

EXAMINERS' REPORT

June 2026 examinations

Subject F108 — *Health, Social and Employee Benefits* 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.

Contributions

- Whether contributions made by an employer are treated as income for the member-employee
 - or as an expense for the employer
 - There may be regulation around upper limits for tax-deductibility, i.e. % of income, cap
- The exempt status of investments would be documented (income received, plus capital growth)
 - Together with guidelines for preventing abuse.
- Taxation rates applied to benefits
 - May differ by benefit form
 - Any exempt amounts/lump sums
 - Also consider tax on surplus, particularly used by employer

[Max 3 marks]

ii.

- Different requirements may be applied depending on the type of financial reporting required:
 - Supervisory
 - Reporting to members and beneficiaries
- Frequency of reporting
- Disclosure requirements
- Format of the required financial reports
- Actions that may be taken for non-compliance
- Consequences for demonstrating an underfunded position.
- Types of contingency reserves allowed
- Rules of operation for contingency reserves
- Maximum level of contingency reserves

[Max 4 mark]

Examiner comment: This question was poorly answered. In part i, too many students either did not know what EET meant or simply did not use it, leading to poor answers lacking specifics.

In part ii, common approaches, which did not gain much credit were to i) list elements that might be included in a financial report, ii) comment broadly on disclosure to members and iii) focus on the employer rather than the fund's reporting. Lastly many students mentioned/discussed the valuation basis, which is not relevant in a DC context.

QUESTION 2

i.

Aspect	Community Rating	Risk Rating
Definition (i)	All members of a defined group pay the same premium , regardless of their individual risk.	Premiums are determined based on an individual's specific risk factors gathered through underwriting (e.g., age, health).

[Max 2 marks]

ii.

Aspect	Community Rating	Risk Rating
Fairness	- Promotes solidarity, ensuring affordability for high-risk individuals/fair to society. - Can be perceived as unfair by low-risk members who subsidize high-risk individuals.	And vice versa
Exposure to Adverse Selection	Low-risk individuals may opt out due to high, uniform premiums.	Lower exposure as premiums align with individual risk.
Most appropriate context for use	Hence best applied in compulsory settings e.g. Social insurance and group risk	Voluntary purchase schemes E.g, PMI, MME cover, retail CI

[Max 3 marks]

iii.

Risk

- People can choose to hop to the government scheme if it offers better terms than their employer scheme
- These people could be higher risk themselves which is why their employer scheme was relatively expensive to begin with

Mitigation

- Regulation could allow for the application of late enrolment/joiner penalties or waiting periods for new joiners with an employer-alternative to discourage opportunistic or selective sign-ups.
- Use a risk equalization mechanism to redistribute funds between all insurers based on the risk profile of their insured lives.
- Have transfer windows in which people at employers can opt to move across and pricing would then be updated shortly thereafter for the updated risk profile.
- The government could introduce mandatory enrolment in their own scheme, people can then get additional cover from the employer

[Max 2 marks]

iv

Risk Explanation:

Many accidental deaths are work-related and having this sort of benefit not funded directly by the employer removes incentives for appropriate workplace health and safety.

So may find that employers with the highest rate of accidental deaths do not offer qualifying death benefits pushing these higher risk lives into the state scheme. .

If accidental deaths occur more frequently than anticipated then the costs are higher.

Which may erode financial sustainability.

Alternatively, the cost is passed on to members in terms of higher group rates.

Which can drive members with choice and lower risk work environments back to their employer scheme .

Leading to an insurance spiral .

Pushing up fixed costs (expenses) per member.

Although the extent of this effect depends on proportion of covered lives with no qualifying employer cover. .

Also the system is prone to fraud as doctors certifying the death may code other types of death as accidental..

[Max 3 marks]

Examiner comment: This question was not expected to be challenging for well-prepared candidates. The key issue in parts (i) and (ii) was that candidates equated community rating solely with South African medical schemes, resulting in an overly narrow interpretation of the concept. Overall, many candidates provided poorly worded or unnecessarily detailed explanations for the first two sub-questions.

For part (ii), many candidates focused only on either risk rating or community rating but failed to recognise that both concepts needed to be discussed in order to gain full credit.

