

EXAMINERS' REPORT

November 2021 examinations

Subject F105 — *Finance and Investment* Fellowship Principles

INTRODUCTION

The attached report has been prepared by the subject's Principal Examiner. General comments are provided on the performance of candidates on each question. The solutions provided are an indication of the points sought by the examiners, and should not be taken as model solutions.

QUESTION 1

i.

A hedge fund can be defined as an investment fund that aims to meet high or absolute returns by investing across a number of asset classes or financial instruments.

[1]

ii.

These funds will take a combination of long and short positions that reflect the manager's views on how macroeconomic factors such as the levels of international asset markets, interest rates and currencies will move. These views will depend on economic trends globally and major international events. Funds sometimes make extensive use of leverage and derivatives.

[2]

iii.

Satellite technology:

- go long a mobile phone provider that facilitates internet-based communication cheaply; go short fixed line operator in the same country.
[rationale, not asked: Expect this trend to result in growth of internet service providers and mobile phone providers and reduction in business of fixed line operators]
- Risk: The shorted company successfully becomes an internet service provider itself and its shares do not drop in value as expected.

Ageing:

- go long a hospital company go short toy companies.
[rationale, not asked: Expect this trend to result in increased sales for companies that provide healthcare and less growth in companies that manufacture baby and child goods].
- Risk: The shorted companies change strategy to focus on other products or markets and their new products/markets are highly successful.

Renewable energy:

- go short coal mining companies; go long companies producing batteries for renewable energy plants
[rationale, not asked: Expect this trend to result in shares of fossil-fuel-using companies than in companies that apply green energy principles.]
- Risk: The short-ed company continues to generate good profits because of continued use of their product in the developing countries.

Other reasonable answers also given marks e.g. risk of changes to legislation regarding fees that can be charged for healthcare services.

[6]

[Total 9]

Examiner's comment:

The question was generally answered reasonably well. It asked for market-neutral strategies; several students suggested a combination of an option and a share, which is not a market-neutral strategy because of the different payoff profiles. In part (iii)(b) a large number of students suggested investing in longevity or mortality bonds – but these are not investment products, and no marks were awarded.

QUESTION 2

i.

General risks of continued payment

- General economic environment: a recession coupled with job losses could increase the default rate on contracts
- If a client falls on hard times, a cell phone might be regarded as an essential item and might still be paid.
- A cell phone contract is a low-cost item, compared to some other items purchases on credit (car, house).
- Individual default risk is therefore low.
- Competition in the market may result in contract holders buying out their contracts and replacing these with cheaper contracts with competitors (especially near the end of the current contract)
- New cell phone technology may lead to some contract holder replacing the current contract with an upgraded contract for later model cell phones.
- Shorter term contracts are less likely to default than longer term ones.

- Differentiated risks
- CellX client mix would influence contract repayment risk
 - Higher income clients may be less likely to default on their contracts than low-paid workers.
 - Permanently-employed clients may be less likely to default than contract workers, self-employed and unemployed.
- Repayment is dependent on the service provided by CellX
 - If CellX's network fails in a meaningful way that could encourage clients to not pay their accounts.

[Max 3]

ii.

CellX sells the future cash-flows in the market.

CellX then uses the funds to purchase more phones and/or advertising to sell more contracts, which will produce further monthly cash-flow.

If the new sales have a higher IRR than the securitisation, then CellX is growing their profit.

There are second-order effects of growing their client base.

[max 2]

iii.

- Increase the size of the equity tranche (alternatively, increase the asset:liability ratio, i.e. over-collateralise the issue),
 - thereby lowering the probability of default for the mezzanine and senior tranches
- The securitisation SPV may grant security over the receivables to investors in the tranches
 - Investors would be able to claim the underlying assets in the event of default
- A third party may guarantee the payments under (some) of the tranches

- Increase the monetary size of the issued tranches,
- and purchase a government bond with a part of the securitisation proceeds
- This improves the overall quality of assets in the SPV
 - Have shorter terms for senior tranches
 - Don't grant contracts to applicants with low credit scores
 - Impose penalties on pre-payment of contracts
 - Risk that contracts will be repaid early i.e. prepayment risk

[max 2]

iv.

