

**Actuarial Society of South Africa**

**EXAMINATION**

**22 October 2018**

**Subject F204 - Pensions and Other Benefits  
Specialist Applications**

**MARKING SCHEDULE**

## QUESTION 1

- i) **Set out the issues arising from this proposal that need to be considered by each of the stakeholders.** [11]

*Very poor attempt. Most candidates did not seem to know how a PRMA scheme works and did not appreciate that for the Company to benefit from the surplus in the Pensions Account, this surplus would need to be allocated to the Employer Surplus Account first.*

### ***Company:***

- The company can settle its obligations by transferring this to the Pension Fund;
- There is no cash outflow for the Company;
- The company may have been able to argue that at least a portion of the surplus in the Fund would be due to the Company and could be apportioned to an Employer Surplus Account;
- In terms of Sect 15E the company may use surplus allocated to the ESA to settle post-retirement medical assistance benefits
- The Company would still have some obligation towards post-retirement medical assistance in respect of in-service members;
- The company may require an alternative solution for future retirees if it wanted to keep future pensioner obligations off its balance sheet;
- Future retirees may or may not retire in Fund and the Fund may not continue to accept this ongoing obligation arising from new retirees at each retirement;

### ***Pension Fund:***

- The Fund would need to ensure that the proposal is in line with the Fund's Rules
- and Pension Fund Legislation;
- The obligation would need to be met from the ESA;
- The Trustees may therefore need to first address the distribution of the current Fund surplus;
- The Fund / Trustees would need to determine whether the cost of accepting the additional pension obligation is affordable;
- This would need to be afforded out of any surplus that would be allocated to the ESA; there would need to be a sufficient allocation to the ESA;
- The Trustees would need to consider the administration of the arrangement;
  - Would it be as simple as expected by the Company;
  - Would they need to report the separate portions of the pension;
  - How is the current arrangement administered? Does the Fund currently assist the Company to facilitate the subsidy;
  - Is the subsidy paid directly to pensioners or paid directly the medical scheme;

- Would the Fund in future deduct the total cost of the medical scheme or would pensioners be responsible for settling this themselves directly with the medical schemes?
- Would increases be applied to both portions in line with the current pension increase policy?

***Pensioners:***

- Depending on the current administrative arrangements the proposal may be simpler for pensioners to understand having all benefits in one place;
  - A single payslip with all details consolidated;
- There may be benefits to the pensioners if the consolidated pension receives pension increases in line with the current pension increase policy
- The pensioners are now exposed to the Pension Fund rather than the Company;
  - This may or may not be an advantage depending on the size and nature of the Company and Pension Fund;
  - There are however at least assets backing the liability;
  - Pension Fund would be subject to actuarial valuation and the potential protection from that oversight;

**ii) Using the information set out above and stating any other assumptions made project the expected results of the IAS19 liability for the medical subsidy scheme to the next financial year end at 31 December 2018, before the impact of the restructuring. [9]**

*Good attempt by most candidates.*

- Assume that the Fund’s demographic experience was in line with expectations.
- Assume cash flows occur midway through the projection period.
- Assume for every 1% change in discount rate that liabilities will change by 8%.

Projecting the obligation requires service cost, interest cost and any actuarial gains or losses	
Interest cost was not provided and needs to be determined	
Interest cost on Pensioner liability	$= 287.1 \times (1+8.9\%) - 47 \times (1+8.9\%)^{0.5} - (287.1 - 47)$
	$= 23.5$
Interest cost on in-service liability (assume no benefit payments for in-service)	$= 49.4 \times (1+8.9\%) + (4.6 - 0) \times (1+8.9\%)^{0.5} - (49.4 + 4.6 - 0)$

	= 4.6		
<b>Components of Defined Benefit Cost</b>	<b>Total</b>	<b>Continuation</b>	<b>In-service</b>
Service Cost	4.6	= 0	+4.6
Interest Cost	28.1	=23.5	+4.6
Expected Net Expense Recognised in P&L	32.7	=23.5	+9.2
<b>Analysis of change in liability</b>			
Liability at the beginning of the period	336.5	= 287.1	+ 49.4
Net expense	32.7	= 23.5	+9.2
Expected benefit payments	(47)	=(47)	(0)
Liability at end (before change in yield)	322.2	=263.6	+58.6
Change in liability (no demographic movement just change in yields)	= 8.9% - 0.6% = 8.3%		
Liability adjustment factor	= (1 + (0.6/1.0) x 8% )		
<b>Liability at end of the period</b>	<b>337.7</b>	<b>=276.3</b>	<b>+61.4</b>

iii) Explain to the Financial Director how the above restructuring is likely to affect the Fund's valuation results? [6]