In parts (iii) and (iv), many candidates misunderstood the scenario presented and confused the roles of the employee and employer. Others attempted to force discussions of community rating and risk rating into their answers, despite these not being the primary focus of the questions. In part (iii), many candidates identified valid adverse selection risks but provided vague or absent mitigation strategies. In part (iv), many candidates listed every risk they could think of rather than applying their knowledge specifically to the scenario presented.

As expected, candidates who used clear structure and point form generally performed better than those who did not. This question serves as a reminder that bookwork and application are often integrated within a single question, and that students must think about concepts more broadly than only within the South African context.

QUESTION 3

i.

- Structure of the retirement benefit – how are benefits calculated
 - For example, is there a spouse/dependant benefit which increases the term
 - Structure of other benefits such as death benefit etc
 - As a large death benefit would reduce the term
 - Whether the Fund is open to new members or closed, and where the Fund is in its lifespan/lifecycle
 - If it isn't open to new members then it will have an ageing active membership base
 - And the longer it has been closed the older the membership and shorter the term.
 - The age profile of the active members and pensioner members – younger member base indicates longer term liabilities
 - Mix of active and pensioner members
 - more active members means more emphasis on wage inflation relative to pension inflation
 - Pension increase policy – do pensions in payment increase annually with inflation or level increases,
 - based on affordability versus guaranteed
 - Future interest rates and inflation – higher interest rates mean a lower discounted mean term and higher inflation means a longer term
 - It is also important to note that the reported liability is going to be sensitive to interest rates and inflation ie higher interest rates, lower liability values and higher inflation higher liability values (particularly if pension increases are linked to inflation)
 - This won't change actual cashflows but changes the nature of the reported liability
 - And if the benefits for active members are linked to salary/Future salary increases – higher salary increases result in higher future pension liabilities.
 - Pensioner and active member mortality rates will influence the term of liabilities
 - Length of service and/or normal retirement age will influence the term and level of liabilities
- [Max 3 marks]*

ii

- Local regulation and legislation would set out processes for deciding who the surplus belongs to
- In a DB fund, you would expect some of the surplus to belong to the employer as they bear most risks
- (and in the traditional perspective they would get all the surplus provided the benefit promises are met with adequate security
- However, this usually requires agreement from the trustees which would usually necessitate some payment to members)
- But some surplus may have arisen from members eg lower pension increases to members
- retaining a high level of surplus in the fund benefits the employer (lower risk of having to support the fund with capital or additional contributions)...
- but it doesn't necessarily benefit the members
- and also creates cross-generational issues for member-generated surplus
- meaning that the current generation of members doesn't benefit from returns earned by their contributions, if surplus is paid out to future generations

- Also need to bear administrative
- And cost/expense constraints
- Need to also consider impact on liquidity needs of the fund
- There may be a regulatory requirement to pay out surplus
- And excessive surplus in a DB fund can raise questions around tax avoidance by the employer

[Max 4 marks]

iii.

- If strategy was only invested in matching assets a surplus would be unlikely to arise
- It is possible for some outperformance by matching assets, but unlikely to be significant
{credit given for examples}
- The longer the liability term the more difficult it is to get a good asset-liability match
- Given that there has been a surplus for some time, this would have allowed the Board to take on more risk in the non-matching assets
- Non-matching assets would include equities, commodities, offshore assets, alternative assets, real estate {max 1 tick no matter how many asset classes mentioned}
- These would be expected to outperform matching assets/As non-matching assets have a higher risk premium and so would earn higher returns over time
- Such as bonds and cash
- Which would result in a surplus of assets over liabilities

[Max 3 marks]

iv.

- For a closed fund, $AAS_{tCR} > PUS_{tCR}$, and
- $PUS_{tCR} > EAS_{tCR}$
- The MCR will be smaller than the $StCR$
- Because the Fund is over-funded

[Max 2 marks]

Examiner comment:

Part i – Fairly well-answered overall

Part ii - Note that the question asked for the constraints and reasons for distributing surplus – it didn't ask for the ways in which surplus can be distributed, so those answers were not awarded marks.

Part iii - This was not as well-answered as expected. Marks were not awarded for saying that investment returns were higher than expected, as the question asked for how the strategy resulted in surplus building up.

