Actuarial Society of South Africa

MARKING SCHEDULE

October 2020

Subject F205 - Investment

Fellowship Applications

This paper was again written under unusual circumstances as a result of the COVID-19 prevention measures. Candidates completed the exam online via a platform provided by ASSA. The exam setting and marking process was, however, largely able to be undertaken as normal. The exam session presented no significant incidents as a result of the online process, and candidates' submissions, although not written in the usual word format, were found by the examiners to be straightforward to mark.

This paper comprised three questions in the usual format. The exam again consisted of a number of shorter sub-questions with smaller mark allocations compared to diets from earlier years. It was felt that this exam was more approachable than usual as (particularly for question 2) there were many opportunities to score marks. There were also a number of "list" type questions which are easier to score marks on.

The exam also examined a broad range of the reading material and required candidates, in many instances, to be familiar with recent investment industry and market experience.

A couple of very well answered scripts were received, with a handful of papers in the region of the pass mark. The average mark for this exam was slightly than previous sessions, reflecting the comments above. There was a higher number of FAs than usual with most remaining candidates scoring an FB.

Please note that this examiner report presents one possible model solution to the questions. Alternative solutions provided are considered and marks awarded where correct points are well motivated.

QUESTION 1

Examiner comments :

This question required candidates to be aware of recent developments in the bond and gold bullion markets as a result of the global and local impact of COVID – parts (i) and (iv). For part (i) many candidates were aware that the curve had steepened but were unable to provide specifics around the level of the yield curve at different points. This level of detail is assumed for F205. Part (ii) required a high level understanding of different types of institutional liabilities and how these are impacted by bond yields. Candidates scored poorly on the banking component suggesting this area of the reading material is not being adequately studied and understood. Surprisingly the pension fund liability was also poorly handled with candidates failing to consider DB vs DC funds – missing out on easy marks. Part (iii) was poorly handled, with the average candidate scoring in FC territory. Candidates managed to identify adding credit or increasing duration as options but failed to develop their discussion to score the required number of marks. Parts (iv) and (v) were generally adequately answered but part (vi) again dragged candidates' overall marks for this question down. This was disappointing as this question had come up, in a different format, in an older exam.

(i)

- The SA yield curve is upward sloping and
- has steepened with:
    - short end falling sharply
    - but long end rising
    - SA has one of the steepest yield curves among emerging markets

Short end:

- Short term interest rates have fallen:
    - The SARB has cut the REPO rate by 300bps since the start of 2020 (from 6.5% to 3.5%)
    - For example, 3-month JIBAR has fallen from ~6.8% a year ago to ~3.4% today
- Covid pandemic has resulted in large cuts to economic growth (SA GDP likely to fall by more than 7% in 2020). The economy was already weak going into the covid pandemic. There have been many job losses which will depress demand further.
- The weak growth and demand outlook has reduced inflation expectations in the short term. Also:
    - Better weather leading to good expected harvests has restrained food inflation
    - Oil prices fell sharply (have partially recovered)
    - The depreciation of the rand will offset some of the deflationary pressures
- Inflation prints have been low (at or below the bottom of the SARB target band) and SARB's forecasts continued to moderate prompting the SARB to cut rates

Long end:

- the SA 10-yr government bond yields ~9.1% (roughly flat YoY) and the 30-yr yields ~11.4% (up from ~10% a year ago)
- Government is set to run large budget deficits (14.6% of GDP for coming year) for next few years to
    - fund revenue shortfall (R300bn) (2% yoy collapse)
    - and expenditure rise (in excess of inflation)
- Government will need to borrow to finance this deficit and the borrowing requirement is very large (almost 16% of GDP)
- The steepening yield curve reflects the heightened credit risk associated with the higher borrowing requirement and over debt levels
- Higher supply of bonds means higher yields.
- IMF is partially helping fund the deficit
- Debt to GDP expected to rise from 63.5% to 81.8% in a year
- Some investors worry SA is on the path towards a debt spiral (where it ultimately is unable to service its debt)
- All 3 major ratings agencies have downgraded the SA sovereign credit rating to sub-investment grade with stable to negative outlooks
- Heightened risk aversion in global markets resulted in offshore investors selling SA government bonds, depressing prices and increasing yields
- The above also poses inflationary risks in the longer term

(ii)

a.