- Interest and capital of the senior tranche is paid first (so lowest risk of default), followed by mezzanine and then followed by equity (highest risk of default).
- [one tick for the order; one tick for the risk]
- The senior and mezzanine tranches may obtain a credit rating,
 - which would influence pricing, as investors would benchmark the issues against other securitisations of similar rating.
- The level of interest rates in the market would affect the issue yield
- The tranching structure of the securitisation may help in reducing the yield on the securitisation.
- The level of demand in the capital markets for securitisations would affect pricing.
 - If many companies have issued securitisations recently, the market might be saturated, and yields achieved would be high / prices low
- The nature of payments (fixed/floating) under the tranches compared to the cell phone contracts
 - Cell phone contracts are usually for a fixed monthly amount
 - A fixed interest rate tranche would therefore be less risky than a similar floating rate tranche

[max 3]

[Total 10]

Examiner's comment:

This question was not well answered. Many students wasted time detailing the process of securitisation instead of answering the questions that were asked. It is important to read the questions properly and apply thought. Also, a surprisingly high number of students did not appear to understand that CellX would receive a lump sum from the SPV and thought that it received income from the securitized contracts."

QUESTION 3

i.

Overall: Protection of the interests of customers (particularly individuals) and suppliers.

- a. Competition regulators: encourage competition and prevent mergers that would reduce competition through the exercise of market power. [encourage competition; prevent build-up of market power through mergers]
- b. Fair trading controls: to ensure that sellers do not exploit members of the public who are in a weak bargaining position [ensure that those with power do not exploit the public (individuals & suppliers)]

[2]

ii.

- Suppliers fixing the price of bread .
- Cell phone network companies not allowing a user to keep their phone number when they switch to a different network provider .
- A vehicle motor plan that lapses when a mechanic other than vehicle manufacturer works on the vehicle .
- A vehicle manufacturer not recalling vehicles with a systematic factory fault, in the knowledge that consumers are too ill-informed and/or lack the legal know-how to mount a class action.
- Also, price fixing accepted

[2]

iii.

- Economies of scale, sharing of core services common to both organisations;
 - e.g. the head office can be combined, leading to efficiencies.
 - e.g. better staff retention as personnel can transfer more easily withing the bigger hospital group
- Access complementary resources;
 - e.g. the hospital groups might have different specialist units which would now be available to the wider group
 - Unique supply contracts of scarce equipment can be extended to the bigger group
- Access opportunities only available to larger organisations;
 - e.g. funding might be available from a wider base of investors, leading to cheaper capital for future expansions.

- improved pricing power with suppliers
- Eliminate inefficiencies;
 - e.g. the management procedures (or management team or management of a department) of one group might be less efficient than the other, so implement the more efficient procedure in the less efficient group.

[4]

- iv. Suppliers: The hospital group may have more pricing power, leading to lower prices for contracts with the hospital group. However, the volumes per contract might be bigger. [some suppliers (the more expensive ones) might lose out completely]

Patients: The hospital may be in a position to raise prices due to its market position, to the disadvantage of patients. Patients may not have much choice in the matter of treatment (although there is the choice of govt hospitals). Medical treatment is a necessity. Other hospitals may similarly raise prices if this group gets away with higher prices. Alternatively, the group may just choose not to pass lower supply prices through to patients.

Shareholders: likely to benefit through higher profits by virtue of pricing power with suppliers and patients, as explained. Company may build a negative image and lose some shareholders / reputation. Less diversification in the sector. Regulation can be brought in, leaving pricing in the hands of a regulator.

[3]

[Total 11]

Examiner's comments:

Part (i): Most students scored some marks, although many thought 'fair trading' refers to trading on an exchange, leading to poor answers in (ii). Students should take note that the course includes topics that apply to the economy as a whole, not just the financial sector.

Part (ii): This was poorly answered, with valid answers mainly focussing on price fixing. Many other answers offered described fraud or other illegal activities, which scored no marks.

Part (iii): Many candidates were under the impression that two hospitals were merging, and not two hospital groups. These answers contained some invalid responses. Generally the question was well answered.

Part (iv): Generally well answered.

QUESTION 4

i.