Part iv – candidates needed to be clear on the relative sizes of the contribution rates. For example $AAS_{tCR} > PUS_{tCR} < EAS_{tCR}$ was not awarded marks, given that PUS_{tCR} should be greater than EAS_{tCR} (even though it is correct that AAS_{tCR} is greater than PUS_{tCR}). Though this was a standard bookwork question, answers showed that there isn't a good understanding in general of the relationships between the contribution rates.

QUESTION 4

i.

- Condition considered serious:
 - only include those cancers which have serious effects.
 - And cancers perceived by the public to be serious
 - And perceived to be commonly occurring enough for the product to provide peace of mind
- Clear definitions: ensure that the cancer can be well defined.
 - (and staging, where applicable)
 - Standard industry definitions may exist
 - Any poorly defined cancer/staging could result in unanticipated claims, or disputes at the claiming stage.
- Availability of data:
 - can only include conditions where there is data available for the pricing process.
 - Can use external data so long as suitable to target market/Data may be sourced from own data or externally from industry sources (less reliable)
 - Must also consider trends as diagnoses rates and treatment options change rapidly with cancer/Consider how advances in the diagnosis and treatment of cancers affects the feasibility of cover (and severity of the illness)
- Ability to manage anti-selection (*need to explain how this is relevant in a group context and to types of cancer to gain credit*)
 - E.g. Possibly problematic for industries with significant environmental exposure if not adjusting for this in pricing/excluding
 - Compulsory cover for all employees in the group can manage individual anti-selection/Similarly, an appropriate free-cover limit could reduce anti-selection/Having an 'actively at work' clause to qualify for cover
- Prioritisation/affordability
 - The more conditions that are included the more the cover will cost
 - And this market is usually highly price sensitive/Also need to consider affordability levels (since the cost of cover can effectively erode retirement savings)
- Group market usually highly commoditised
 - Consider what competitors are doing and how their definitions and extent of cover compare to what ABC is currently offering.
 - And the chosen conditions will need to be presented in such a way that it is understandable to the covered lives
 - Which in this market are often not medically sophisticated

[Max 5]

ii.

- Capping the sum assured, even with full underwriting
- Reducing the free cover limit/evidence of health limit
- Defining the sum assured relative to income levels (proxy financial underwriting)
- Having limited options or no options as to cover levels
- Waiting period before eligibility to claim (or making this longer)
- Tiered benefits for less severe cancers (or removing these from cover)
- Maximum age at entry to reduce the higher risk associated with people opting in at older ages

- Making cover compulsory for all members

[Max 3 marks]

iii.

- Group CI is written on an annually renewable basis so short-term techniques apply (no discounting)
- Statistical techniques would be used
- But may have some case estimates for reported but not settled
- Mainly run-off triangles for the IBNR
- Premiums are paid monthly so there is usually no UPR
- Although if there is significant seasonality/periodicity in claims may have a URR
- Would have an IBNR reserve where the claim event has already happened but the insurer is not yet notified
- And then would need a reported but not paid reserve
- May need some sort of reopened claims reserve/wouldn't need an IBNER because of nature of business/not tiered
- Would need to allow for expenses in the reserve
- Typically use best estimate assumptions plus risk margin (if market-consistent)*
- Or could use a more prudent basis if encouraged by regulatory regime

[Max 4 marks]

Examiner comment: Many candidates appeared to confuse treatment coverage and lump sum critical illness cover as well as failing to distinguish the characteristics of group coverage as compared to individual coverage.

Part (i) was reasonably well answered although a surprising number of students did not apply the key considerations for CI conditions.

For part (ii) candidates that did not apply group risk principles did not perform well.

Similarly, for part (iii) a large number of candidates failed to recognise the short-term nature of group cover and apply this in describing the approach to reserve calculations.

QUESTION 5

i.

- Target population may be riskier
 - E.g.– live in less secure environment – public transport, crime Or may just have a higher disease burden
 - In the primary care market where affordability is a challenge – its likely that those who need the cover tend to take up the product more whereas PMI products may have more people purchasing benefits to be risk averse /anti-selection – which is greater in low income groups
 - Smaller population which means more volatility in experience, so the 3.5% ,may simply be a prudence/risk margin
- [Max 2 marks]*

ii.