- Immediate annuity liabilities generally have long duration (person buying annuity at age 60 could be expected to live for another 30+ years)
- Life co's usually matches these liabilities with long duration bonds
    - Sometimes assets of sufficient duration are not available (so life co might use interest rate swaps to increase the duration of the asset portfolio)
    - Swaps are also used together with FRN's, SOE and other debt – how have these spreads moved?
- The steepening yield curve will result in higher discount rate for calculating value of these long-tailed liabilities so value of liabilities will fall
- Similarly, higher bond yields will result in a fall in long duration bond prices
- Depending on whether the duration of the liabilities is longer than that of the assets, this might result in liability values falling more than asset/bond prices
    - Result in reserve release and profit for life co (or vice versa if liabilities have a shorter duration than assets)
- Higher bond yields will make purchasing fixed rate life annuities more attractive as:
    - life companies can offer higher immediate annuity rates
    - lower cash rates makes holding cash in bank a poor investment choice for clients at retirement
- It is unlikely that higher bond yields will make writing each unit of new business significantly more profitable; as South Africa has a competitive fixed rate annuity market.

b.

- SA bank liabilities are mostly short duration (customer deposits and NCD's)
  - The interest rate paid on these liabilities is low (sometimes zero for certain bank deposits – called lazy deposits) and often JIBAR linked (eg variable rate NCD's)
- SA bank assets (loans to customers):
  - are of longer term (like mortgages and car loans)
  - but attract interest rate closely linked with short term rates (prime interest rate)
- A falling short end of the yield curve is bad for banks as the interest rate earned on assets falls more than the interest cost on its liabilities (called the endowment effect). This results in a falling net interest margin
  - The rates earned on assets also fall faster (prime linked loans reset immediately) while the rates paid on certain liabilities (like NCD's which are JIBAR-linked) reset more slowly (JIBAR is a 3-month interest rate)
- Ceteris paribus, this may be offset by lower bad debt experience (as lower interest rates mean customers' cost of servicing debt falls)
- Although the SARB may be lowering short term rates in response to weak economic growth which is not good for consumer health (ie higher unemployment, lower wage growth), the market (yield curve) predicts a sharp rise in rates, which would result in net interest margins increasing down the line. **Ceteris paribus**, whether this is bad for banks (as measured by share price) depends on how the market weighs up the short-term losses against the long-term gains.
- A steeper yield curve also makes traditional lending to customers possibly less attractive. For example, a bank can lend to the SA government by buying a 10-year government bond yielding ~9% (with zero credit risk) compared to giving a mortgage to Joe Blogs to buy a house which will yield ~7% currently (albeit that this is linked to prime) and which comes with credit risk.

c.

- This would depend on the type of fund – DB or DC
- For a DC fund liabilities equal assets, and the bond component of the assets would likely be managed by a bond manager
  - Hence the impact on the MV of the bond portfolio and members' fund values would depend on the relative positioning of the managed bond portfolio.
  - Likely that the duration of the bond portfolio would not be too far from the ALBI benchmark, so a steepening yield curve would have resulted in a fall in value for the bond portfolio
- For a DB fund the value of the liabilities will most likely be calculated using the bond curve or bond yields of a certain duration to discount expected cashflows.
  - The steepening bond curve should therefore result in a fall in the value of the liabilities.
- The impact on the surplus of the DB fund will depend on the structure of the asset portfolio and the degree of matching
  - Where a managed bond portfolio with ALBI benchmark forms part of the assets, one may expect the value of these assets to fall by a smaller degree than the longer dated liabilities.

- At the other extreme where liabilities are fully matched using a bond portfolio, the change in the shape of the yield curve should result in little or no impact on the fund surplus depending on the ability to hedge the very long tailed liabilities.