- A FRA is a forward contract under which both parties agree that a certain interest rate will apply to a certain principal amount during a specified future time period.
- The owner will enter into two FRAs – one for each of the monthly loan repayment due at the end of month five and six.
- Under each FRA, the homeowner agrees to receive an amount linked to the prime interest rate while paying an amount based on a fixed rate.

[2]

ii.

$$f_5 = 12 \times \left[\frac{(1 + (0.03 + 0.055)/12)^5}{(1 + (0.03 + 0.05)/12)^4} - 1 \right] = 0.10502$$

$$f_6 = 12 \times \left[\frac{(1 + (0.03 + 0.06)/12)^6}{(1 + (0.03 + 0.055)/12)^5} - 1 \right] = 0.11503$$

[2]

iii.

$$0 = \frac{(0.10502 - f_K)}{12} \cdot \left(1 + \frac{0.055}{12}\right)^{-5} + \frac{(0.11503 - f_K)}{12} \cdot \left(1 + \frac{0.06}{12}\right)^{-6}$$
$$\therefore f_K = \frac{0.017857}{0.162326} = 0.11$$

[2]

iv.

- The borrower will make a loss on the FRAs because the amount he will have to pay under the FRAs (based on the fixed rate) will be more than the floating rate he will be receiving.

[1]

[Total 7]

Examiner comments:

Candidates who explained the workings of a FRA in the context of the scenario presented, scored full marks in (i). In part (ii), many candidates treated the rates as continuous rather than monthly effective rates. Very few candidates were able to calculate the fixed rate in (iii). Many allowed for the principal in the calculation.

QUESTION 5

i.

Consumer goods:

- Companies produce consumer durables (cars, furniture, televisions and “white goods”) and non-durables (food, drink, tobacco).
- The impact of the economic cycle is generally less severe on non-durable goods companies (esp those producing basic necessities).
- Increasingly capital intensive – due to increasing mechanisation and automation
- Importance of brand names – strong brands usually allows higher profit margins to be generated. Advertising budgets can be large to entrench brands. Brand names are difficult to value.
- Increasingly international – as brands become better known in other countries.
- Moderate to high gearing – highest where profits are stable. Consumer goods company profits are generally more stable than for general industrial companies, and there is less dependence on individual customers due to smaller unit size of goods sold.
- Low profit margins – due to high competition

[½ mark per valid point, Max 3]

ii.

Prospects for market growth (demand for non-electric and electric cars):

- Should consider both local and foreign markets.
- Demand in general is linked to economic growth and affordability.
- Demand for electric vehicles will depend on the quality of the product and ease of use (e.g. battery life and charging ease/speed).

Projected production by the company (non-electric and electric cars):

- Projecting production for non-electric cars will be easier due to historic information and existing plant.
- Projection for electric cars will be much more subjective as the company has no experience and need to build capacity – company plans might be over-optimistic.

Research and development by the company:

- The greater the R&D, the more likely that the company will be innovative and come up with cheaper and better cars.

Competition (non-electric and electric cars) and prices:

- Car prices and profit margins are very dependent on competitor products and their value proposition.
- Likely that competition will be high (from local and foreign manufacturers).

Management ability and track record:

- Management ability is key to the success of implementing electric car production.

- Past record may be of some value, but experience on electric cars is limited.

Input costs (and impact of technological advances on key inputs):

- For non-electric cars this can be done based on past data.
- Input costs for electric car production will be more subjective – suppliers of key inputs may differ from existing suppliers, and costs may be high for small orders.
- Technology could help reduce future input costs (e.g. cheaper and better batteries, control systems and other parts).

Company profitability and dividend policy (vs profit retention):

- The value of the company is likely to be calculated a discounted value of future cashflows/profits/dividends.
- Electric car production, costs, sales will be very subjective.

Capital structure and borrowings:

- Current and future intended borrowings should be taken into account as this can impact financial risks to shareholders.
- Number of shares post rights-issue, to derive future cashflows/profits/dividends per share.

Labour and other stakeholder relations:

- Poor labour relations may lead to work-stoppages and sub-standard output, bringing reputational risk to the company.

Legislation, incentives/ subsidies from government:

- Legislation restricting future sales of high-pollution cars can impact sales of current models.
- Tax and other incentives (and timespans on these) can impact a fundamental valuation of the company.

[½ mark per valid point, Max 1 per key factor, Max 8]

iii.