- Apply cap:
- To do this properly we would need individual claims data as the use of averages can mask some very high claims.
- Average cost per claimant = total 2024 PMI claims/Number of claimants and take min of this and \$500,000 per claimant

Age band	Average cost per claimant	Max \$500,000 cost per claimant
0-19	\$3.12m/ 12 = \$260,000	\$260,000
20-39	\$4.03m/ 31 = \$130,000	\$130,000
40-59	\$9.69m/ 102 = \$95,000	\$95,000
60-80	\$1.5m/ 10 = \$150,000	\$150,000
80+	\$2.64m/ 5 = \$528,000	\$500,000

[Candidates should be able to eyeball this so no credit given for calc]

- Cost for 80+ likely to be overstated..

Adjusted total Comp+ claims = capped average cost per claimant x number of claimants

Adjusted PLPM = Adjusted total PMI claims/ 12 / Average Comp+lives per month

Age band	Adjusted total 2024 Comp+ claims
0-19	R3.12m
20-39	R4.03m
40-59	R9.69m
60-80	R1.5m
80+	R500,000 x 5 = R2.5m

[Max -2 for not capping]

Age band	Adjusted 2024 PLPM
0-19	R3.12m / 12 / 4,520 = R57.52
20-39	R4.03m / 12 / 15,761 = R21.31
40-59	R9.69m / 12 / 8,990 = R89.82
60-80	R1.5m / 12 / 2,412 = R51.82
80+	R2.5m / 12 / 900 = R231.48

Calculate the expected cost for Basix:

Total expected cost per month = Adjusted 2024 PLPM x Average Basix lives per month

Age band	Adjusted 2024 PLPM	Average Basix lives per month	Total expected cost per month
0-19	R57.52	250	R14,380.53
20-39	R21.31	5689	R121,220.47
40-59	R89.82	4970	R446,415.46
60-80	R51.82	1341	R69,496.27
80+	R231.48	498	R115,277.78
Total		12,748	R766,790.51

Therefore the expected PLPM = $766,790.51 / 12,748 = R60.15$

(1)

Adjust for utilisation = $R60.15 \times (1.035) = R62.26$ *(for a rands and cents answer)*

Assuming 3.5% higher utilization is also appropriate for emergency care.

(2)

Assuming no adjustment for utilisation is appropriate because emergency care by definition is unanticipated and less subject to anti selection .

Solution: R60.15.

[If they do not adjust for utilisation and give no reason, max -1]

[Max 7 marks]

{Other reasonable assumptions about utilisation adjustment also allowed}.

iii.

- Provider A risk-adjustment factor = 1.15 implies that provider A has a cost that is 15% higher than the average.
- Provider B risk-adjustment factor = 0.96 implies that provider B has a cost that is 4% lower than the average.
- This implies that provider B has better cost efficiency and would be expected to have lower claims than provider A. Provider B would be preferred to provider A from a cost perspective.

[Max 1 mark]

iv.

TopHealth needs to also consider:

- Access – do both providers have good coverage across the areas that TopHealth's policyholders are based in. TopHealth needs to make sure all of their policyholders are well covered.
- Quality of care – do both providers provide good quality of care or does provider B compromise on quality to save cost.

- TopHealth will need to ensure a minimum standard.
- Treatment protocols – are both providers using the most clinically appropriate protocols when attending to emergency events or accidents.
 - Do these clinical protocols align to the approach the pricing is based on for this benefit.
- Range of services and professionals – a wider range of services from qualified professionals is preferred. This means TopHealth can include more services under the one arrangement.
- Financial position – are both providers in a good financial position as TopHealth would likely want to contract over a longer period and with a provider who is well managed.
 - This reduces the counterparty risk exposure as well as risk of higher than average price increases into the future.
- Reputation – policyholders will be more drawn to providers with favourable reputation and thus more likely to be happy to seek care from them.
 - This would make the benefit offered by TopHealth attractive.

[Max 4 marks]

Examiner comment:

Part i - Candidates surprisingly struggled to score marks on this question. Many gave generic points with very few applying themselves to the context given. Candidates needed to distinguish why their reasoning would apply to Basix and not Comp+. The question also noted that age, sex and chronic conditions had been adjusted for.

Part ii - This question was very poorly answered by most candidates. Very few showed their workings thus limited credit given. Many got confused – using annual figures instead of monthly figures. For example, using annual claimants divided by monthly exposure. Most candidates failed to incorporate any utilisation adjustment or even discuss the utilisation adjustment – despite it being provided as part of the question.

