

# **EXAMINERS' REPORT**

*June 2018 examinations*

## **Subject F105 — Finance and Investment Fellowship Principles**

### **INTRODUCTION**

The attached report has been prepared by the subject's Principle 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. Banking regulation

Implementation of government borrowing  
Performance and integrity of financial markets  
Intervention in currency markets  
Printing and minting of notes and coins  
Taxation

*Do not accept: Monetary, interest rate and/or inflation policy*

ii. Argument for independence:

- Government may be tempted to be influence setting of monetary policy in order to achieve short term political gains. In particular, interest rates may be lowered prior to elections in order to stimulate economic growth and lower unemployment and gain favour with the electorate. Interest rate rises to counter inflation might only be necessary or held off until after elections. This leads to a series of boom-and-bust cycles corresponding to elections. An independent central bank is able to avoid unnecessary and politically-motivated boom-and-bust cycles.
- Government may be tempted to interfere with monetary policy to influence its own cost of borrowing.
- Independence makes it easier to fight high inflation (requiring high interest rates and consequent economic slowdown) – the government might not have the political will or ability to increase interest rates when required.
- Independence ensures continuity of monetary policy even if there is a change in government.
- If the government has a track record of allowing inflation, this creates inflationary expectations which could in turn lead to higher inflation (e.g. wage settlements reflecting higher expectations).
- Independence should lead to greater credibility, leading to lower inflationary expectations and in turn lower inflation.
- Low economic growth and high unemployment cannot be attributed solely to the central bank. Government policy (or policy uncertainty) regarding fiscal policy and various other laws and regulations would also have contributed to the current situation.

Argument against independence:

- Monetary policy might not be well co-ordinated (or even be in conflict) with fiscal policy e.g. government aims requiring fiscal deficit while the central bank fights inflation. A more effective strategy might be for policies to be in sync.
- The central bank's singular focus on monetary policy and inflation targeting might be detrimental to the economy or counter governments social development policies (however government can then include economic growth and employment in the bank's mandate given the concerns – simply removing independence does not address the problem)

- Monetary policy is set by unelected officials, which might be unpalatable to some
- If there are shareholders in the central bank, there could be a risk of those shareholders exerting undue influence on monetary policy.

*Overall this question was done reasonably well.*

*Despite the question asked, a number of student provided monetary policy functions (e.g. setting the repo rate or money market operations) for part (i).*

*Part (ii) was done reasonably well. Sometimes students got confused about their for/against arguments (providing arguments in favour of independence under an “Against” heading and vice versa). Some students made the wrong assumption that independence implies the central bank decides its own mandate or that government cannot change the mandate. A number of students tripped themselves up by getting into an (usually over-simplified) economic argument about the demerits of high interest rates – these arguments were irrelevant for this question.*

## QUESTION 2

- Venture capital: capital for businesses in the conceptual stage or where products are not developed and revenues and/or profits may not have been achieved.

Leveraged buy-outs: equity capital for acquisition or refinancing of a larger company. Management buy-outs are a form of leveraged buy-out in which the existing management buy-out the existing owners of the company – i.e. buy their shares and hence a controlling interest in the company. Similarly, a management buy-in occurs when the buyer is an external management team.

Development capital: growth or expansion working capital for mature businesses in need of product extension and/or market expansion.

Restructuring capital: new equity for financially or operationally distressed companies.

- Advantages and disadvantages common to some/all options:

### Common advantages:

- “a”, “b” and “c”: for all three options, there is the possibility of greater diversification within the portfolio.
- “a”, “b” and “c”: investment in infrastructure, or particular types of infrastructure, may count toward socially responsible investments.
- “a” and “b”: assets are defensive and form natural monopolies, so income should be stable (loosely inflation-linked), relative to the business cycle and may form a natural fit for pensions in payment.
- “a” and “b”: the pension fund has the opportunity to directly or indirectly influence operations to ensure efficiency and profitability.

Common disadvantages:

- “a” and “c”: no market value is available; require costly valuations.
- “a” and “b”: operational risks in terms of maintenance and refurbishment cost overruns and under-usage of the asset(s).
- “a” and “b”: the regulator may cap prices charged, in effect capping income and rendering these projects unprofitable.