*The key issue is that the PRMA subsidy is fixed but that pensions in the fund are subject to pension increases and hence the liability will differ substantially. Very poor attempt by all candidates.*

- The Company would be released of an obligation that provided no increases on the subsidy, effectively a fixed level annuity;
  - Under the Pension Fund the benefits will grow in line with the Fund's pension increase policy;
  - The cost would be greater than the obligation reported on the balance sheet;
    - As it would allow for future pension increases;
    - This would need to be included in the cost for the Fund;
  - The Fund may in addition need to hold additional solvency reserves
  - Depending on how the surplus was distributed to allow the proposal to be afforded the future solvency margins may differ from those held while there was a surplus in the Fund;
- For example:
- Assuming inflation assumption of 6% relative to a bond linked discount rate of 8.3%;
  - With no increases the net discount rate would have been 8.3% in the Company financial statements;

- In the pension fund assuming the 100% CPI target the net rate would be approximately 2.3%;
- Assuming that liabilities increase by between 8% and 12% for each 1% reduction in the net discount rate;
- The 6% reduction in net rate is likely to increase the liability reported by the Fund by roughly 45% to 70% compared to the obligation previously reported by the Company;
- If the previous surplus was reported to be roughly 3 times the Company's obligation the impact on the Fund's obligations is therefore likely to be double this
- and would reduce the surplus by 45% to 55%
- significantly more than the 33% likely to have been expected by the FD

**iv) Comment on the viability of such an option. Consider the products available and the risks faced by all parties. [8]**

*Poorly answered by most candidates.*

- The basis on which the buy-out would be offered may differ compared to an in-fund option;
  - If the buy-out was offered at the level of the obligation held by the Company then pensioners would be worse off
  - If the capital was determined in line with the potential new obligation on the Fund pensioners would then have benefited substantially
  - It's likely that a buy-out basis would have been somewhere in between these levels and as such pensioners more likely to be worse off than the current proposal;
- Choice of outside arrangement:
- Pensioners may believe that they would have had an option to take the entire benefit in cash;
  - Depending on the level of the subsidy this may not have been practical;
  - This would have resulted in an immediate tax obligation compared to a pension where the medical scheme contributions could to some extent provide some offset;
  - A lump sum payment has the risk that the amount would not be used for its intended purpose and may be exhausted and used for other purposes;
    - Risk to Company that pensioners return in need of additional assistance for medical scheme contributions
  - Various insurance arrangements would be available each with their own risks:
  - Living annuity would have a similar risk to that of a lump sum where the pensioners decide on the level of pension;

- This may be an advantage where they can choose their own investment strategy and drawdown rate so as to better match medical scheme inflation;
- Or a disadvantage in that drawdowns set at the wrong level may result in the pensioner exhausted the annuity or being level with insufficient capital to draw a reasonable income
- Fixed or level annuities:
  - May result in a higher initial pension that may initially exceed the current medical scheme contributions but as medical scheme costs rise they will eat into this margin and would ultimately result in a pension that does not meet the medical scheme contribution needs of the pensioner
- A with profit or inflation matching annuity are likely to provide a similar pension to that which could be provided by the Fund assuming the Fund is of reasonable size;
  - However likely to be at a greater cost and as such unlikely to be able to afford the same initial level of pension
- In providing a full buy-out option the Company would need a significant communication and advisory process as it would need to aim to reach each and every single pensioner in order for those pensioners to understand all options, receive appropriate advice and make a direct selection;
- The in-fund solution while requiring communication is likely to be an improvement in benefits and consolidates the benefits already received by the Pensioners;
- Approval for a proposal that improves benefits is likely to be achieved on a measuring objections, rather than positive responses basis;
- If the buy-out was conducted through the Fund then additional obligations would be placed on the Fund in terms of the Pension Funds Act and Section 14 (GN 18)

## QUESTION 2

i) Set out what your report to the chairperson would include.

