are:

Employer's liability. Liability from accidents can be very high, as can be the cost of litigation. Hence insurance cover is likely to continue, but with a much higher excess point (deductible) so that the smaller risks are retained within the group.

Product Liability. The risks in this area may be high for a manufacturer of medical equipment as claims could have a very high cost. Hence it is likely that the main line product liability cover will be unchanged. Minor product lines may be less significant and so they may be covered under the multinational's existing arrangements. However, as they are also medical products, cover will still be needed because claims could be high.

Pecuniary loss/fidelity guarantees. There will be less need due to the increased scale of operations. Possibly excess limits might increase.

Business interruption. If the minor product lines are manufactured elsewhere in the group, insurance cover under the existing policy might be restricted to events that affect the production of the main product line.

Commercial property. This depends on the premises involved. If the company can operate from standard industrial units, it is likely that the risk can be pooled within the group.

Damage to plant and machinery. Most damage risks are likely to be retained within the group. Insurance with a high excess point may be used as a backstop.

Public liability. As the potential for claims is unlimited it is likely that the cover will be unchanged. Claims are rare and thus premiums are low anyway.

Motor vehicle. It is likely that the new group will only insure the liability risks relating to motor vehicles and will retain the vehicle damage risks.

Patent protection. Greater group resources will probably remove the need for this cover.

Key Person. A much larger group is unlikely to be reliant on key individuals, so cover will probably not be needed unless very specialised skills are required to run the small company's main product line. Possibly retain for a limited period.

Sickness/critical illness insurance and life assurance. The multinational will probably have arrangements in place for its existing staff e.g. benefits provided from a pension scheme. Employees of the small company could now be covered by these arrangements and existing policies may lapse.

Credit was given for other answers provided that the result stated was a logical consequence of the argument.

Part (i) had only 3 marks for a "Discuss" question so the examiners were seeking clarity and precision. Many candidates spent a lot of time discussing changes in operations that were irrelevant in the context of insurance arrangements. "Hence" was the key word in the question. Weaker candidates chose to ignore it and were not selective about the changes considered.

In part (ii), the command verb "List" means precisely that. The more that is said often reveals a lack of understanding and so devalues otherwise valid points. Part (iii) was not well answered. Few candidates thought of methodically working through the list to see how each type may change.

4 (i) The actuary would need information on the assets and liabilities as a whole given the size of the cash sum, the level of the pension, and the terms attaching to it (increases, spouse's benefits).

Assets could include:

- The individual's house or other property
- Any other investments/savings e.g. other pension or insurance arrangements.
- Any contingent or uncertain assets e.g. an inheritance.
- Any income expected e.g. from possible future employment or the state.

Liabilities could include:

- Outstanding mortgages on property.
- Any other debts – credit cards etc.
- Tax due on income or redundancy payments.
- Living expenses and their anticipated changes e.g. healthcare costs, leisure expenses.
- Any short term costs such as retraining or holidays.

The individual's tax status will be important in choosing appropriate assets.

The actuary should also consider the assets, liabilities and tax status of other members of the individual's household, including provisions necessary for any children or others who may be dependant on the individual for an unknown future period and any special provision that the individual might wish to make (e.g. future care costs for relatives or legacies).

He should also consider any penalties that might apply on early repayment of any mortgages.

The time horizon of investment may be affected by the individual's state of health.

Advice will be based on the individual's broad outlook in respect of risk.

For example strategies could be:

- Cautious – focusing on debt reduction.
- Long term – focusing on savings or investment.
- Short term – focusing on consumption.

The individual may impose specific constraints based on ethical considerations or may have particular preferences for certain assets or sectors.

(ii) For each strategy, an asset-liability model could be constructed. This would involve projecting expected outgoings from liabilities and proceeds (income and capital) from possible assets. Allowance would be made for future increases in such cash flows.

In order to make such projections, an assumption will be needed in respect of expected future inflation.