Advantages and disadvantages for each option:

a. Direct investment in fully operational toll road and power station projects:

Advantages

- The pension fund has the opportunity to ensure that the assets have demonstrated to be operationally and financially sound before purchase.
- The pension fund has direct control of the assets and direct receipt of all profits.

Disadvantages

- These assets will be difficult to purchase and re-sell - very low liquidity.
- They require specialist operational skills – the pension fund must appoint a team to manage each asset.
- Large unit size leads to lack of diversification for the pension fund.
- Uncertain value and ability to resell power stations towards their end of life.

b. Investment in a listed company that operates power stations, toll roads, ports and airports:

Advantages

- This provides the pension fund with access to a diversified mix of assets.
- No direct ownership of assets, so no need to dispose of them when old.
- Being a listed asset it should be liquid and can be purchased in small sizes (i.e. divisible).
- Possibility of the company expanding operations to other markets, leading to capital growth in the share price.
- Listed company can use leverage to enhance returns.
- Listing requirements require regular audited information, so asset performance and values can be analysed.

Disadvantages

- Extra layer of costs due to the company structure.
- Concessions may not be renewed, leading to loss of capital value for company.
- Possible political interference by government (as an advantage, they may support usage of these assets).
- Returns are exposed to the equity market, decreasing diversification benefits.

- Government may expect the company to manage some unprofitable assets as a condition to being able to operate the more profitable ones.

c. Invest as a limited partner in an infrastructure fund:

Advantages

- Potential for highest returns of all options.
- Pooling of funds with other partners allows for diversified asset mix and access to assets not otherwise available to the pension fund.
- Infrastructure fund managers may be very skilled in choosing profitable projects.
- Infrastructure projects historically have low failure rates due to buy-in from government, engineering and financial expertise involved.

Disadvantages

- Due to construction risk each individual project can be very risky.
- Gearing usually employed by such funds exacerbates the financial risk and uncertainty.
- Private equity structure has high fees and uncertain cash-flow dates.
- Returns are dependent on availability and willingness of buyers for each asset upon completion.
- Uncertainty is increased for the pension fund by lock-in periods and uncertain dates for return of cash.
- The pension fund will face reinvestment risk when receiving large cash payments.
- Historic analysis of infrastructure funds may be made difficult by survivorship bias.

*Overall this was done well.*

*Part (i) was straightforward bookwork.*

*For part (ii) students were able to generate many points and thus scored well.*

### QUESTION 3

- i. Typical credit events covered by credit default swap include:
- Failure to pay
  - Insolvency
  - Winding-up
  - Appointment of a receiver
  - Rating downgrade
  - Cross default
  - Repudiation

- ii. The price of the CDS is calculated as a sum of the CDS price for each bond in the portfolio, as implied by the yield in excess of the risk free rate.

Assume that coupons are annual and yields provided are annual effective rates.  
Assume that bond yields in excess of risk free are due to credit risk only.

Then:

Price of CDS = Price of bonds @ risk free 7% - Actual bond prices

Price of bonds (R'm) at risk free 7% p.a.:

$$\text{Bond A} = 500v^5 = 356.49$$

$$\text{Bond B} = 100v^3 = 81.63$$

$$\text{Bond C} = 200v^2 = 174.69$$

$$\text{Bond D} = 10v + 110v^2 = 105.42$$

$$\text{Total} = 718.23$$

$$\text{Actual bond prices (R'm)} = R310.46 + 65.75 + 159.44 + 101.759 = 637.41$$

$$\text{Price of CDS} = 718.23 - 637.41 = R80.83\text{m}$$

*Credit given for alternative reasonable solutions if consistent with assumptions made (e.g. use of the margin between bond yields and the risk free rates adjusted for bond duration).*

- iii. The final price could differ from the zero basis price for the following reasons:

- The spread derived from the yields of the bonds reflects both credit and illiquidity risk. A more accurate calculation would therefore make use of a slightly different spread value.
- There still remains counterparty credit risk on the credit default risk swap to Summerfield Insurance.
- The no-default value of the bond may be higher or lower than the face / nominal value due to significant changes in the interest rate.
- The view on credit risk for the underlying bond issues may differ from the market's current view.
- Documentation differences – the final contract agreed to between the two insurance companies would be bespoke and reflect the particular needs of the two companies. For example, Solitude may not be able to claim their full loss from Summerfield. The price calculated in the previous question assumes that the full face value of the bond would be paid out in the case of a credit event.
- A bespoke CDS agreement between Summerfield and Solitude would be an illiquid, OTC arrangement. An illiquidity premium would therefore need to be reflected in the fee.
- The final placement of the CDS would incur administration, legal and other transaction costs (e.g. paid to the investment bank to facilitate the CDS).