Part iii - This question was answered well by most candidates. Some candidates incorrectly interpreted the results the other way around – demonstrating a misunderstanding of the risk-adjustment concept. To get full credit, candidates needed to apply their bookwork knowledge to the details given in the question.

Part iv - This question was well answered by most candidates. Many were able to provide a number of distinct points. Limited credit was given to those who simply listed considerations rather than discussing them.

QUESTION 6

- i.
 - Pre-funded LTCI is taken out by persons prior to needing long-term care,
 - either in provision for themselves or for others, e.g. their parents
 - The insurer will receive regular premiums – most likely, monthly

- Although, a lump sum premium is possible
- Premiums are typically waived when a claim becomes payable
- Premiums may also be restricted to a specific maximum age, e.g. retirement age
- Premiums may be fixed,
- or more likely, increase in line with an index and increase in line with increasing risk (reviewable)
- The insurer determines these premiums to allow for the expected cost of claims, expenses, investment returns, reserve and their profit requirements.
- The benefits under the policy may take the following forms:
 - Cash benefit – lump sum or more likely regular income to be used towards the cost of care
 - The cash benefits may be guaranteed, or increase in line with an index
 - Indemnity – unlikely given the large uncertainty and risk to the insurer
 - Cash benefits are typically paid directly to the policyholder/insured, whereas indemnity benefits are typically paid directly to the provider(s) of care
- The benefit entitlement may also be reviewable, depending on policy wording
- Benefits may also include the following:
 - Assistive devices, e.g. wheelchair
 - Independent care advice
- The benefit can be structured as a rider or as an accelerator on another base policy, e.g. whole of life
- It is normally assumed that a person requiring long-term care will not recover
 - And any income benefit will be paid for life
 - Except if the benefit takes the form of an annuity certain
- The policy may be risk-only, or include a savings component, e.g. unit-linked
- On surrender, the policyholder may be entitled to a surrender benefit, depending on the policy wording
 - No further benefit entitlement (for care) after surrender and the policy is terminated
 - If unit-linked, the policyholder will be entitled to the unit fund value less a surrender charge on surrender
- A policy may also be made paid-up whereby premiums cease and cover/benefit entitlement is adjusted downward
- Upon death before a claim has become payable, the unit fund on a unit-linked policy will be returned to the policyholder's estate/dependants.
- If the LTCI is a pure protection policy, there will be no benefit on death before requiring care,
- Prior to benefits becoming payable, the insurer is likely to build up significant reserves, earning investment returns on the invested assets
- The benefit becomes payable once the benefit trigger/conditions are met,
 - E.g. failure of a number of ADLs or FATs
 - Or a mental impairment trigger

ii.

- The analysis of surplus needs to be broken down into the surplus components and then investigated separately
- For each item compare actual vs expected vs experience of the prior year's experience
- Claims experience
 - If significantly different to expected, sub-divide data by various risk factors to identify key drivers, e.g.
 - policy duration – could indicate if recent policies disproportionately affecting claim and requiring investigation into underwriting and sales practices
 - Age groups – are there particular age groups performing significantly out of line with expectations?
 - Distribution channels – may indicate if there are problems with any particular sales channel
 - Sum insured – may indicate which policies disproportionately affect the claims experience and whether underwriting sufficient given sum insured
- Investment experience
 - Segment investigation by asset classes and individual assets within classes
 - Could indicate under-performing asset classes which may be affected by economic or other variables
 - Or highlight a lack of diversification in asset class exposure
 - Or to identify particular assets performing poorly or over-exposure (lack of diversification) to certain specific assets
- Expense experience
 - investigate whether there were any once-off or large unexpected expense items, e.g.
 - Large capital expenditure or launching new product line or other expansion project
- Lapse experience
 - Segment lapse experience by factors as with claims – distribution channel, sum assured, age
 - Could indicate whether lapsing is selective in nature or,
 - Whether a particular distribution channel is mis-selling policies resulting in higher lapses
- Business volumes and mix
 - Changes in volumes could affect surplus, i.e. increases resulting in higher upfront costs/NBS
 - Reduction in volumes could affect level of overhead expenditure per policy, reducing surplus arising
 - Changes in mix by distribution channel, age, sum assured, etc. could also affect surplus give that these may affect lapses, claims, expense allocation, etc.