(iii)

- Increase term:
  - Money market instruments generally have terms to maturity less than 1 year
  - Fund could buy instruments with longer term to maturity to access higher yields available further out on yield curve
  - However, this increases the portfolio's duration (and increases interest rate risk)
    - If interest rates rise, these instruments will experience a higher capital loss than shorter term instruments
    - The rise would need to be higher than that priced in; for that strategy to lose vs shorter instruments.
    - Trustees need to consider overall portfolio duration and ensure extending term of money market portfolio does not push overall fund duration to unacceptable level
- Take on additional credit risk:
  - Money market instruments are issued by governments, parastatals, banks and other companies
  - Government paper is considered to have the lowest credit risk but pays the lowest yield (although the swap curve actually lies below the yield curve at the moment)
  - The fund could reduce the proportion of government paper and big 4 bank exposure held in favour of increased exposure to money market instruments issued by smaller banks/corporate.
  - This may result in a higher yield but come with increased credit risk (and thus capital loss)
  - The risk budget/tolerance on the money market portfolio in a pension fund is very low so trustees need to consider what the max credit exposure should be
  - Consider limits on single counterparty exposure
  - Consider regulatory and mandate restrictions
- Reduce cash/money market exposure in favour of other asset classes:
  - A high cash allocation in a DC pension fund may not be optimal in the long term especially when cash is earning sub inflation returns and members have long investment horizons

Further considerations include :

- Possible need for member communication around any changes
- Consulting experts for advice on any changes made
- If taking on credit, take care with concentration risk across cash and fixed income and equity portfolios
- Liquidity impact of changes made to the cash portfolio
- Are there any mandate restrictions that apply?
- Offshore money market portfolios may offer higher rates but addition associated risks must be considered

(iv)

- $ price of gold has risen but ZAR has also materially weakened over the period so the rand gold price is up even more than the $ price

The price of gold is a function of supply, demand and sentiment (with feedback loops); which are influenced by:

- Gold is seen as a store of value (especially during times of financial distress)
- There are fears that central bank money printing (quantitative easing) will lead to currency debasement and ultimately inflation (perhaps even hyper-inflation). In such a scenario, investors seek out refuge in real assets like gold
- Gold price tends to rise when investors anticipate a rise in inflation
- US real yields have fallen to historic lows (and are negative):
    - As a result of the large liquidity surge from the Fed (buying billions of dollars of bonds)
    - US real yields and the gold price track each other closely (inversely)
    - the opportunity cost of owning gold (i.e. gold not paying any income) has become less of an issue. In other words: when safe assets like US Treasuries effectively pay a negative return, gold therefore becomes that much more attractive
    - Falling real yields in the US have weakened the dollar (against a range of other currencies). A weaker dollar is associated with a stronger $ gold price (gold becomes cheaper in other currencies)
- The massive fiscal stimulus in the wake of the Covid pandemic has resulted in government debt levels rising dramatically
- Financial repression, where rates are held at low rates by central banks, mean investors will be forced to lend to government at low rates (even negative real rates). Gold holds its value in real terms so is a haven in such scenarios
- Gold is seen as a safe haven asset. The uncertainty around many of the following issues has boosted gold's desirability:
    - The Covid pandemic has unsettled investors
    - Uncertainty surrounding the economic recovery following the Covid pandemic. Unemployment in many countries has spiked and company earnings have been hard hit
    - US-China tensions
- Record ETF inflows have boosted the demand for gold which has pushed up the gold price
- Supply is relatively inelastic: gold miners cannot bring significantly more gold to the market in the short term when demand is high
- Speculation: there has been lots of media coverage which has created some hype

Some additional points(would not expect students to know this level of detail)
Gold is difficult to destroy; and the above-ground supply increases by only about 1.5% of total gold pa. (through mining less that which cannot be recycled). So, what mainly happens in the gold market is that the stock of gold is traded between inventories held as (all these can be both sources of supply and demand):

1. *Jewellery*
2. *Central banks*
3. *Bars, coins & ETFs*
4. *Industrial use*

Whoever is the marginal buyer and marginal seller in those groups determines the price.

