Actuarial Society of South Africa

EXAMINATION

24 May 2022

Subject F204 - Pensions and Other Benefits Specialist Applications

EXAMINER'S REPORT

Overall this exam gave sufficient opportunity for candidates to demonstrate mastery of the subject matter, and there were many marks available, allowing for candidates to score well..

QUESTION 1

The question required candidates to advise the Board of Trustees of a defined contribution fund with respect to the management of the fund's defined benefit death and disability benefits.

i. Describe in detail the most common types of death and disability benefits provided to members of defined contribution retirement funds in South Africa and contrast these to the Fund X benefits. [12]

Death benefits

- Fund Credit payable from fund on death
- Insured benefits typically provided in Fund but unapproved death benefits also common
- Insured benefits usually a multiple of salary.
- Defined benefit in nature
- Multiple can be fixed or vary by age
- Options to elect higher multiple / cover also exist
- Fund X is unusual in that it provides a spouse pension. Very few DC funds do this
- Fund X also does not pay out the Fund Credit on death which is unusual

Disability benefits

- Disability benefits can take the form of lump sums and income replacement plans
- Lump sum disability benefits are typically paid through the fund
- Usually a multiple of salary plus the Fund Credit
- Membership of the fund ceases on disability
- Income replacement plan benefits are unapproved benefits, typically an employer owned policy.
- Income replacement benefit not taxed in the hands of the claimant
- Disabled member receives an income until NRA. Income ceases on earlier death or if member recovers
- In case of a partial recovery, the disability income might be reduced
- Income is expressed as a percentage of pensionable salary, 75% being common
- But there is often a Rand cap per month to the benefit
- Disabled member remains a member of the fund, with contributions continuing.
- Member remains entitled to death benefits
- Insurer will typically pay the employer contributions (contribution waiver)
- Employer waiver typically insured – as an addition to the % of salary benefit the disabled member receives

Fund X's benefit is unusual in that:

- The benefit is payable for life, regardless of the future disability status of the member and it extends to the spouse
- Usually paid till NRA as that would be when the retirement benefit would be paid
- The Fund Credit falls away on disability

ii. Suggest a historical reason that could have led to the risk benefit structure of Fund X. [1]

- Fund X might have been a DB fund that converted to DC in the past. Decision was made to retain risk benefit on conversion; or
- Risk benefits mirror those of a DB fund that the Employer belongs to.

iii. Outline possible reasons as to why the insurers have applied a cap. [2]

- Insurers typically reinsure their disability benefits. Cap might come from the requirements of the reinsurer
- Likely to be the case as all insurers who quoted have a cap
- Insurers will be able to take differing exposures themselves, hence caps vary between insurers
- Even if no reinsurance were to apply, insurers will want to limit exposure to very large disability claims
- May want to limit anti-selection risk – cap reduces the likelihood of the member being better off disabled than working

iv. Outline how you would determine the value of the disability benefits and if they exceed the cap. [7]

Ideally would need the following data for each member:

- Date of birth
- Gender
- Spouse date of birth
- Spouse gender
- 12-month pensionable salary history
- Service commencement date
- Fund Credit at the most recent date

Main assumptions:

- Interest rate assumption to use
- Estimated increases to the disability benefit – inflation assumption
- Assumed marital status
- Assumed spouse's age
- Spouse mortality will be standard mortality
- The member mortality should be based on disabled member mortality. Discuss with insurer to ensure consistency with insured benefit

Method:

- Determine the 2 x annual salary
- Determine the current final salary for each member by using the 12 month average
- Determine the total service and annual disability pension as:
  Total service x 2% x final salary
- Determine the annuity factor applicable to the member and the spouse based on their current age and genders
- Capital value of disability benefit:
  2 x Annual salary plus Disability pension x Annuity
- Deduct the Fund Credit from the capital value of the disability benefit to see if benefit value exceeds the insurers cap.

v. Outline any data or timing challenges you are likely to encounter in performing the calculations in iv) which will result in these being an approximation at the date of calculation for insurance purposes. State how you might address these. [5]

- The insurance rebroke typically happens a month or so before the date the revised insurance kicks in.
- This means estimating benefits on current information that may well be different at the date when a claim arises
- Will need to make some allowance for salary increases into the next year and use this to estimate the final salary
- Could also add expected returns and contributions to the Fund Credit, but since this is an offset to the benefit cost, might not do so (conservative).
- Unlikely to have accurate marital status and spouse details for 4 000 members and this will take time to collate
- However, insurance needs to be placed so there will be time constraints
- Base calculations on conservative assumed spouse details e.g. all married, female spouse 8 years younger.
- This will then allow for the elimination of all members whose benefits are well below the cap.
- Then focus on getting the spouse details for those members above the cap and those just below it (say R1m below cap).
- Recalculate the benefit value based on the refined information

vi. Discuss what the Trustees of Fund X should consider in respect of those members whose disability benefits exceed the cap, and recommend possible courses of action. [4]