Each projection would consider the extent to which assets and liabilities are matched. Mismatching means that there is a risk of running out of assets in the long term or having excess assets on death.

One basis for projections could be net assets on death in order to obtain full, timely benefit from the overall assets.

The models could be rerun to illustrate the sensitivity of the outcome due to uncertainty in a number of key areas such as:

- How long the individual will live.
- How income and outgo might be affected by ill-health.
- The net returns achievable on assets.
- Interest payments on debts.
- Volatility in net income from employment or lifestyle changes.
- Variations in uncertain assets or liabilities (unforeseen income or outgo).

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Within each broad strategy, there will be scope to choose different assets, so the models could be rerun with different asset allocations. In particular, the cash sum may affect how existing assets are invested (changed). The models can vary the amount of assets held as cash (or otherwise liquid) as opposed to being actively invested.

Consideration should also be given to the extent to which any risks can be mitigated (allowing for the costs of mitigation) by adjusting outgo or using

savings to meet future events, or by taking out insurance such as additional annuity, life assurance, healthcare, household cover, etc.

Part (i) was generally well done with most candidates scoring plenty of valid points. There was a tendency to list random points in a disjointed fashion as and when they were thought of. The better candidates set out groups of points in a logical order, which demonstrated that they knew what mattered most and why.

Part (ii) was answered poorly. The question was carefully worded to stress the type of projection needed. Even so many chose to answer a question that wasn't actually asked and discussed the modelling process in general, rather than what needed to be modelled here. Many candidates talked about a stochastic model as a viable possibility, though this would be spuriously accurate for a single individual where there is so much future uncertainty requiring, at best only broad advice.

5 (i) The levers that can control the amount of profit/losses are the factors that the company can affect through management to increase value. This insurance company could try to:

- Reduce the number of contracts that lapse.
- Follow an investment policy that matches assets and liabilities.
- Use any free capital to follow a strategy that tries to increase investment returns subject to an acceptable level of risk.
- Control expenses both in terms of amounts and incidence - try to match expense outgo with premium income or introduce cheaper sales channels.
- Adopt an effective tax management policy.
- Review reinsurance or other risk management tools to limit claim amounts and volatility for the optimum cost.
- Reduce the likelihood of actual claims differing from the expected through good underwriting of new business.
- Underwrite claims for validity and amount.
- Correctly price and provision for any guarantees that it offers.
- Price products competitively, so as to avoid writing loss making business or producing policies that cannot be sold (premiums not too high or too low).
- Develop new products or areas of business e.g. to diversify type and location of exposure.
- Adapt existing products to reflect changes in market conditions e.g. NCD or excess levels.
- Increase marketing spending to boost sales.
- Use capital to purchase competitors so reducing competition.

(ii) Regular monitoring of the experience is a fundamental part of the actuarial control cycle.

The actual experience of the company should be monitored to check whether the method and assumptions adopted for pricing and financing the business continue to be appropriate.

This will enable the company to:

- Update assumptions on future experience.
- Identify any adverse trends in experience so as to take corrective actions.
- Provide management or regulatory information.

(iii) Consideration should be given to whether the period under investigation was typical and whether the experience is likely to be representative of future experience.

The period under investigation may have been affected by abnormal events e.g. costs relating to new systems. Many elements of expense experience are affected by economic cycles e.g. levels of wages.

It is also possible that there is a gradual change in the experience from period to period. Before using the results of the investigation, it is therefore necessary to consider whether there is any reason why any past trends may continue into the future. Technological or managerial improvements may lead to steady falls in unit costs.

It is possible that some classes of business may not have been large enough to provide credible data for a full analysis. These lines may have been grouped with other business in the analysis. It will be necessary to check that any groups are and will remain relatively homogeneous.

Alternatively, such classes may be allocated expenses in an arbitrary way with an eye on consistency with market premium rates.

In addition it is possible that, overall, there was a lack of data so that the whole exercise lacks credibility.