- Change in reserves
 - An increase in reserves, e.g. through higher sale of capital-intensive policies over the past year will result in a reduction in surplus arising in that period
 - These are very long-term policies so the reserves tend to be very sensitive to interest rate movements which may not be fully matched by assets
- Looking at surplus over a period of longer than 1 year may give better context of the relative surplus in the current year
 - A 1-year period may not be indicative of any trend
 - May simply be a random variation
 - Or the previous year, specifically may have been an abnormally good year
- External events will also be considered for their impact, e.g.
 - Regulatory changes such as changes to reserving requirements
 - Pandemics or other major health events that affect a significant number of people in the territory, etc.

[Max 7 marks]

Examiner comments:

Part i)

- *Surprising number of students seemed to focus on the cashflow part of the question heavily, often failing to adequately describe the operations of the LTCI product*
- *Many students didn't write enough for a 10-mark question*
- *Stronger attempts managed to explain how the LTCI product works and the different ways the premium and benefits can be structured*

Part ii)

- *The question clearly asked for the items you would investigate – many students stated the obvious movements (e.g. an increase in expenses) rather than the valid reasons for the increase e.g. large one-off costs like purchasing of a building*
- *A large number of students focused on inflation as a factor but the question is looking at a 1-year time frame. This is unlikely to play a part in the reduced surplus*
- *Tied to the above, many comments made by students would only be seen in trends much longer than a year. Very few if any attempts noted that the timeframe was very short to notice any trends or at least that a longer time frame was more appropriate to analyse*
- *Many students again did not write enough for a 7-mark question or merely listed items when the question was clear in saying "Describe"*
- *Overall students fared better in this part of the question than in part i).*

QUESTION 7

i.

- **Model structure**

- Identify the need for separate models for primary care, chronic meds, hospitalisation
- For the rest use Frequency $\times$ Severity (claims per life per year $\times$ cost per claim) framework
- **Data and assumptions**
 - Past claims experience (if any), industry benchmarks, data from HMOs
 - Provider pricing agreements
 - Chronic prevalence, network GP utilization/mix of primary and secondary, hospital admission rates
 - Mix of PMB and non-PMB in terms of the caps
 - Assumptions: Age/gender mix, disease burden, provider behaviour
 - Assumptions around non-healthcare expenditure (expenses)
 - Administration cost allowance (claims processing, network management, managed care costs, etc.)
 - Plus an allowance for investment returns
- **Margins**
 - Explicit risk loading for uncertainty and adverse deviation
 - Solvency margin
 - reserve build-up, given this is a start-up
 - Profit margin
- **Effect of provider agreements**
 - Global fee arrangements reduce cost uncertainty
 - Risk of provider over-utilization or under-servicing
 - Fee escalations and renewal terms affect projection assumptions

[Max 5]

ii.

- **Overutilization of network benefits**
 - Managed care interventions
 - Referral requirements
- **Pricing risk due to data limitations**
 - Conservative assumptions
 - Ongoing experience monitoring
- **Fraud and abuse**
 - Analytics
 - Provider audits
 - Whistleblowing channels
- **Regulatory risk**
 - Legal review
 - Ongoing CPD
 - Consultation with regulator

[Max 4 marks]

iii.

- Ensure that all actuarial advice and product design elements comply with the relevant Legislation and Regulations.

- Eg MSA, TCF etc
- Adhere to all relevant Professional Guidance Notes issued by relevant actuarial body.
- EG APN303, APN 901 or APN 904
- Ensure compliance with the Regulator's circulars or directives that may affect pricing, reserving, or disclosure.
- Present not only point estimates (e.g., expected claims, loss ratios) but also the range of possible outcomes, using:
 - Scenario analysis (e.g., high/medium/low cost trends)
 - Sensitivity tests (e.g., what if hospital tariffs escalate by 10% instead of 6%?)
- Clearly state all material assumptions (e.g., chronic prevalence, utilisation) and justifications for their selection.
- Would also want to highlight which assumptions are particularly critical
- Describe the degree of confidence in the model outputs, and caveat areas with high uncertainty (e.g., hospitalisation frequency for new markets, lack of historic experience).
- Avoid technical jargon when presenting to a non-actuarial Board. Translate uncertainty into actionable decision-support language (e.g., "there's a 1 in 5 chance of breaching the risk corridor in year 2").
- Make sure to point out both the advantages and shortcomings of the risk management strategies proposed
- And clearly highlight the risks with the greatest impact e.g. financial and reputational
- Be aware that as an actuary advising both the Board (fiduciary role) and company management (commercial role), actual or perceived conflicts may arise.
- Declare any such conflict upfront, and take reasonable steps to remain objective and independent in your advice.