The following supply & demand figures stood out recently:

- *Mining and recycling operations disrupted during the COVID crisis. Mining supply hit a 7 year low in Q2 2020; and the supply of recycled gold hit a multi-year low.*
- *Net demand for jewellery halved in the first 6 months of 2020, as a result of the COVID pandemic's impact on economic growth and lockdown measures.*
- *There were also significant falls in the demand for gold for industrial purposes in the first half of 2020; with the levels of industrial demand over the last decade.*
- *The first half of 2020 saw a large increase in demand for gold for investment purposes.*

(v)

- Real asset: over the very long term gold has proven to hold its value in real terms (it is known as a store of value). This is a good match for pension fund liabilities.
    - However, in the shorter term gold can underperform inflation for extended periods of time
    - Even over the longer term, an investor who bought gold at the peak in 1980 would have to wait 27 years (until 2007) to get his/her money back in nominal $ terms
    - For ZAR-based investors this is less of a concern as the rand has historically depreciated against the dollar to the extent that rand-gold has generated real returns over most 5 year periods
- Gold can be viewed as a currency in itself. The pension liabilities are ZAR denominated so potential mismatch but some diversification by currency is desirable for a pension fund
- Term: gold can be seen as a perpetual zero coupon bond with no default risk. Gold has held its value for thousands of years. Pension funds have long terms so gold is a good match
- Gold pays no income to an investor. Pension funds require income so this is not ideal. However, a limited allocation to non-income generating but capital appreciating assets is suitable.
    - Gold is also very liquid and easy to convert into income
- Liquidity: gold is traded internationally and there is a highly liquid market for gold so the investment can be sold easily
- Traditional valuation techniques for other assets (like DCF) do not work with gold as gold pays no income
    - Gold is only worth what someone else is willing to pay for it ie intrinsic value is the market price. So it is difficult to place an objective value on gold.
    - Because of the relatively low amount mined each year (compared to the gold in existence) marginal cost analysis to determine a fair price may not be appropriate
- Gold is uncorrelated/negatively correlated to other asset classes. Adding gold to a traditional balanced fund may enhance the risk adjusted returns
    - Can be seen as an insurance policy, when uncertainty causes equity markets to fall, gold has been known to outperform as a safe haven
- Regulation 28: commodities are recognised as a separate asset class and are limited to 10% of total fund. The entire 10% commodity limit can be invested in gold, whereas all other commodities are limited to 5% per commodity
- Further issues revolve around storage, insurance for physical bullion versus management fees and other "leakage" if the ETF route is followed.

(vi)

- The Reg 28 equity allowance could be used to increase exposure to gold to beyond the 10% allowed directly
- Gold company profits are geared to gold price movements in short term: a large part of the cost base of miners (like staff) is fixed in the short term so increases in the price of gold result in higher percentage increase in profits.
    - This could result in shares of gold companies outperforming the gold price
    - But conversely if price of gold falls sharply, the share could underperform gold
- Over the longer term, gold company share price performance has generally underperformed the gold price as cost increases (due in part to decreasing ore reserve grades) have exceeded the rise in the gold price
- Gold companies are also capital intensive (require a lot of capital expenditure) so cash returns (free cash flow and dividends) to shareholders are inferior to other companies
- Capital allocation at many gold mining companies has been poor and value destructive over time
- Share market is forward looking:
    - despite spot gold price rising, the equity market might look past this and discount lower future profits and hence gold shares might underperform a rising gold price (and VV)
- South African gold miners do not compete well globally as the remaining gold is deep and expensive/risky to mine)
- Hedging strategies can delink the current performance of the company from the current gold price
- Other factors impacting the total return from gold shares other than the gold price:
    - Idiosyncratic issues like management, ore body, costs, politics
    - These might have an impact on the rating of share (PE, dividend yield)
    - general market sentiment impacts share prices
    - many mining companies are not exclusively gold mines, e.g. they may mine uranium as well.
    - The extent to which above issues are in the price of gold already

QUESTION 2

Examiner comments :

This question focused strongly on incorporating ESG considerations into an investment strategy from a South African Investor's perspective. This is a highly topical issue in the South African institutional investment industry and one which investment actuaries will certainly face in the workplace. This material had, again been examined in a similar way in older exams and the examiners therefore expected higher marks from candidates. We were surprised at the poor response to part (i) as this required basic bookwork/knowledge pulled from relevant sections of the notes. Candidates in many cases failed to distinguish regulation from guidelines and codes of conduct. Scores for part (ii) were very high, as expected, with a large number of options available. Parts (iii) and (iv) were poorly answered despite the large opportunity to score marks – especially for part (iv). The main reason behind the low marks for part (iv) was not the ability to identify the key issues but rather failure to develop the discussion of these in order to generate enough marks. We expect candidates to be able to answer this type of question on portfolio management to a reasonable high level of detail. For part (v) candidates did not read the question carefully and did not appreciate that the manager had already been appointed and that initial due diligence type questions to pose to the manager were no longer that relevant. The focus needed to be on performance from an ESG perspective and changes to the ESG process.