Historically high P/E might be consistent with a fundamental valuation and might reflect:

- Historic earnings might have been temporarily lower than usual (e.g. one-off loss), and a recovery is expected by the market (so that a prospective P/E might be more consistent with the longer term trend).
- The news of the successful testing of a new electric car, and planned future production, may have significantly improved future prospects for the company.
- Some other factor impacting future prospects of the company:
 - New financial incentives from government;
 - New patents that could be sold to other companies or retained to differentiate output from competitors.
- The market as a whole may be trading on higher than usual P/E multiples due to investor confidence (leading to low equity premiums being used in discounting future cashflows) or perhaps due to historically low interest rates (which have an impact on economic activity and on discount rates).

[½ mark per valid point, Max 2]

iv.

Possible risks:

- Basis risk – although the price of a future follows the cash price very closely, the basis may not move exactly as expected
 - This occurs because it is not possible to predict exactly what future interest rates and dividends will be over the term of the future.
- Cross hedge risk – unless the futures are based on this specific share, it is unlikely that the hedge will be a perfect hedge.
- Term/roll-over risks – the bank may not be able to roll over the futures before selling all its shares.
- Market risk due to incomplete hedge – if the bank was not able to secure sufficient number of futures contracts.
- Operational risk – an error in executing the hedge.
- Liquidity risk – not having sufficient liquidity to pay for margins when needed by the clearing house.

[½ mark per valid point, Max 2]

v.

Capping weights:

- A merit of capping excessive weights is that it reduces portfolio concentration and related risks for funds benchmarked against (or tracking) that index.
 - Inefficient markets could result in some share prices being driven well beyond fundamental value by market participant euphoria and capping share weightings provides a useful mechanism for limiting portfolio risk (esp. for passive funds).
 - Many active fund managers (benchmarking against the index) may choose to be underweight the largest shares (to reduce concentration risk) but then face increased relative performance risk – being benchmarked against a capped index reduces this risk.
- However the choice of cap is a subjective one, and it is unlikely that there will be consensus on the choice.
- Some circularity may be introduced in the capping process (e.g. in capping the weight of one share the weight of another might rise above the cap level).
- Funds capping their weights will incur greater dealing costs in respect of shares that keep increasing in price (requiring frequent sales to reduce the weight to the cap).
 - Forced sales by funds may also trigger untimely crystallisation of taxes.
- Capping is contrary to efficient market principles – efficient market proponents will argue that investors wishing to be invested in the market should not over-ride market pricing by artificial and subjective rules (such as a cap on share weights).

[½ mark per valid point, Max 3]

vi.

Performance relative to other portfolios:

- This comparison is suitable if the funds being compared have the same objectives and the same factors influencing investment strategy.
- It also gives an indication of the cost or benefit of following a particular strategy, relative to that adopted by other funds.
- However it may be totally inappropriate to compare the performance of funds that have very different investment objectives.

Performance relative to a benchmark portfolios:

- Benchmark portfolios can be constructed to reflect the objectives of the fund.
- They should be constructed such that the data needed for comparisons is easily obtained.
- A benchmark portfolio reflecting the liabilities/objectives of the fund avoids the danger of giving the fund manager conflicting objectives (e.g. basis for assessment encouraging the manager to adopt a strategy incompatible with fund objectives).

[½ mark per valid point, Max 2]

Examiner's comment:

Overall reasonably answered, but could have been better.

Part (i) was bookwork, done well mostly.

Part (ii) specifically asked students to "explain" eight key factors, however many students only listed items with no explanation. Of those that did provide explanations most were very generic with no attempt to link their points to the specific scenario.

Part (iii) was not read properly by some, who thought the question was asking why the market price might differ from an investor's fundamental valuation.

Part (iv) was done surprisingly poorly by many. Most listed "basis risk" but it was clear that very few understood it well enough to explain it, with some confusing it with cross-hedge risk. The instruction to "explain" the risks was again ignored by some.

Part (v) was challenging for most students, who at most gave one or two valid points only.

Part (vi) was done well by most candidates.

QUESTION 6

i.

a.