[15]

*Good attempt by most candidates.*

<p><b>Setting an investment strategy</b></p>	
<ul style="list-style-type: none"> <li>• The fund's objectives</li> <li>• What level of return the members should expect to earn             <ul style="list-style-type: none"> <li>○ Real return expected</li> </ul> </li> <li>• What level of risk the members should expect to take             <ul style="list-style-type: none"> <li>○ DC so members bear risk – trustees need to consider what is acceptable</li> </ul> </li> <li>• Is the fund targeting a particular replacement ratio?</li> <li>• Is the fund targeting a particular level of pension increases after retirement</li> </ul>	
<ul style="list-style-type: none"> <li>• Nature of the fund</li> <li>• Long -term liabilities</li> <li>• Real in nature</li> <li>• Targeting an income at retirement – pension fund so members will have to convert their lump sums into income at retirement – at unknown terms</li> </ul>	
<ul style="list-style-type: none"> <li>• The size of the fund – increasing, decreasing, static</li> <li>• Informs the investment options             <ul style="list-style-type: none"> <li>○ negotiating power wrt fees</li> <li>○ split of asset managers vs a single manager</li> <li>○ Whether the fund assets are large enough to justify specialist mandates and segregated portfolios</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Expected cash flows             <ul style="list-style-type: none"> <li>○ Impacts liquidity requirements for the fund – if net outflows need higher cash holdings to pay benefits - the fund has fewer restrictions if benefit payments can be funded from contributions</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Tax             <ul style="list-style-type: none"> <li>○ The fund would need to consider the tax treatment of any investments – South African tax laws allow for income and capital gains to be accrued in retirement funds without being taxed</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Fees</li> <li>• Investment fees directly erode members benefits</li> <li>• Can be significant over long periods of time</li> </ul>	
<ul style="list-style-type: none"> <li>• Investment choice</li> <li>• Need to consider whether to give members choice or not</li> <li>• Added administration complexity if there is choice</li> <li>• At an added cost</li> <li>• Member's might appreciate the choice as they have different needs and risk appetites</li> </ul>	
<p><b>Reasons for current strategy</b></p>	
<ul style="list-style-type: none"> <li>• Lifestage strategies have become common strategies for DC funds</li> <li>• Designed to balance risk and reward over a member's working lifetime – reducing risk and expected returns as the member gets close to retirement</li> </ul>	

<ul style="list-style-type: none"> <li>• provide maximum growth over the member’s working lifetime, through the equity investments</li> <li>• and then the assets are moved into more conservative assets – first government bonds and then cash as members get closer to NRA</li> <li>• The intention is to protect the capital value of members’ benefits as they reach retirement <ul style="list-style-type: none"> <li>○ There is no time for members to recoup losses if there is a drop in the value of their benefits as they reach retirement</li> </ul> </li> <li>• Members are not given choice in this fund – possibly for administrative reasons or because the trustees are concerned that the members might make inappropriate decisions</li> </ul>	
<b>Current management of assets</b>	
<ul style="list-style-type: none"> <li>• Three separate asset managers who only invest what they specialise in</li> <li>• Total assets are large – justification in splitting between asset managers <ul style="list-style-type: none"> <li>○ Might jeopardise negotiations around fees but if each asset manager has a large enough portion of the assets, the fund’s negotiating power should be strong for each asset manager</li> </ul> </li> <li>• Investment consultant possibly appointed to provide expertise to the trustees who may not have sufficient knowledge in the area <ul style="list-style-type: none"> <li>○ The trustees are required to appoint professionals where they do not have sufficient skills</li> </ul> </li> <li>• Investment consultant advises the percentages between equities, government bonds and cash in the high-risk and low-risk portfolios, as this requires constant monitoring and possible changes.</li> </ul>	

**ii) Set out the points you would make in response to the chairperson’s questions [8]**

*Reasonable attempt by some candidates but most did not make enough relevant points given the marks available.*

<b>Appropriateness of current strategy</b>	
<ul style="list-style-type: none"> <li>• Does provide capital protection for benefits</li> <li>• But fund is a pension fund</li> <li>• Members must buy an annuity at retirement</li> <li>• Cash at retirement is therefore a poor match for what members must do after retirement</li> <li>• Although up to 1/3<sup>rd</sup> may be commuted for a lump sum</li> <li>• 90% choose living annuities <ul style="list-style-type: none"> <li>○ Investment horizon likely to be an additional 15 years post - retirement, given longevity, but depending on the member’s health</li> <li>○ Members will elect what assets to invest in after retirement</li> <li>○ This will most likely be an equity or balanced portfolio</li> <li>○ A similar portfolio before retirement will be a better match than cash as they will have to reinvest in uncertain market conditions</li> </ul> </li> <li>• For those choosing life annuities <ul style="list-style-type: none"> <li>○ Annuity rates at retirement are unknown</li> <li>○ Investments at retirement that mirror the movement in annuity prices would be more appropriate – e.g. Index-linked or fixed-interest govt bonds</li> </ul> </li> </ul>	