iv. Possible solutions relating to the current CDS structure:

- Re-structuring the CDS so that the fee payable on the CDS does not exceed the capital savings (i.e. in terms of lower capital requirements).
- This could involve reducing the payment made by Summerfield to Solitude in the case of a credit event. For example Summerfield pays only the difference between the face value of the loan and the recovery obtained from the underlying counterparties in the event of a default.
- Structure the CDS to only cover credit risk on the riskiest portion of the bond portfolio so as to reduce the CDS fee. However whether the CDS price reduction exceeds higher capital costs depends on the respective calculation bases.
- Request the investment bank to reconsider the pricing assumptions, or obtain a CDS price from another bank. However any CDS price reduction is detrimental to Summerfield, thus any assumption review should be justifiable and acceptable to both Summerfield and Solitude.
- Other options for consideration could include:
- Investigate the feasibility of alternative credit derivatives e.g. credit spread options, credit linked notes (but need to consider the relationship between derivative costs and capital requirements).
- Solitude to potentially consider liquidating a portion of the current portfolio for bonds issued by higher rated counterparties.

*Overall well done.*

*Part (i) was generally well answered. The question required students to draw on basic bookwork.*

*In part (ii) stronger candidates recognised that the most effective approach would be to compare the price of bonds valued on two different interest rate bases. While other students knew to compare the margin between the bond's yield and the risk-free rate, they often overlooked the effect that the duration of the bond would have on the CDS price. Some students lost unnecessary marks through minor mistakes such as assuming that interest rates are compounded continuously despite the question stipulating that all interest rates were effective annual.*

*Part (iii) was generally well answered – students were able to identify a broad range of valid reasons specific to the scenario set out in the question. Many students noted that supply-demand forces would influence the actual price of the CDS with limited elaboration on how this would be applicable to a bespoke instrument and its implications on any liquidity risk premium.*

*In part (iv) a sufficient number of valid points were only generated by the strongest candidates. Most students did well in identifying valid changes to the bond portfolio that would facilitate an improved CDS price. Students that typically offered alternative investment options, did not accompany this with discussion on the implications that these options would have on Solitude.*

## QUESTION 4

- i. An investment bank can assist the company with:
  - Advise the issuing company on the issue including issue structure and price they can charge for their securities.
  - Obtain the best possible price for their securities.
  - Handle the marketing of the security issue to the public, and through innovative marketing stimulate demand.
  - Market the issues at the lowest possible cost.
  - Handle administrative aspects of the issue e.g. collection and processing of applications and funds received, allocation of shares, issuing of share certificates.
  - Providing a check on, and certifying the quality of, the information provided to the public.
  - Assist with the drafting of the prospectus.
  - Assist the company with meeting all listing authority requirements.
  - Underwrite part/all of the share issue by purchasing any unsold stock.
  
- ii. The information that should be included:
  - An outline of the aims and objectives of the company and any special factors e.g.
    - Target markets (geographic and market segments/niches)
    - Competitive landscape
    - Patents and current drugs on sale
    - Drugs in the pipeline (and stage of development)
    - Position on ethical testing
  - Details of the share issue including the number of shares on offer, offer price and important dates.
  - Details of the number of shares owned by existing company owners (hence proportion of the company they will own after listing).
  - Whether there are any underwriters of the issue.
  - Details of how the shares will be allocated if the offer is over-subscribed.
  - Details of how the money raised will be used – cost of remaining clinical trials and expected duration before drugs will be approved for sale.
  - Management view on company and industry prospects and significant risks.
  - The company's intended dividend policy.
  - Audited financial statements.
  - Details of the senior management and board of directors and their salaries including staff share incentive schemes and potential dilution impact for shareholders.
  