i. Describe the various regulations around ESG for a South African Pension Fund

Regulation 28
Guides behavior of trustees on issues such as ESG
Requires pension funds to consider ESG issues when selecting assets
Fund should address ESG in their IPS and explain the approach they have adopted

PF 130
Encourages pension funds to consider SRI but the primary objective remains achievement of optimal returns.
Provides guidance as to what SRI issues should be considered in Asset manager mandates
Recommends a suitable voting policy and SRI policy should be formulated
This circular is pending revision

Also award marks if King III/IV is listed with a descriptions of how this applies to a PF

Award marks for other industry developments not included in reading material such as FSCA Guidance note, 2019. "SUSTAINABILITY OF INVESTMENTS AND ASSETS IN THE CONTEXT OF A RETIREMENT FUND'S INVESTMENT POLICY STATEMENT"

ii.

This list is not exhaustive and marks were awarded for a range of other points mentioned.

Environmental:

- Carbon emissions
- Energy efficiency
- Air and water pollution
- Waste management & Recycling
- Biodiversity impact
- Deforestation
- Water resource management
- Green building implementation
- Financing projects in environmentally sensitive areas
- Financing for contentious products and services
- Nuclear issues

Social

- Job creation
- Upskilling of staff
- Reducing racial and gender inequalities
- Customer satisfaction
- Labelling (e.g. GMOs)
- Entrepreneurship development
- Community development
- Social service provision
- Health & safety record
- Labour standards
- Human rights
- Animal testing
- Weapons sales
- Fast food & beverages
- Predatory lending
- Poverty alleviation
- Education

Governance

- Board composition
- Executive compensation
- Whistleblower schemes
- Political contributions
- Aggressive accounting practices
- Transparency
- Auditing policies
- Litigation track record
- Ethics
- Corporate governance
- Separation of roles
- Remuneration
- Sustainability reporting
- Corruption

(iii)

Environmental

- The most important climate change risk is increased temperature; and in particular its impact on decreasing rainfall. Climate change is likely to have a worse impact on already-warm countries like South Africa. Lack of water has a multitude of impacts:
    - This will have a negative impact on countries with a large agricultural industry like South Africa; especially given much of SA's crop production is already marginal. It impacts not just the developed commercial farmers, but South Africa also has about 2 million subsistence farmers.
    - The capacity to live in certain areas. Cape Town in particular, which narrowly avoided its day zero, has shown the risks of running short of water.
    - Some parts of South Africa, like the Western Cape, already suffer from numerous fires, and there will likely be an increase in fires.
- Rising sea levels as a result of increased temperature melting the polar ice caps, pose a larger risk to countries with long coastlines, like South Africa.
- This may cause migration; South Africa has felt this before when crops failed in countries on its periphery.
- The increase in heatwaves may increase South Africa's already high mortality rate.
- Because of its heavy reliance on coal, South Africa is a large emitter of greenhouse gases; with Eskom and Sasol being particularly large role-players; and susceptible to being part of the "carbon bubble"; with the risk of large losses of value.
- South Africa already has a carbon tax, and this is likely to increase; and along with it the price of electricity.
- Fuel prices might also be affected as SA is a net importer
- Climate-linked natural disasters would cause losses for South Africa's well developed insurance industry, increases in insurance rates as the frequency of disasters increases, a resultant reduction in insurance in affected areas and limited financing for reconstruction from physical damage; with knock-on effects to many sectors, e.g. fewer bank loans to farmers.
- South Africa's abundant sunshine offers opportunities for solar energy generation and industries like urban rooftop solar booming.