The volume of new business will affect future expenses. The impact on costs of any expected growth or contraction of business should be allowed for.

If the results are to be used as a base for calculating future expenses, some allowance for inflation will be needed.

Different lines of business will have different levels of expenses. Allowance for expected changes in the mix of business or the development of new products may be necessary when allocating indirect expenses.

It may be appropriate to make an adjustment to any results to give prudent assumptions as opposed to using best estimates. This may allow for any

uncertainty as to the validity of the results of the analysis. However, given that the analysis is to be used for pricing, large margins may not be appropriate.

(iv) This approach would have much lower costs and be quicker and easier to implement. If the business written and processes involved have not changed significantly since the previous analysis it may be appropriate.

This will also depend on when the last full analysis was carried out. Clearly, the longer ago it was, the less appropriate is this approach.

A new analysis could be used for many other purposes, for instances in setting provisions for existing business, and so would be more useful.

It is possible that a full analysis is required, say for calculating statutory reserves.

It is likely that there have been changes in business mix and overall level of business since the last investigation that would invalidate this approach.

Technological or other improvements may mean that unit costs are lower.

Different sales channels e.g. the internet or overseas call centres may have been introduced. This could have lowered unit costs.

New products would have no past figures to apply inflation to (though an analysis may have been done when the product was launched).

Need to consider the rate of inflation to apply to these expenses, and whether different rates would apply to different expenses (some may be price linked others wage linked).

It will not be possible to analyse future profit if the accurate expense figures are not used.

A more accurate expense analysis may lead to more competitive premiums. The suggested approach may lead to an increase in unprofitable business.

Part (i) was answered well with most candidates getting a good range of points. The examiners were looking for more than the obvious answer of increasing premiums, although many candidates seemed to say "increase premiums in several different ways in their answers. Part (ii) was well answered, though many missed the linkage to the Actuarial Control Cycle. A question on this topic comes up at least once a year, and there is a "free" mark for recognising it. Some answers went beyond the requirements of the question, for example discussing types of corrective action.

A lot of thought went into carefully wording the question for part (iii) but many candidates chose to see what they wanted to see and not what was written. These candidates described at great length how an expense investigation would be carried out. Several candidates said that

the uses of the investigation depended on the purpose, ignoring the fact that the purpose was given in the question.

In part (iv) some good points were made, and many candidates gave a balanced argument. However many easy marks were missed. Few candidates were able embellish "inflation" to cover its many sub-issues. A surprising number failed to mention the time elapsing since the previous analysis, other reasons why a full analysis may be necessary, and the effect on the premiums and its consequences.

6 (i) Investors may have overseas liabilities. Overseas property could be a suitable match for general currency exposure or for more specific real liabilities.

The investment could increase diversification both in terms of exposure to different economies and different asset types e.g. properties not available domestically.

Some overseas economies may experience high growth and/or currency appreciation, which could give high returns on assets in those countries.

The property markets in some countries could be buoyant. For example large - scale developments and/or local inefficiencies or supply constraints could boost local property returns.

(ii) Information will be hard to obtain and interpret particularly if there are language difficulties.

Regulations in particular, those concerning tenure, planning and ownership rights may be unfamiliar.

There may be many restrictions on what can be owned by overseas investors.

Administration will be difficult, for example in terms of:

- Collecting rent
- Monitoring the condition of properties
- Carrying out repairs and maintenance
- Negotiating with tenants and authorities

Local agents will be needed – can they be trusted?

In this section full credit was only given for points that are directly applicable to overseas property and day to day practical problems. General topics were given limited credit.

(iii) Essentially the main reason will be demand for the hotels.

Growing affluence in developed countries has left many people with large disposable incomes.

The availability and affordability of long haul flights has increased.

Many developing countries have improved infrastructure to make tourism more feasible.

Many people are seeking alternatives to traditional holiday destinations.