- iii. The investigation is a two-stage process:

The first stage entails construction of a financial model of the company and use it to project future earnings and other financial metrics. Estimation of future earnings and other metrics will need to take into account:

- Management projections (if any) and their views on company and industry prospects.
- A view on management's ability to meet their own projections.
- Historic financials and earnings growth, and key drivers of past performance
- Future sales depend on:
  - company reputation and strength of brand
  - complexity of products (i.e. how easily can they be copied)
  - competitor products (and their pipeline products)
  - company patents and age (are any about to expire allowing generic manufacturers to produce drugs more cheaply)
- Estimates of future input costs and risks of unexpected shortages/price increases (e.g. of skilled staff, medical equipment and other inputs).
- Possible regulatory interventions e.g. caps on medicine pricing, extended clinical trials etc.
- Funding (or gearing), dividend and profit retention policy (how to fund future growth).

The second stage uses the output from the first stage to determine whether the issue price presents a good investment opportunity, and entails:

- Calculation of a "true" or "intrinsic" value (which is compared to the issue price) by discounting projected financial metrics:
  - Could be based on projected earnings, cashflows, or possibly dividends (however these may be subject to considerable uncertainty of amount and timing if the company won't be paying dividends for many years)
  - The discount rate should reflect risk and might be based on CAPM model for listed competitors if the risks are similar
- Relative valuation method e.g. calculate issue price relative to other financial metrics (e.g. estimated future earnings) for the company, and compare this with competitors and possibly with companies in other sectors.

*Overall this question was done reasonably well.*

*Despite being straightforward, students struggled to generate sufficient points in parts (i) and (ii).*

*Part (iii) was handled better by most students, although many students generated learnt lists of information to analyse and sources of information without answering the question asked i.e. how to place a value on the shares.*

## QUESTION 5

- i. Oil and Gas
- Basic Materials
- Industrial
- Consumer Goods
- Healthcare
- Consumer Services
- Telecommunications
- Utilities
- Financials
- Technology

ii.

$$TRI(t) = K \times \frac{\sum_i w_i \frac{P_i(t)+D(t)}{P_i(t-1)}}{\sum_i w_i} \text{ where } w_i = n_i(t-1) \times P_i(t-1), \text{ with}$$

$n_i(t-1)$  = number of shares for instrument i at time t-1

$P_i(t-1)$  = share price for instrument i at time t-1

$D(t)$  = dividends received between time t-1 and time t

Alternatively, this can be written as:  $TRI(t) = K \times \frac{\sum_i n_i(t-1)[P_i(t)+D(t)]}{\sum_i n_i(t-1) \times P_i(t-1)}$

iii. Table of market caps:

Company	31/12/2015	31/03/2016	30/06/2016
A	20 000	22 000	
B	24 000	25 000	24 000
C	22 000	24 000	
D	19 200	25 000	17 600

During Q1, the top-2 consists of B, C; during Q2 it consists of B, D.

For Q1

$$W_B = \frac{24}{24+22}, W_C = \frac{22}{24+22}.$$

Company B TR factor =  $[500+10]/480 = 1.0625$ ; Company C TR factor =  $[120+0]/110 = 1.0909091$

Total Return factor for Q1 =  $(24/46 \times 1.0625 + 22/46 \times 1.0909091) = 1.07608696$

For Q2:

$$W_B = \frac{25}{25+25}, W_C = \frac{25}{25+25}.$$

Company B TR factor =  $[480+0]/500 = 0.9600$ ; Company D TR factor =  $[220+10]/250 = 0.9200$

Total Return factor for Q1 =  $(25/50 \cdot 0.96 + 25/50 \cdot 0.92) = 0.94$

TRI<sub>0</sub> = 1,000

TRI<sub>1</sub> =  $1000 \cdot 1.07608696 = 1076.08696$ , and

TRI<sub>2</sub> =  $1076.08696 \cdot 0.94 = 1011.52174$

### *Alternative approach*

ii.

$TRI(t) = K \times \frac{I(t) + XD(t) - XD(t-1)}{I(t-1)}$  (where XD refers to the index and is set to zero at the start of the year). We must then specify

$I(t) = \frac{\sum_i w_i(t-1)P_i(t)}{B(t-1)} = \frac{\sum_i w_i(t)P_i(t)}{B(t)}$  where the index may be reconstituted at each time-point and B(.) recalculated. An initial value for  $B_0$  is calculated after specifying an arbitrary value for  $I_0$ .

iii.