Social

- Unemployment is a huge problem in SA, with around 30% unemployed; which makes job creation a pressing social need.
- Coupled with unemployment is the fact that most of the unemployed are unskilled, dramatically reducing their chances of getting a job and earning a living wage. Upskilling is a critical need, and companies can contribute by investing heavily in the training and development of their employees.
- Inequalities:
    - South Africa has massive racial inequalities, as a legacy of apartheid.
    - South Africa has large gender inequalities.
    - South Africa has one of the worst Gini coefficients in the world, reflecting the stark disparities between rich and poor.
- South Africa's labour force is strike-prone, and it is risky for companies to poorly treat their staff, e.g. through poor wages.
- Xenophobic attacks and fees must fall protests; indicate to us how in SA issues can spark civil unrest.
- South Africa has a significant Muslim community, who have a requirement for Shariah compliant investment funds.

- With a large segment of its population HIV+, there is a need for initiatives in combating HIV/AIDS.
- With its large mining sector, health and safety is a critical factor.
- Opportunities for low cost schooling especially in rural areas
- Poverty alleviation such as community shopping centres in undeveloped areas
- Listeriosis outbreaks with Tiger Brands and Rainbow Chicken indicating the importance of health & safety.

Governance

- Corruption is an ever-present significant problem in South Africa; (witness those implicated with the COVID-19 funds); and the antidote to it is good governance. Companies relying on government connections for contracts are high risk.
- With South Africa's high crime level, there is an elevated need for financial security systems.
- Many investors in SA are still struggling to make the leap to taking ESG considerations into account and governance may be the easiest starting point.
- There needs to be transparent and complete disclosure (a governance issue) to be able to assess the contribution to alleviating South Africa's enormous social and environmental considerations.
- Company fraud and Accounting irregularities at Steinhoff and Tongaat Hulett show the importance of corporate governance.
- Executive remuneration practices and linking rewards to medium and longer term deliverables

(iv)

ESG factors can be used to select better-managed companies that can mitigate risks and exploit opportunities stemming from key ESG issues.

It has been more common to process ESG factors through qualitative analysis, but investors are increasingly also quantifying & integrating ESG factors into financial forecasting & company valuation models, in alignment with other financial factors.

In assessing fair value, managers can **adjust forecasted financials** (such as revenue, costs, capital expenditure and tax rates) and company valuation models for the expected impact of ESG factors; e.g.:

- ESG factors can be integrated into revenue forecasts by increasing or decreasing the company's sales growth rate by an amount that reflects the level of ESG opportunities or ESG risks. For example:
    - ESG factors impact on economic growth rates as a whole, but some are more material to particular sectors.
    - A carmaker may stop selling a particular type of car in a particular country due to environmental concerns, which is estimated to reduce sales by X% annually.
    - Sustainable workplace practices like fair treatment of staff can help competitive positioning. For example, there may be concerns about a company's treatment of labour (e.g. poor wages and overtime), or even the

treatment of labour in a company's supply chain (e.g. child labour); and the public controversies reduce sales.
    - If an oil and gas company's assets are considered likely to become stranded, then sales will dry up.
    - A company with poor BEE ratings may see itself losing contracts or failing to secure new contracts.
- Assumptions may be made about the influence of ESG factors on future operating costs and they are either adjusted directly or the operating profit margin is adjusted. For example:
    - A chemical company's operating cost estimates may be increased for the additional anticipated cost associated with new legislation on toxic waste.
    - There may be increased costs as a result of a steadily increasing carbon tax.
    - Companies treating staff fairly may be less at risk from wage increases and strikes.
- ESG factors may lead a company to increase their capital expenditure; for example:
    - all ship owners may be required to upgrade their ships to meet new environmental regulation.
    - Car manufacturers may need to increase their R&D budgets to comply with more stringent emissions regulations, and may need to shift their focus to greater electrification.

Some managers adjust the **discount rate** used in company valuation models to reflect ESG factors like corporate governance. One approach is to rank companies in a sector using ESG factors, and then adjust the discount rate for the relative ESG risks. The approach of adjusting the discount rate may account for factors such as labour practices, management quality, accounting, data security (a bigger issue in some sectors, e.g. banking) and other governance factors.

An **exclusionary** screen may be used to filter out certain investments (e.g. gambling), or inclusion in the JSE SRI could be a prerequisite.