- The rules should be checked to see what should happen where the insured benefit is restricted.
- Most rules allow the fund benefit to be reduced to what the insurer will pay. If Fund X rules do not, recommend amending rules
- Trustees should engage with employer. Affected members are likely to be senior employees and employer may not want to restrict their benefit
- Employer would need to make some other arrangement to retain the overall benefit value. Could be in-fund or external
- If the benefit is not supplemented to the full benefit from Fund X then affected members need to be timeously informed of the reduced disability benefit.
- Would need to decide how exactly to reduce the benefit e.g. first reduce the lump sum and then the pension, pro-rata reduce the lump sum and the pension etc
- Could decide that the reduction percentage determined now will apply at the date of disability, even if the theoretical reduction at date of disability differs. Would need to hold a reserve for this possible difference in cost of benefits.

vii. Briefly explain how you could determine such a risk reserve. [2]

- The conservative approach would be to add the benefit value in excess of R11m for the 18 affected members. Would be less than R3m times 18 i.e. R54m.
- Plus consider a margin for new members who might exceed the cap in the next year (higher paid, younger members, married). Discuss with employer and make an allowance.
- Less conservative approach could be a stochastic model sampling from the disability rates and applying these to the whole membership. Where the benefit value exceeds R11m, the cost up to R14m is retained by the fund. Based on a number of simulations, pick a confidence interval and determine risk reserve.

viii. Set out what you would advise the Trustees to communicate with the affected members. [4]

- Explanation of the reason for the communication – that there is a change being made to the disability benefits (effectively these are being capped)
- Explanation of reasons for the change
- And process followed by Trustees in deciding on the change to be implemented
- The communication should go to members before the new insurance is implemented to allow them to make alternative insurance arrangements if needed.

- The before and after lump sum and pension benefits should be provided to the member with an explanation as to how the reduction was made.
- Stress that the calculation is based on data at date X, with some adjustments for salary increases, investment returns (as the case may be) and the calculation will be redone at date of disability. The reduction may therefore differ from that set out in the letter (unless decision is taken to fix the reduction percentage and meeting the difference from the risk reserve)
- Communication should set out the data on which the calculation is based
- Emphasise that the reduction will be reassessed each year
- Member should seek financial advice or make use of the benefit counselling offered by the fund
- Appropriate measures are in place to ensure compliance to POPIA (ie secured communication).

QUESTION 2

This question asked candidates to analyse the impact of a retrenchment exercise on older members of a defined contribution pension fund.

i. Outline a possible structure for the lifestage portfolio currently offered by the fund. [2]

- Lifestage portfolios aim to provide protection against fund volatility as member nears retirement – creates more certainty with respect to the member's fund value.
- A percentage of the fund is moved into more conservative portfolios at pre-defined ages.
- A possible structure for this fund could be:
  - Investment strategy up to age 57 – Portfolio consisting predominantly of growth assets eg. Equities (local and offshore)
  - Ages 57 to 63 – a linear annual (or monthly) transition from the growth assets to more conservative investment portfolios consisting predominantly of bonds (index-linked and fixed interest) and cash
  - Ages 63 – 65 – a linear transition to cash by age 65

ii. Discuss the risks the retrenchment exercise introduces for affected members in respect of the retirement and risk benefits provided by the fund. Include risks before retirement and any additional risks the member faces at retirement. [14]

Investment risk

General:

- Retrenchment will cut short investment time horizon
- Risk that the members are now mismatched for their ultimate retirement strategy
- The older age of the members means they are at risk of not having time to address any adverse benefit effects caused by the retrenchment
- Members may have to disinvest from current portfolios at a particular point in time
  - likely to be at depressed prices given the national recession
- Risk that this erodes value of the benefit
- Members lose the access to the expertise provided in the fund
  - face the risk of making poor decisions
- Or will pay for individual advice at a higher cost
- Members under pressure to make decisions more quickly than planned – risk that they make a poor decision
- Those invested in the default:
  - Members close to age 55 will not yet have had any of their funds transferred into more conservative portfolios

  - They are exposed to the full market, mismatch or disinvestment risk
  - Members close to age 65 will be largely invested in conservative portfolios
  - If largely in cash, will be exposed to the mismatch risk of purchasing a life annuity – no time to mitigate
  - Also may be mismatched to a living annuity with no time to mitigate
- Those invested in outside portfolios:
  - May or may not be better matched to their ultimate retirement choice, depending on investments chosen
  - Those invested offshore face additional risks in respect of currency mismatching
  - Depending on country where investments are held

Fees:

- Member faces the risk of paying switching fees – unplanned for
- Any preferential investment fees the fund may have enjoyed based on its size will unlikely be granted to individual members – face the risk of increased investments fees
  - Further reducing benefits

Annuity risk:

- For those members who buy a life annuity – risk that this is done at an inopportune time – unable to time the purchase – annuity conversion rates may be expensive
- This impacts the level of income that can be purchased with the savings
- This has a permanent effect
- Potential investments mismatch for member who are invested in equities at the time of retrenchment and who then purchase life annuities

Risk benefits:

- Older members may have more difficulty replacing risk benefits
- Risk exists that pre-existing conditions mean they cannot replace them at all
- Risk that the benefits can be replaced but at a much higher cost
- Likely that the rates were cross-subsidised in the fund
- Possible gaps in cover if the member isn't able to or forgets to secure risk cover by the time the member is retrenched
- The member might be forced to secure a reduced level of cover
- May be insufficient for the member's needs

Mitigation:

- Members can mitigate against the above risks by preserving / deferring retirement for a period of time.
- Might be limited scope depending on financial situation.

QUESTION 3

This question focused on the provision of retirement benefits through umbrella funds in South Africa.

i. Describe the types of umbrella arrangements covered by South African regulations. [3]

- Type A: A set of general rules contains the governing principles of the fund and each employer has a special set of rules applicable to them.
  - Usually set up by a service provider and there are no relationships between the participating employers.
  - Would not necessarily be able to have member-elected trustees and would need to apply for exemption from the requirement for 50% member elected trustees.
- Type B: A single set of rules contains the terms and conditions for all employers.
  - This is mostly applicable to funds set up for all subsidiaries of a single holding company.
  - Generally, it provides for at least 50% member-elected trustees with the other 50% or balance comprising employer nominated trustees and sometimes the rules also provide for the appointment of an independent trustee.

ii. Outline the main aspects of the South African environment that have led to the transfer of retirement funds into these large umbrella arrangements. [6]

Credit given for other valid comments

- Had their origins in South Africa in the 1980s when trade unions established collective agreements where members of the trade union could participate in a multi-employer DC fund.
- Broader move by employers to de-risk their balance sheets - conversion from DB to DC facilitated a subsequent move into umbrella
- Became more popular when boards of trustees were restructured to include at least 50% member elected trustees.
- Fund cost considerations are important.
- Also, increased regulation and governance requirements are costly to understand and manage at an individual fund level.
- Places more responsibility on the board of trustees
- The training of trustees and cost of professional indemnity cover at a fund level are eliminated in an umbrella arrangement.
- The employer is responsible for establishing the fund and sponsoring the resources needed by the Board of trustees.
- These are avoided in an umbrella fund where a single board of trustees is responsible for the entire fund.
- Economies of scale of a single large fund result in lower administration costs for the underlying sections.
- This is an important benefit to small and medium sized employers for whom it would be expensive to establish and maintain a stand-alone fund.

- The increased use of technology has allowed stand-alone funds to replicate their benefit structures in umbrella funds.
- This includes flexible contribution rates, flexible risk benefits, fund specific investment strategies and member investment choice.
- The move to DC funds has facilitated a simpler contribution and benefit structure and has reduced the need for fund management at an individual fund level.
- Participation in an umbrella fund allows the employer to focus on their core business.

iii. Discuss the key challenges in the South African umbrella fund environment, and how these might affect the establishment of this proposed umbrella arrangement. [10]

Credit given for other valid comments

Independence of Boards of trustees

- For Type A umbrella funds, other than the independent trustees, the balance of the trustees would likely be employees of the sponsor (life company, consultancy).
- These trustees would elect service providers, and commercial pressure may result in trustees having a conflict of interest
- In this instance, if the life company as the sponsor is intending to establish this fund on the assumption that the services will be provided by the sponsor, this might come under scrutiny from the regulator.
- The board will not be considered fully independent

Complex and unclear charges

- Disclosure of costs is a challenge, as it is often poorly done
- Difficult to compare costs across umbrella providers
- This fund would need to consider the complexity of its charging basis, given that many of the members are not very financially sophisticated and the charges themselves would also need to be easy to understand and cost effective to implement.