Arbitrarily choose  $I_0 = 100$ , so  $B_0 = \frac{24000 + 22000}{100} = 460$ .

Then  $I_1 = \frac{500 \times 50 + 200 \times 120}{460} = 106.521739$ .

$\Delta XD_1 = \frac{50 \times 10}{460} = 1.086957$ , so  $TRI(1) = 1000 \times \frac{106.521739 + 1.086957}{100} = 1076.086957$

For Q2:

$B_1 = \frac{500 \times 50 + 250 \times 100}{106.521739} = 469.387755$ .

Then  $I_2 = \frac{480 \times 50 + 220 \times 100}{469.387755} = 98$ .

$\Delta XD_1 = \frac{100 \times 10}{469.387755} = 2.130435$ , so  $TRI(2) = 1076.086957 \times \frac{98 + 2.130435}{106.521739} = 1011.52174$

*Overall not done well. Very few students used a correct approach for this question. Students did not seem able to apply their knowledge correctly.*

## QUESTION 6

- i. The risk-free rate of return can be defined as the rate at which money is borrowed or lent when there is no credit risk, so that the money is certain to be repaid.
- ii. In this instance the government guarantees the return of contributions at maturity, with an additional month's contribution for members that have completed their contributions as required. Therefore members carry no credit risk to the extent that the government is able to meet this promise.
- iii. Any four risks of:
  - Asset-liability mismatch risk:
    - The market value of assets, and the timing and flow of proceeds from the multi-asset portfolio, and liability outgo, i.e. the payments of loans or benefits after 24 months, may not coincide if assets do not match liabilities. This creates a risk for the scheme.
    - E.g. the scheme may be in deficit if a large number of contracts mature at a time when the market has taken a significant downturn.
  - Market risk:
    - Risk of a drop in the value of assets, resulting in insufficient funds to pay back the contributions, or the extra month's contribution, at maturity.
    - E.g. Instruments in which the Scheme is invested in perform poorly.
  - Credit risk:
    - Risk that some of the bonds or other assets that the government invests in default; the risk that some of the counterparties to investment deals the Scheme has made are not able to meet their obligations towards the Scheme.
    - E.g. Default on a bond issued by a corporate and invested in by the Scheme due to poor business environment.
  - Operational risk:
    - Risk of loss due to fraud or mismanagement within the Scheme; the risk of loss due to failed internal people, processes and systems related to the Scheme.
    - E.g. Agents stealing some of the funds.
  - Liquidity risk:
    - Risk of not having sufficient cash to make benefit payments on maturity or when loans are requested.
    - E.g. if funds are invested in illiquid assets and not disinvested in time to make maturity payments, there won't be sufficient cash to pay benefits.

*Overall well answered.*

In part (iii) the definitions of the risks had to be related to the context sketched. In addition, an example of a risk event had to be provided. Relative performance risk is not a risk in this context since the government's intention with this scheme is to improve access to financial services. If individuals find alternative means of saving that goal would still be reached.

The loans individuals can take out can only be equal to 50% of contributions already paid. The loan is therefore like an early withdrawal and not a source of credit risk should the member stop making contributions afterwards as suggested by a number of students.

## QUESTION 7

i.

	Livendell Insurance Co.	Mondor Insurance Co.
NAV per share	$\frac{2,600m}{80m} = R32.50 *$	$\frac{550m}{10m} = R55$
ROC	$\frac{500m}{2,600m} = 19.2\%$	$\frac{-50m}{550m} = -9.1\%$

(\* Credit provided if adjustment for goodwill was made in the numerator of the NAV per share calculation)

Assumptions:

- Ignore adjustment to profit/loss for investment in the creation of new intangible assets and in the expansion and purchase of tangible assets
- Ignore expenses incurred defending and servicing existing tangible and intangible assets
- Ignore internally generated goodwill that does not appear on the balance sheet

ii. Comments on relative performance and attractiveness to Fortress:

- The NAV per share for Mondor Insurance is higher despite it being a smaller company - this is primarily driven by the following:
  - Less absolute number of shares issued by Mondor. This may distort the results since Livendell's share capital would also include the share capital of the various companies that it acquired so this may not be a fair comparison.
  - Significant profits have been made to date as indicated by the higher retained earnings given the company's age and asset base (assuming similar dividend policies; however it is possible that Mondor has not yet started paying out dividends).