Scoring and raking of companies based on ESG criteria can also be used as a factor in developing a list of companies for prospective investment

- The scoring can depend on a range of ESG factors (such as those in part (ii))
- This information can be sourced (and paid for) from external third party providers.

Quantitative (quant) managers can construct models that integrate ESG factors alongside factors such as value, momentum, growth and volatility. The quant models can identify correlations between ESG factors and price movements that can generate alpha and/or reduce risk. The two main approaches are to either adjust the weights of securities ranking poorly to zero; or adjust the weight of each security.

With **smart beta** strategies ESG factors and scores can be used as a weights in portfolio construction to create excess risk-adjusted returns, reduce downside risk and/or enhance portfolios' ESG risk profile.

Passive investment strategies to weight securities according to material ESG factors (or exclude securities based on material ESG factors).

Shareholder engagement. Discussing specific ESG issues as part of engagement with companies in an attempt to influence them, or via proxy voting according to ESG principles. For example, engagement with a company about its poor treatment of workers (e.g. poor pay and overtime), may reduce the risks of strikes, improve the reputation of the company, enhancing its brand and leaving employees more satisfied and productive.

Two common options for **structuring teams** are:

- Integrated investment teams where portfolio managers and investment analysts conduct the ESG analysis and integrate it into overall investment analysis and decisions. Portfolio managers must allocate time to researching ESG issues.
- An ESG team conducts the ESG analysis, which the investment teams integrate into overall investment analysis and decisions.

(v)

Have there been any changes to your ESG integration process over the reporting period (e.g. additional resources, information sources)? If so, why? Which integration practices worked and have not worked over the reporting period, and why?

How have ESG factors impacted the composition of the portfolio?

What are some specific examples of how ESG factors have impacted investment decisions? What are specific examples of ESG factors contributing to buy and sell decisions? Are there any examples of instances where you chose one company over the other due to ESG considerations?

- What are some specific examples of valuations being adjusted due to an ESG factor. Please give the valuation of the companies with and without considering their ESG-related competitive advantages and disadvantages.
- What are some specific examples of major ESG risks that were identified in the holdings in the portfolio over the reporting period, and what was done to mitigate them? How have ESG factors impacted the composition of the portfolio?

The portfolio possesses a security with a poor ESG rating, security XYZ. Why is it in the portfolio?

The portfolio as a whole seems to have a high exposure to ABC ESG issue. Are you aware of that and how did you consider this ESG issue when analysing securities?

Have concerns over tracking error prevented you from divesting a holding with high ESG risks? Is so, what is a specific example?

Provide in-house or external broker research on ESG (e.g. environmental) issues that are financially material.

Give examples of how companies were influenced through shareholder engagement. Give examples of proxy voting taking ESG considerations into account. Question manager on any controversial voting on ESG companies.

Ask for the manager's PRI Assessment Reports and scores.

In addition to specific ESG related questions, to look for evidence of ESG integration in the non-ESG-specific questions – it needs to be embedded throughout.

Any evidence of increased returns as a result of the ESG process.

Question 3

Examiner comments :

This question again started with testing of bookwork relating to regulation of life assurers. Part (i) was not a swell handled as it should have been and it is always alarming when faced with a candidate who does not know the regulatory environment in which they expect to practice as actuaries. Parts (ii) and (ii), especially part (iii) were quite well handled. Responses to part (iv) were disappointing. Many candidates do not know what an absolute return fund is in a South African context which demonstrates a lack of relevant practical work-based experience. They did also not include some of the information on the yield curve (from Q1) in their answers.

(i)

The following regulations will be applicable to a South African life assurer:

- Financial sector regulation act – splits regulation into two authorities.
- Prudential Authority which regulates insurers (prudential regulation), and the
- Financial Sector Conduct Authority which is the market conduct regulator for financial institutions.

- TCF is a framework enforced by the FSCA to ensure that firms treat their clients fairly. Companies must demonstrate that they deliver six TCF outcomes.

- FAIS act – which regulates the provision of financial advice (recommendations, proposals or guidance) on financial products of the company to clients of the company.
- Financial products includes securities, CIS and insurance policies of the company.