- The reserves/provisions might contain margins that will be released over time, and
- Future New Business
- Also accepted: staff and systems, relationships with reinsurers
- Depending on the accounting regime present, insurance liabilities may be overvalued compared to best estimate with contingency margins to allow for some degree of prudence in these estimates
- The insurer may have significant expertise and in-house models for dealing with regulators, negotiating reinsurance agreements and performing valuations which may not be included in the NAV of the firm

b.

- There might be a premium / discount to NAV, based on the market's opinion of the management.
- Management must be paid fees over time, and this might cause a discount to NAV
- Due to information asymmetry, the managers / valuers are likely to hold a different opinion on the future profitability of the underlying investments that the market

[submax 1]

c.

- The company is a consumer service, so its value depends on work/service performed, rather than assets owned.
- A retailer that owns their buildings of operation (without a loan) would have a much higher NAV than one that does similar business on rented premises.
- Also accepted: brand name (not just goodwill)
- Market might favour stable low-beta retail stocks currently
- The general retailer may have negotiated favourable credit terms with its suppliers, which may not be listed as an accounting asset of the firm
- Trained labour

[3]

ii.

risk-adjusted return on capital = $18/100 - 1.6*(14\%-4\%) = 2\%$

This figure should be compared to the risk-free rate of 4%.

Based on this metric the company underperformed market expectations.

Calculations are based on CAPM, assumptions may not hold and Beta is not a stable parameter

Also accepted, at lower credit:

A candidate calculating the Treynor measure of $(18\%-4\%)/1.6=8.75\%$ should compare this with $14\%-4%=10\%$: It is not the measure asked, and is marked as follows:

$(18\%-4\%)/1.6=8.75\%$

Compare with $14\%-4%=10\%$:

Similarly, the Jensen measure can be calculated:
Jensen = $18/100 - [4\% + 1.6 \cdot (14\% - 4\%)] = -2\%$

[2]

iii.

Internally generated goodwill are intangible assets that are “self-created” (i.e. not purchased) , for example the value a company may derive from the successful acquisition of new customers or the building of brand names.

Some internally generated goodwill can be recognised in the accounts *automatically* when income-producing assets usually found on the balance sheet are revalued .

Goodwill that is entered onto the balance sheet during an acquisition represents the excess of the value paid for a subsidiary company over the value to the acquiring company of the share of the assets purchased.

[3]

iv.

Profit minus cost of capital

$$(R18m + R20m) - 20\% * R140m = R10m \quad [\text{Or } (R18m + R15m + (R20m - R15m)) - 20\% * R140m = R10m]$$

[2]

[Total 10]

Examiner’s comment

This question covered an often neglected topic, and so the work was not well understood by most candidates.

Part (i): Most candidates managed to score some marks. Students were required to capture the essential difference between NAV and Market Cap for each industry. Many answers presented very specific atypical scenarios.

Part (ii): Most candidates presented portfolio risk measures, and these were given credit.

Part (iii): Generally well answered.

Part (iv): This was poorly answered. The notes admit this to be a grey area, so any sensible answer was given credit.

QUESTION 7

i.

Market risk refers to:

- The risk of losses on the portfolio due to unpredictable changes in the market value of assts.
- The risk relating to a change in the value of the portfolio due to movements in the market values of assets.

[1]

ii.

- Under the mean-variance framework,
 - given the set of expected returns, the variance/co-variance structure, and portfolio weights for each possible asset class,
 - the portfolio average return and standard deviation, and therefore the risk measure, can be calculated.
 - Non-normality can be accommodated by using a different distribution, or increasing the calculated standard deviation
- A stochastic model can be built to projects portfolio returns or levels.
- Once the possible future outcomes have been obtained, market risk can be measured using value-at-risk (VaR).
- VaR measures the loss expected within a certain confidence level over a certain period of time.
- Sensitivity/stress testing can be done using the model by changing the input parameters. This can be done to assess the impact of these change on the risk exposure of the portfolio.

[2]

iii.

- Regulation may restrict the types of assets the fund may invest in or the maximum exposure to a particular asset class.
- The impact of the tax regime on different assets classes since the fund will want to maximise its post-tax returns.
- The investable assets available.
- The investment strategy followed by competitors funds since the bank will want to attract investors and therefore want to perform well compared to similar types of funds.
- The risk appetite and return expectation of investors, which needs to be considered if the bank wants to attract investors.

[2]

iv.