- Livendell is also trading at a discount to NAV (i.e. R20 versus R32.50) potentially indicating that the shareholders have been pessimistic about the company's performance in the future.
- The return on capital over the last year however appears to suggest the opposite performance where the ROC for Livendell is higher than that obtained by Mondor.
- The negative ROC for Mondor may be due to the new product that was released over the last year and hence initial start-up costs incurred in administrating, training personnel, marketing and distributing the product. However it could also be due to poor claims experience, which can be expected to be volatile for a small general insurer.
- Assuming the recently launched product is profitable, Mondor should be expected to report profits in the future.
- While Livendell was able to obtain a higher and positive ROC compared to Mondor, consideration needs to be given to historical trends in the ROC in order to understand whether this return is sustainable and can reasonably be expected going forward.
- Acquisition-driven growth by Livendell is reflected by the goodwill asset on the balance sheet.
- Mondor insurance however, does not have a goodwill asset reflective of the organic growth experienced by the company.
- Fortress International should therefore consider the benefit that it would obtain from the goodwill on its own group balance sheet from acquiring Livendell and the corresponding impact on Livendell's goodwill asset.
- This should be considered against the potential goodwill gains that would be obtained from acquiring the general insurance company instead given its growing reputation.
- Mondor Insurance also has more assets in the way of equipment / computers and patents which is consistent with its technology-driven strategy while Livendell has less such assets reflecting its investment in human capital.
- Fortress International should therefore also consider its own strategy for investment in technology vs. human capital.
- Livendell also has R100m worth of assets in property suggesting that it owns its building while Mondor likely rents due to the lack of a corresponding property asset.

- Fortress International should therefore consider the extent for potential costs savings from being able to house Mondor's employees or whether it would continue to incur rental expenses.
- Alternatively the benefit of obtaining an additional property investment from acquiring Livendell will also need to be taken into consideration.
- Livendell also has more in the way of excess assets when comparing the equity value to the minimum capital requirement for the company.
- This may imply that Livendell is not making efficient use of its assets relative to Mondor - however excluding goodwill both companies have similar equity/capital requirement ratios, suggesting similar capital efficiency.
- Fortress International should also consider any improvement/changes in performance that can be obtained by having these companies part of the bigger group, where potential synergies and cost savings could be obtained.
- A final decision on performance based on the results of these measures cannot be made and more information would need to be taken into account.

*In part (i) student performance was weaker than expected. Simple computation details were overlooked such as calculating the NAV instead of the NAV per share. Students often confused the calculation of the Return on Capital with the Return on Equity or made a number of unnecessary adjustments to the assets / capital figures used in the calculation of this ratio. The question required students to apply the basic ratio definitions as set out in the course notes.*

*Part (ii) was generally poorly answered. Most students were unable to generate a sufficient number of points for the required mark allocation often repeating information already set out in the question. Students were expected to tailor bookwork set out in the performance measurement chapters to the two companies. There was ample opportunity to consider every balance sheet item as a basis to generate points for Fortress to consider. Most solutions set out a simple comparison of financial ratios with limited explanation as to why these differences may exist. Exceptional students recognised the potential of unused tax benefits from losses made by Mondor, potential human capital investment underlying Livendell and the subjectivity of goodwill valuations.*