Many developing countries can provide attractions (cultural and geographical) not available with traditional holidays.

Economic improvements in developing countries mean that tourists feel more comfortable about visiting.

Costs may be low in developing countries enabling high profit margins.

Governments in developing countries may grant assistance and subsidies to encourage development.

The existing supply of hotels may be low implying high prices could be charged.

The project may be a useful way of establishing a presence and contacts in these markets with a view to exploiting future possibilities.

(iv) *The points given below are not exhaustive. Credit was given for any valid example which included a risk, an avoidance strategy, and a description or justification of the action. The emphasis is on avoiding occurrence not on mitigating the consequences – though often the distinction is blurred in practice.*

A downturn in the general world economy could lead to people cutting back on luxury holidays. There is very little anyone can do to prevent such global economic fluctuations.

Terrorism or the fear of terrorism could lead to less overseas travel. Governments and others could improve security arrangements or the consortium could build hotels in countries less prone to unrest.

Political instability in particular countries could deter visitors. The consortium could focus on countries that have demonstrated a history of stability.

Changes in governments could lead to regimes less friendly to first world tourists. This could increase costs through taxes or general hassles such as planning or employment law. If possible, the consortium should cultivate relationships with the major political players.

As developing countries grow, local costs for labour, services etc. could rise unexpectedly putting pressure on margins. The consortium could negotiate long term deals with unions or suppliers so that they can effectively plan for costs.

Another consequence of growth could be a strengthening of developing countries' currencies. This may put tourists off and it will increase effective

local currency costs. The consortium could hedge currency or pay local employees in first world currencies but the impact on tourists' purchasing power is harder to prevent.

Competitors may open hotels putting pressure on margins. The consortium may be able to negotiate exclusive rights to develop certain areas or encourage local politicians to restrict the supply of new hotels.

Infrastructure such as airports and roads could be poor or poorly maintained causing a drop in visitors. The consortium should only build where suitable infrastructure exists and/or where they believe that the authorities will provide suitable facilities. The consortium may be able to win contracts to build or maintain infrastructure.

The service or overall experience tourists receive could be poor leading to poor publicity. Sufficient staff with appropriate training should be employed. The target market will expect comfortable conditions and so costs should not be skimped in this area.

Management may be poor with a lack of financial control leading to losses or inefficiency. The consortium should employ managers with proven, relevant track records and monitor, assess and reward them appropriately.

Some areas may not prove attractive to visitors. Market research should be undertaken to gauge demand. Advertising in conjunction with local tourist authorities will help.

Construction could have been sloppy leading to a need for refurbishment or renovation. The construction phase must be properly planned and monitored. The budget should be sufficient to provide hotels of the desired standard.

Green concerns may lead to drop in demand or punitive taxation on long distance air travel or fuel. The consortium should where possible adopt environmentally friendly policies. This may make travellers feel less guilty or persuade politicians to let profitable developments go ahead.

The hotels may be situated in areas prone to bad weather or natural disasters. Research should be carried out so that the site chosen is practical. These risks can be localised (e.g. flood plains) so access to the relevant area can still be achieved.

The area chosen may be subject to diseases or other dangers. The hotels should be able to provide some protection e.g. against mosquitoes. Access to good local medical facilities or the employment of doctors would help.

Revenue received in local currency is vulnerable to currency depreciation or problems with repatriation. The consortium could try to receive as much revenue as possible in first world currencies pre travel. Alternatively local currency revenue could be used to cover local currency outgo.

(v) The alternative involves buying equity as opposed to giving a loan. The characteristics of debt and equity vary. Debt is a cost to the borrower and must be paid as set out in the terms of the loan. Equity proceeds reflect residual profits and so are likely to be volatile and are not guaranteed.

Debt repayments take precedence over payments to shareholders and hence can be viewed as more secure. Debt payments tend to be fixed or otherwise defined and so are vulnerable to unexpected inflation. Equity dividends and hence prices provide real returns and so offer some hedge against unexpected inflation.