- Develop the required computer systems to implement the risk control and monitoring system
- Ensure data input availability
 - Preferably via an automated system
- Establish limits for departure from the strategic asset class/sector/stock allocation
 - As a load difference or load ratio

- Regularly review the fund's exposure to market risk by re-running market risk exposure assessment models.
- Ensure all parties involved in the investment decision making process are aware of the results, including senior management.
- Create tools for the investment managers to be able to see what impact their decisions will have on the portfolio's risk exposure.
- Take remedial action when market risk levels exceed the acceptable market risk tolerance level.
- Ensure the market risk management process is properly documented.
- Appoint suitable individuals, preferably independent of the fund managers, to monitor this process.
- Regular review of the process.

If candidates provide specific examples, or go into more detail at particular points, this will also be awarded credit.

[4]

v.

- Market risk:
 - Private debt may provide a more stable return than a listed equity investment - coupon payments may be more predictable than dividends, thereby reducing exposure to market risk.
 - Exposure to the equity market is reduced, while interest rate exposure is increased.
 - The return is likely to be lower than expected to be earned on equities, which reduces the fund's overall expected return. A lower expected return also increases the risk of not meeting the fund's long-term return objective.
- Liquidity risk:
 - The fund's exposure to liquidity risk is likely to be higher because private debt is not actively traded and there is therefore no easy exit route as there is for listed equity.
 - If regular coupon payments are received, liquidity risk exposure will be reduced (dividend payments are uncertain).
 - Liquidity is further improved if the debt is amortising.
- Credit risk:
 - There will be credit risk exposure from the issuer of the instrument failing to make good on their obligations under the investment.
 - Risk exposure will be reduced if covenants are put in place e.g., put a requirement in place that a specific financial criterion is met.
 - If no credit rating is provided, the fund risks not properly assessing the riskiness of the investment. They could thereby,
 - Exceed the fund's risk appetite or tolerance levels by making this investment.
 - Not receive a return commensurate with the risk accepted.
 - A 10% exposure to one counterparty is relatively large, amounting to concentration risk.
- Operational risk:
 - Compared to the process of investing in listed equity, investing in private debt is a more complex transaction.
 - The transaction may require legal documentation and administration introducing a risk that something may be missed somewhere (e.g., an important clause in the legal documentation).

- Implementing covenants may prove to be difficult.
- Relative performance risk:
 - There is a risk that competitor funds do not make this change and that the portfolio's performance, following this switch, does not compare well to these funds' performance.
 - Unlike listed equity investments where all parties have access to the same investments, private debt investments are more unique in nature and it is unlikely that competitor funds invest in these same projects, adding to the risk of the portfolio performing relatively poorly.
- Overall, the level of diversification of the fund will be improved by adding private debt to the portfolio, particularly if there is a low level of correlation between the drivers of market performance versus that of the unlisted debt instrument.

Note: Asset-liability mismatch risk is not relevant.

[5]

[Total 14]

Examiner comments:

As a general comment, many students took this to be a retail and not an investment bank. References to liabilities or solvency considerations are therefore less relevant in this scenario.

- i. This was a straightforward question and generally well answered. Marks were also awarded for defining it in terms of how the bank would measure market risk.*
- ii. Many students made reference to an ALM exercise but no explicit liabilities are mentioned in this question. This would therefore not be correct.*
- iii. Many students provided economic rather than commercial considerations.*
- iv. There were many relevant points in the notes that could have been mentioned here. The performance was poor were students failed to make that link.*
- v. Students who were able to identify the features of private debt and its impact on the fund's risk profile, relative to the nature of listed equity, scored marks. Many students seemed to suggest that equity investments carry credit risk. This is not correct. It is true that the companies one holds share in may fail and you could possibly lose your whole investment. But this risk would more rightly be called a market and not a credit risk. In terms of the relative performance risk, we cannot conclusively state that the fund's performance will be worse because they have introduced private debt, because we don't know what competitor mandates are.*