## QUESTION 8

- i. Conglomerate - because the company is acquiring another in an unrelated industry
- ii. Other reasons might include:
  - Utilisation of tax benefits
  - Utilisation of surplus funds held by the motorcycle manufacturer
  - Protection against threat of takeover by increasing the size of the business
  - Diversification to reduce the exposure of the merged company to the fortunes of either sector
  - Enhancement of earnings per share
  - Exploitation of lower finance costs
- iii. Reasons for the analysis:
  - A key reason for the fundamental analysis of a bond is to make an assessment of all factors that might influence the ability of issuer to repay the coupons and principal in future i.e. assessing the credit risk and determining whether level of risk is in line with the investor's risk appetite.
  - Another key reason is to determine whether the level of yield is commensurate with the risk assumed i.e. whether the yield offered is sufficient.
- iv. Factors:
  - The trade cycle and the current and expected future state of the economy.
  - The impact of the state of the economy on demand for specialist fashion items and motorcycles:
    - Personal debt and employment levels
    - Level of interest rates on personal debt
  - Industry analysis and competitive trends:
    - Current demand & supply of branded fashion items and future projections
    - High levels of competition can led to tight margins
  - Regulatory environment: any changes in the regulation of retail companies in the country that could influence future sales of either clothing or motorcycles e.g. if clothing is labour intensive then changes to minimum wages might have an impact on profitability.
  - Sovereign macroeconomic analysis: any change in creditworthiness of the country's government bonds has a knock-on effect on corporate bonds.
- v. Possible reasons:
  - The process of assessing and quantifying risk has an element of subjectivity attached to it.
  - Rating agencies have direct access to senior officers of the company the investor might not.
  - Rating agencies may have more/different information about non company-specific factors than the investor.

- The methods of assessment (i.e. quantitative and qualitative techniques) may differ from those used by the investor.

*Parts (i) and (ii) were well answered.*

*Part (iii) was fairly well answered although many students failed to mention that one of the purposes is for the investor to determine whether the riskiness of the bond is in line with their risk appetite.*

*In part (iv) the command verb ‘discuss’ requires students to write more detail than just list short phrases of a few key words each. Students in general only spoke of the motorcycle industry, not making any reference to the clothes industry - yet this bond is being issued to finance the purchase of the clothing business and its earnings will be a significant factor for the riskiness of the bond.*

*Part (v) was fairly well answered. When an investor determines a credit rating for an investment opportunity, they will aim to be as objective as possible – the purpose of a credit rating exercise is to assess the probability of default as accurately as possible. Thus the risk appetite of an individual investor would not influence the rating assigned, but would instead determine whether the assessed probability of default falls within/outside the investor’s acceptable risk tolerance and whether the expected return is fair compensation for the level of risk.*

## **QUESTION 9**

- Relative merits for the various fund components:

### **Emerging market (incl. Africa) equity**

- Active strategy may provide a better expected return due to market inefficiencies that often exist in emerging equity markets.
- Passive indices may not be available or easy to track:
  - Depends on index construction methodology
  - Foreigners might not have easy access to local equities
  - Markets may not be well developed and have poor liquidity
- This will make it harder to track an index closely, and more costly (e.g. brokerage).
- The fund may not want exposure to illiquid shares if assets need to be redeemed to meet benefit payments.
- Due diligence of companies by active manager with knowledge of countries with poor governance structures may be essential to avoid costly mistakes.
- The advantage of passive is that it gives you quick, easy and low-cost exposure to the “emerging market” theme.

### **Local Bond Portfolio**

- Passive strategy is expected to be cheaper as no active manager is required for this

- A market-cap weighted all-bond index is likely to be dominated by government stocks, and this excludes opportunities to enhance return by holding credit instruments.
- An active strategy may therefore be a better option (in order to enhance returns).
- A credit index may be hard to replicate (at reasonable, or any, cost) if stocks are not liquid.
- Credit issuers in the index may be the largest borrowers on the market which may lead to the fund not being adequately diversified by credit risk.
- Bond index tracking is more complicated than equities due to liquidity, structure etc. which could make active investing more attractive.
- Active management may provide opportunity to generate alpha from policy and anomaly switching (and yield curve views) but given the developed market such opportunities are likely to be limited.

### **Listed Property portfolio**

- Active or passive could both be appropriate for the fund, depending on the availability of suitable indices.
- Passive is likely to be cheaper depending on the depth and liquidity of the sector.
- Property investment is usually a small component of a fund, in which case the decision to be active or passive is relatively less important.
- Such a small sector may not warrant the effort, fees and governance of active management.
- As with other asset classes, the presence of any inefficiencies in the sector make it possible for specialists to add alpha.
- An active portfolio would be less diversified and likely to be more volatile than a passive sector portfolio.