- Insurance Act governs long term insurers, currently/recently replacing LTIA.
- The primary purpose of this regulation is to protect policyholders and beneficiaries.
- Provides a legal framework for the prudential regulation and supervision of insurance business.
- This act introduces new prudential regulations (solvency supervision) in the form of the Prudential standards and Prudential supervision reporting on the solvency position,
- Prudential supervision solvency reporting is based on the Solvency II regime implemented in Europe.
- Rules on determining solvency (including valuation of assets) are provided in the Prudential Standards
- The principle wrt assets is to give companies a great deal of investment freedom, with risk-based capital requirements to allow for the underlying risk of different assets.

(ii)

- Portfolio return series (at least monthly) for each manager and equity portfolio as a whole
- = Net and gross of fees
- Details of fee structures
- Benchmark – mandate, returns for TRI gross of tax – same frequency as portfolio returns
- List of benchmark holdings on a periodic basis
- List of fund holdings on a periodic basis (also monthly?)
- What is the stated underperformance measured against?
- Long term investment return assumption for equity building block – CPI+?
- Mandate – risk, limitations, fees
- Philosophy – type of fund
- Cashflows into and out of fund – timing and amounts
- Portfolio commencement date
- What and when did their managers take over – did they receive cash or a portfolio from different managers which still needed to be transitioned into the new portfolio (thereby affecting returns)
- Turnover
- Survey of peer returns for comparison
- Risk adjusted returns e.g. Sharpe ratio

(iii)

- Portfolio alpha – individually and combined
- Standard deviation of returns, drawdowns, negative deviation, (slight underperformance might be compensated by better downside protection, which would be relevant for a liability such as this)
- Tracking error as a measure of active risk taken by each manager, as well as tracking error for the combined portfolio
    - Tracking error per manager will give some idea of whether they are taking on too much or too little risk and should be compared against their mandate
- Active share – since tracking error is a historical measure, a cross-sectional measure such as active share can also provide information regarding the managers' positioning relative to the benchmark.
    - Historic measures of TE and Active share at the same date and when considered together can provide insight into manager behaviour; as well as the extent to which they are "cancelling out" each other's active positions.
- Combined portfolio performance must be assessed and correlation between managers considered to ensure portfolio construction is appropriate –i.e. that manager style should be complementary
- An analysis of factors affecting performance of each manager such as a Principal component analysis may also be useful to assess portfolio construction
- Style analysis must be undertaken to ensure managers have stuck to the style they are meant to be managing the funds

    - The portfolio performance can be assessed against style benchmarks in order to perform this assessment.
- Peer manager performance – this may be assessed using various industry surveys
- It must be recognized that the period is quite short (3 yrs) and it may not be possible to glean much from this analysis
    - Could consider extending the study to prior performance of the managers if they have run similar portfolios for other clients for longer

(iv)
Money Market :

- Provides capital certainty
- Very low returns especially at the moment – even negative real yields are a possibility as seen globally
- Returns will not be high enough for required contribution to return on shareholder capital
- Can help with their liquidity requirements

Short to medium dated conventional government Bonds:

- Stable asset values which can become quite volatile at the longer terms
- Currently yield curve is very steep so may be better to lock into yields at longer terms
- May be further steepening of yield curve – if situation worsens
- Not a real asset – will not provide real returns expected by shareholders
- Could extend to include credit but liquidity may become a problem here

Absolute return Fund

- Will aim to protect capital over the shorter term (eg 1 year)
- But still provides some exposure to the equity market – most aim to provide real returns in region of CPI3% over 3 year periods
- Again, is this enough for shareholder return on capital?
- Will need to pay fees unless skills are available in-house which is unlikely since equity portfolio management is outsourced
- Greater flexibility as does not invest in a single underlying asset class

Market Futures

- Will need to decide how much to hedge – what percentage
- Needs to be managed:
    - To make sure desired hedge ratio is maintained
    - And roll over as instruments mature
- Will need to keep some cash/liquid assets for margin
- Cross-hedging risk – differences between managed portfolio structure and index structure
    - Or alternatively avoid this by using singe stock futures which is onerous
- Can be unwound quickly if index future is used
- Highly liquid and cheap and easy to implement.