QUESTION 8

i. Strategy

- Local Cash/money market is not a good strategy as it does not match the liability by nature, term or currency
 - Liability is largely linked to inflation (real) in the foreign country
 - It is a medium to long term liability (depending on the expected life of the mine)
 - The valuation basis is based on medium to longer dated bonds yields in home country
 - The liability is denominated in the foreign currency
- This will result in the difference in the assets and the liability (the “funding level” becoming volatile over time
- The mining company may have to “top up” this ring-fenced fund or carry an unfunded liability on its balance sheet

ii. Improved LDI strategies

- The mining company could invest in ILB in the foreign country with portfolio duration matching duration of the liabilities
- Or if possible in a nominal zero coupon bond in the foreign country which matures on the date the mine is expected to close
 - There will still be risk due to differences in the foreign country real yield curve which will determine the value of the liability versus the foreign country nominal yield curve used to value the ZCB asset.
 - This could possibly be partially hedged using swaps but it would be very difficult to completely hedge this risk
- The assets could be invested in local nominal or inflation linked bonds with matching duration to liabilities (or a zero coupon bond as described above)
 - Residual risk regarding currency risk and foreign versus local country inflation differences risk remains
 - This could be hedged out using fairly straightforward currency swaps and inflation-linked swaps
- Any swaps implemented would probably need to be tailored and therefore be OTC swaps
- This would make it hard to unwind early should the mine close earlier for some reason
- Credit risk with the swap counterparty is introduced – especially if counterparty is an emerging market bank
- Banks may not be willing or able to write such long term swaps on the particular currencies or inflation rate

[8]

Examiner’s comments:

Candidates identified, for part (i) that the nature, term and currency of the liability meant that money market assets were unsuitable. Some did not read the question carefully and interpreted the terms the liability as 5 years. Very few, however, went on to explain the consequence of the mismatch on the measure of assets versus liability and hence for the company. Part (ii) was poorly answered. Whilst providing an explanation of what LDI strategies is (which is not what was asked) they were unable to

propose the specifics of the derivatives which could be used - aside from the obvious use of currency derivatives.

QUESTION 9

i. The factors to be considered are:

- The total rate of tax on an investment.
- How the tax is split between different components of the investment return.
- The timing of tax payments.
- Whether the tax is deducted at source or has to be paid subsequently.
- The extent to which tax deducted at source can be reclaimed by the investor.
- To what extent losses or gains can be aggregated between different investments or over different time periods for tax purposes.

Influences on these factors are:

- tax rates on capital gains
- tax rates on income/dividends exemptions and allowances against tax rules on particular assets
- investor's own tax status
- investor's financial position
- different investment vehicles' tax efficiency

[5]

ii.

(a)

Rationale

- Since CGT is currently only payable once units are sold, investors could defer realizing their investments for as long as possible to avoid paying tax. So in this way the tax man can collect his tax earlier [1 mark]
- Certain investors may be able to shift their investments to a unit trust structure in order to be able to trade without having to pay tax on capital gains, and this loophole is now closed.
- Investors buying and selling shares for their own account are likely to be liable for CGT in the year in which the trades occur. This proposed amendment therefore aligns taxation of equity investors managing their own assets with those employing a unit trust. [1 mark]
- Encourages long term (buy-and hold) behaviour amongst asset managers

[2]

(b)

Difficulties

- Administration will be onerous – both from the investor, unit trust administrator and tax authority perspective

- This will lead to an increase in investment costs
- Investors will need to have liquidity to pay the CGT liability each year –
- They may need to realise assets at a bad time or end up generating further CGT liabilities
- Investors are being penalized for actions (excessive trading by an underlying manager) which are beyond their control
- This change may influence manager behaviour as they will not trade purely based on investment fundamentals but will also consider the tax consequences
- Unfair where forced trades take place - for example rebalancing of an index tracker unit trust
- Offsetting of gains and losses in the same tax period may encourage managers to generate losses
- Also, unless credit is given for capital losses, investors may end up paying more tax overall.
- May discourage saving and investment in unit trusts and in general

[4]

[Total 11]

Examiner's comments:

Part (i) was a bookwork question and was well answered for the most part. Many candidates did not carefully read and consider the details of the tax changes explained before part (ii) of the question and also did not know how unit trusts are currently taxed - suggesting that the new method would result in easier admin for the authority. This was a question which required consideration of the proposed change for each of the stakeholders involved. Many missed the points around the impact on the managers of the unit trusts and how their behaviour may be influenced as well as the impact on forced trades such as rebalancing.

END OF PAPER