### **Developed equities**

- Passive is most likely to be appropriate due to markets that are mostly well-researched and efficient and hence little potential to add alpha.
- Many passive funds offered on developed markets which means that fees are competitive.
- Huge markets with myriad companies – very time consuming to research all, and associated costs involved in active management tend to be high.
- As a result it can be very difficult for active strategies to beat passive ones after costs are taken into account.
- A range of instruments (ETF's, derivatives, index tracker funds) should be available to track the index closely at low cost.
- On balance the cost benefit of passive would outweigh the potential for alpha.
- Passive makes it difficult to implement ESG considerations as part of the investment strategy (aside from proxy voting).

#### ii. Global Custodian Services:

- Global custodian may appoint sub-custodians in countries where it does not have a presence.

- Or work directly with the Central Securities Depositories (CSD) in a country.
- Pension funds usually appoint an independent custodian for governance reasons, to ensure that the financial instruments are housed under a proper system that permits for proper purposes with proper authority.
- Must be able to independently account for financial transactions related to the fund's assets.
- Tax collection and recovery (for double taxation agreements).
- Cash management – the custodian would maintain a list of foreign bank accounts held by the fund and monitor and reconcile cash movements in these funds as a result of settlement, corporate actions, dividends etc.
- Arrange execution and settlement for securities trades across all geographical markets and asset classes, and
- Perform foreign exchange transactions for trades between different markets.
- The pension fund may wish to undertake stock lending on its underlying assets in order to earn additional returns. Custodians generally offer a service whereby they facilitate stock lending between clients– usually for an additional fee.
- Proxy voting- can attend meetings and cast votes on behalf of clients according to their instructions.
- May also perform certain compliance functions/reporting for an additional fee
- Collection of income.

iii. Main issues to consider:

- Cost vs services provided, and how this compares with other custodians.
- Transfer issues i.e. transferring existing book to the new custodian – e.g. timeframes.
- Range of services offered e.g. income collection, cash management.
- How the custodian operates globally e.g. through sub-contracts with local custodians or directly with the Central Securities Depositories.
- Corporate structure e.g. capital adequacy, approach to operational risk.
- Systems and procedures in place to combat fraud.
- Credit rating of the bank which is acting as custodian.
- Whether the custodian has regulatory approvals needed.
- Size of the custodian in terms of assets under administration.
- Whether systems needed to integrate/communicate effectively with the fund's investment managers (who will instruct transactions on the fund's behalf) are in place.
- Level of expertise/experience and track record (esp. for emerging markets).
- Must provide services in arrange of emerging markets of have appointed sub-custodians.

iv. Possible approaches:

- Ask the managers to vote on their behalf and in line with managers' own policies.
  - In this case the objectives of the managers may not always be how the fund would vote and relevant issues may not be the same – the trustees

- would need to examine manager policies more carefully before choosing this option.
- However this would be the easiest and cheapest option.
  - The fund does its own voting
    - The fund will need to come up with a set of broad guidelines of how it feels about certain issues e.g. director remuneration.
  - Trustees can vote on each holding themselves
    - This is not that practical as they may not have the expertise to apply the guideline and they are likely to hold many shares so this will be very time consuming.
    - The voting can be limited to the largest holding where there is more of a chance of influencing the outcomes.
  - Can appoint a specialist proxy voting service
    - This will come at a cost and may still be time consuming.
    - Can be assured voting will happen in the way you wish to vote.
    - Provide guidance on unusual or contentious issues.

*Poorly answered in general – mostly due to not reading the question properly and not identifying the instruction verbs.*

*For part (i) many responded by giving the general investment merits of the different asset classes, not discussing them in terms of active or passive. Alternatively students provided a general list of points on active versus passive without applying these to the assets proposed. Most students did not generate enough points for 12 marks. For the property component many students missed the important point that an index of LISTED property companies was proposed and discussed direct and indirect property indices.*

*For part (ii) most students knew the standard list of functions of a custodian, but hardly any provided the points relating specifically to global custodians (covered in the bookwork) – credit was limited if these points were excluded.*

*Part (iii) attempts were better and most identified at least half the considerations.*

*Part (iv) was very poorly answered. Students displayed poor understanding of proxy voting. Many provided suggestions for incorporating governance issues in stock selection and a number of students suggested delegating voting to the custodian in contradiction to the bookwork. Those who answered correctly usually only listed the options without a discussion of the relative merits of each (i.e. ignored the verb ‘discuss’)*

**END OF PAPER**