The property companies are likely to have borrowings. This debt will increase gearing and hence the volatility of returns.

Should the enterprise fail, debt takes preference over equity for example it may be secured on specific assets.

In general, property company shares will be more marketable than the loan, which implies lower risk (in this respect).

The loan is to a consortium that will build new properties. However, the term of the loan is likely to extend beyond the construction phase so that the consortium can generate income to repay the loan. Even so, the institution will still be exposed to significant risks related to construction and development. In particular, there may a period with low or no income at the start of the project.

A portfolio of property shares is unlikely to have such exposure to developments. The risks will also be related to existing properties. This depends on the particular shares held and it may be difficult to determine the underlying properties.

The consortium is investing in a specific type of property in specific locations. There is some diversity between countries but there is still high specific risk as the exposure is concentrated. In addition, there is only one counter-party implying a further concentration of risk.

The property companies will probably not have as much exposure to hotels or developing countries. There will be a much greater diversity in terms of the underlying properties held. There will also be some exposure to the domestic market and the spread between shares means less "manager" risk.

(vi) **LOAN**

The loan to the consortium will probably have a fixed term and defined repayments and is similar in nature to a corporate bond. The significant difference could be in relation to interest repayments, which may be deferred and/or variable but linked to a widely used rate.

The appropriate benchmark would therefore be some form of international bond index. Such indices are not generally publicised. However, it is possible that suitable indices are produced by brokers or others.

To obtain a valid comparison, an index should be chosen that covers bonds with features similar to those under the loan in terms of duration, credit rating, marketability and nature of repayments. It may be difficult to find an index that meets all these criteria.

It is likely that the loan will be denominated in a first world currency say $US. International bond indices should be available in the relevant currency.

SHARES

The starting point for the property share investments would be an index of property companies listed on the domestic stock exchange. This may not be appropriate if the institution is concentrating on shares with international exposure. Shares in the index may be heavily weighted towards domestic properties.

It is possible that different property share indices are produced depending on the nature of the property company but this is unlikely.

As with bonds, it is possible that brokers could produce indices of international property company shares.

The choice will depend on the terms of reference for the investment. The aim may be to invest solely in overseas property, possibly in specific countries or types or to just have a certain level of overseas exposure.

Any benchmark should reflect these criteria this could be achieved by, for example, combining an international index with a domestic index.

It is likely that the available indices will be calculated in the same currency as the investments.

Part (i) was answered well on the whole. Some candidates mentioned the possibility of higher return without adequately explaining why. In part (ii) there was a tendency to discuss property investment in general rather than overseas property in particular. This gained some marks, but wasn't what the examiners were seeking. They key to success in questions were general subjects are set in a specific context is to tailor answers to the context, but not to omit the basic points.

In part (iii), candidates tended to rehash the answers given to part (i). A surprisingly large number of candidates misinterpreted the question and gave economic and social benefits. Investors aren't charities and improving conditions in the third world isn't their goal, although it may be a beneficial side-effect. "Attractive" in the question means attractive to investors.

Part (iv) was generally answered well. The question did state "actions…. to reduce the chance of the risk occurring" so repeated reference to Insurance against the risk gained no

credit. A few candidates ignored the instruction to discuss the post construction risks only. This part required wide thinking and general knowledge, rather than particular actuarial skills.

In general answers to part (v) were too superficial, although most candidates realised this was essentially a debt v equity comparison. Candidates failed to explain why the security of income and capital redemption would be better under the debt. Most candidates commented on the greater diversification of the property shares, but few made an in-depth comparison of the features of the underlying properties under the two alternatives.

Part (vi) was very poorly answered. A large number of candidates seemed to answer a question about how to construct a property index, which wasn't what was asked. Few candidates seemed to understand that the purpose of a benchmark is to assess relative performance.

END OF EXAMINERS' REPORT