Barriers to entry or switching

- The regulatory requirements to switch funds can prohibit employers from switching
- Reduces the competitiveness of the environment
- Costs act as a barrier to change umbrella funds as there is uncertainty as to which is actually more cost effective given the complex charging structures
- The cost of establishing a new umbrella fund is also high and may be prohibitive in this case

Higher levels of costs than expected

- Economies of scale have not entirely been achieved in the SA umbrella environment with costs still being relatively high
- Not all economies of scale are passed on to members
- Further consolidation may be encouraged and a minimum fund size in terms of number of members may be targeted
- The establishment of a new fund would need to be considered in the light of its potential membership base and whether it would be able to comply with any minimum membership requirements.

iv. Name the major stakeholders that would need to be considered in the establishment of this proposed umbrella fund and briefly describe the role of each. [14]

- The Life company
  - Establishment of the fund
  - Sponsor the Board of Trustees
  - Ensure compliance with regulators
  - Carry the start up-costs
- The administrator
  - Will administer the fund – collection of contributions and risk premiums, facilitation of investments, payment of claims, maintenance of individual and fund records.
  - Compliance with regulations
- The Board of Trustees
  - Direct, control and oversee the operations of the fund in accordance with its rules, and the applicable legislation.
  - Will choose the service providers used by the umbrella arrangement
  - Manage communication on fund matters
- The employers
  - Facilitate the process of choosing an umbrella fund to participate in
  - Facilitate the administration and provide data
  - Establish contribution levels and benefits for employees
  - Usually interact through a Manco
  - May select investment strategy for sub-fund (via Manco) including member choice or not
- The members
  - Participate in the funds
  - Possibly make benefit or investment choices
- The trade unions or employee organisations
  - Expect to be very active in the mining sector
  - May be very interested as there are mining sector umbrellas already in existence
  - Negotiate with employers on benefit levels and service providers
    - May have a say in the employer's choice of provider
  - Engage with members regarding their employee benefits
- The Financial Sector Conduct Authority
  - Ensure fair treatment of financial customers to this arrangement
  - Promoting greater financial literacy of members and enhancing the ability of members to make sound financial decisions
  - Regulate and provide regulations and practice notes to ensure the fund is financially stable
- The South African Revenue Services
  - Ensure that the proposed benefit structure of the umbrella fund comply with the taxation limits and provision of tax exemption status
- The Prudential Authority (SARB)
  - Interest in maintaining the financial security of the life company as a whole
  - Interest in the financial security of the fund
- Other service providers
  - Example valuators, risk benefit underwriters, investment managers

    - Will provide appointed services

v. Outline the benefit design considerations for this proposed umbrella fund. Include, with justification, your recommendations for the form and level of the benefits to be provided by the umbrella fund. [14]

Credit given for other valid comments

General:

- Mining company – mix of blue-collar workers (majority) and higher paid mining professionals and management
- Benefit structure would need to accommodate this
- Would need to be done carefully as cannot be seen to be providing higher benefits for particular segments of the workforce

- The category of employee has historically opted for a defined contribution benefit structure provided through a provident fund. This would be recommended for this umbrella arrangement.

- Blue collar workers will have limited capacity for savings – contribution levels would need to reflect this.
- Most mining employees already have existing benefits – with miners having access to existing collective bargaining funds as well as any employer occupational benefit scheme.
- Fund would need to compete with these from a benefit design perspective as well as a cost perspective.
- Very cost sensitive member base. Would need to offer benefits at competitive rates – may impact the level of member choice and flexibility offered.
- Most existing umbrella funds offer contribution and investment flexibility as a standard – would need to allow for this at competitive fees
- More choice would require:
    - more administration
    - increased communication requirements
    - ongoing management by trustees – limits on options need to be set and maintained or altered over time

Form of benefits is important.

- Miners typically work far away from home – value a lump sum benefit more highly than income benefit – able to take the full benefit home.
- Would impact death, disability and retirement benefits for this category of members.
- Recommend a lump sum benefit structure for all benefits for all members.

Death benefits:

- Staff are likely to value this benefit.
- Level of benefit needs to provide a balance between death benefits and retirement benefits – with a limited contribution
- Lump sum death benefit – recommend in the region of around 3x salary for all
- Possibly provide some flexibility for members to increase their death benefit over – increments of 1x salary at age related costs
- Funeral cover is likely to be a valued benefit – can be provided for members and extended families at reasonable cost

- Recommend a standard funeral benefit scale be included in the death benefits offered by the fund

Disability cover:

- Lump sum disability could be added as an accelerator to the death benefit
- It is an approved benefit
- This would be the more cost-effective disability option as disability income is very expensive.
- Higher paid employees may value the income disability benefit more
- May be able to secure at an individual level outside of the fund
- Disability income benefit is not approved – would need the fund to be a conduit for the premiums if that was offered.
- Recommend a lump sum disability benefit to match the death benefit – 3x as standard

Retirement benefits

- Defined Contribution arrangement would be recommended
- Employer contribution could be fixed at a reasonable level – recommend 7%, and members given the choice to elect their own contribution rates (between 2.5% and 20.5%) to allow for lower paid members to be accommodated as well as those who want to take maximum advantage of tax deductibility
- Recommend benefit on retirement would be provided as a lump sum (as provided for in prevailing legislation)

Can mention withdrawal benefits for extra credit – not included as governed by legislation.