[Max 6]

Examiner comment: Question 7(i) was well answered by most candidates, who demonstrated a good understanding of how to price the proposed product given the health insurer's start-up status and the various healthcare provider agreements in place.

Question 7(ii) was also well answered by most candidates, with many candidates scoring maximum credit. The candidates who performed below average did not read the question in its entirety and, as a result, omitted to address the part that asked them to propose a mitigation strategy for each of the four key risks identified.

Question 7(iii) was not well answered as most candidates opted to focus more on characteristics of a professional (such as acting with integrity, working diligently, establishing trust, appreciating different perspectives, etc.) rather than explaining the various duties and tasks an actuary can carry out.

QUESTION 8

i.

Benefit A

- Given that this contributory, mandatory and state run
- Tier 2

Benefit B:

- Given that this is non-contributory And universally available (subject to meeting the means-test
- Tier 1

Benefit C

- Does not fit neatly into the model as it is an incentive
- But the incentive applies to an employer-scheme (Tier 3)
- Or a personal arrangement (Tier 4)

[Max 3 marks]

ii.

- The population pyramid of a stable population would look like a triangle
- There would be a broad base on young people
- Which narrows to older ages.
- Before the demographic transition the triangle would be fairly low and broad
- whereas after the transition it would be tall and narrow

[Max 2 marks]

iii.

- Overall, demand for benefit D should increase
- The extent to which depends on the degree of PMI coverage within this target population and the proportion of people receiving benefits A or B.
- Expect an increase in primary healthcare demand for the vaccine
- Influenced by the extent to which the population was not already vaccinated/immune
- Hospital (secondary) care demand should also increase, initially
 - Depending on the proportion of eligible patients immune
 - And the age profile of unemployment recipient
- Over time this effect would reduce as more people become immune or get vaccinated
- But expect an initial surge in primary and secondary concurrently as the preventative and treatment programmes run concurrently.

Benefit C

- A virus with potentially lethal consequences may highlight the importance of healthcare availability to the general population
- If Fundia provides no healthcare other than Benefit D, one would assume demand for PMI would increase

- And hence demand for benefit C would increase.
- Effect would be dampened to the extent that there are non-PMI healthcare products available in Fundia that could meet a similar need:
 - E.g. Health cash plans

Benefit B:

- If there are current recipients not immune, then it could increase pensioner mortality.
- Which would reduce the demand for the benefit.
- This effect may be sustained if younger cohorts not yet claiming die before being eligible to claim.
- The overall impact of this mortality effect depends on if there is a socio-economic element to the mortality,
 - Eg if low-income groups experience more complications and fatalities than the general population, the effect on the pension benefit may be greater than 1%.
 - The population reduction effect may be in place for many decades.
 - Proportion of age-eligible recipients passing the means test may also increase,
 - For example if the outbreak causes stock markets to crash

Benefit A

- Expect an increase in sick-related benefits
- Greater if the paid sickness benefits from employers is very short
- But once a large proportion of the population is immune, this effect will fall away
- If measures to contain the virus include lockdowns, the economic effects could be substantial
- Could see a substantial and sustained increase in demand for Benefit A

[Max 10 marks]

Examiner comment: This was a difficult question at the end of the paper but most candidates made a reasonable attempt at it, showing improved time management among candidates.

Part i was confidently dealt with by candidates who knew their work but very few people identified that Benefit C was in many ways a trick question as it was an incentive on a benefit.

Part ii was surprisingly poorly done showing that quite a few candidates had not studied the relevant work.

Many candidates did not read part iii properly. The question focused on the change in demand for all four benefits. Many candidates focused only on A and D and wrote extensively about supply and funding issues.