<ul style="list-style-type: none"> <li>○ Cash would not mirror this and the member is at risk of securing a lower income at retirement</li> <li>● Current strategy protects capital at retirement but not income</li> <li>● Therefore not appropriate</li> </ul>	
<b>Recommended changes</b>	
<ul style="list-style-type: none"> <li>● Not clear what advice is currently given to members</li> <li>● Current one size fits all approach probably not appropriate</li> <li>● Introduce a measure of member choice</li> <li>● Need to establish what they are likely to do at retirement before deciding on an appropriate lifestage model</li> <li>● This should integrate with the annuity strategy per the default regulations</li> <li>● Could use the three building block portfolios in differing proportions per the members choice such that the member is in an appropriately matched position at retirement for their post-retirement intentions</li> <li>● Individual advice expensive – especially on a fund of this scale</li> <li>● Could create two or three life stage models and advise members which is designed for which post-retirement strategy and let members choose which lifestage model to invest in</li> <li>● However, consider the financial sophistication of members</li> <li>● Whichever strategy is adopted, member communication and education is important – and the comms strategy should be carefully considered</li> <li>● Advice strategy must be included in the annuity strategy -per the default regulations</li> </ul>	

iii) Set out how you would respond to the chairperson’s questions regarding active versus passive investment strategies. [7]

*Good attempt by most candidates.*

<b>Difference between active and passive</b>	
<ul style="list-style-type: none"> <li>● Active involves individual stock selection by asset managers <ul style="list-style-type: none"> <li>○ Active manager will try and outperform an index</li> <li>○ Takes into account expected market movements, economic conditions, expected share price movement based on expected company performance</li> </ul> </li> <li>● Passive done in accordance with a pre-determined strategy <ul style="list-style-type: none"> <li>○ Most common form is to track exactly the performance of a chosen benchmark, or index</li> </ul> </li> <li>● Active relies more on the skill of the asset manager, and the managers ability to outperform the market</li> <li>● Or more particularly, the ability to outperform a benchmark plus “alpha”</li> <li>● Passive does not aim to outperform – but tracks the performance of the index, which could be the whole market – example ALSI, or CAPI or capped SWIX</li> <li>● Investment fees for passive significantly lower</li> <li>● Less time spent by trustees and investment consultants – hence lower cost</li> </ul>	

<ul style="list-style-type: none"> <li>• Expect active management to better hedge against downturns in the market – passive will just follow the fortunes of the chosen benchmark</li> <li>• Choice of benchmark in the passive strategy is very important</li> </ul>	
<b>Recommended a change to passive?</b>	
<ul style="list-style-type: none"> <li>• Passive might be an appropriate strategy for the fund</li> <li>• Decision should be done in the same way as any investment decision – taking into account the needs and priorities and liabilities of the fund</li> <li>• Fund must consider it as part of the default investment strategy</li> <li>• Fund could get the investment consultant to look into it and make a recommendation – could request and ALM be performed</li> <li>• No need to move all assets at once, can use it partially – as a diversification strategy</li> </ul>	

### QUESTION 3

- i) **Set out the reasons for funding a pension fund and briefly describe the various ways that contribution rates can be calculated in a defined benefit fund.** [4]

*Well answered.*

- Virtually all private sector pension arrangements in South Africa are funded.
- The biggest attractions of funding for a sponsor are, perhaps, the tax advantages that are only available to funded approved funds.
- Funding may also be used as a means of reducing the size of future cash calls.
- A further reason for funding may be to avoid large debts in the company balance sheet due to the accounting treatment of retirement benefit promises.

There are various ways in which regular contributions can be calculated:

- PUC:
  - The contribution each year is calculated as sufficient to cover the cost of the benefit accruing in that year based on the salary in that year allowing for future increases due to salary inflation.
- Entry age:
  - The contribution required for a typical new entrant is calculated.
- Attained Age:
  - The contribution required to cover the cost of benefits accruing in future for existing members is calculated.

- ii) **Explain which of the funding methods would most likely be used for the current Fund and why this method would have been chosen over the others.** [3]

*Most candidates did not provide enough justification for the funding method they recommended given the marks available.*

- In this context the choice of funding is effectively a means for balancing the required costs over time;
- The Attained Age method would in theory be most appropriate for a closed ageing population
- The main reasoning being that the future costs are averaged over the entire future working lifetime of active members reducing the expected rising costs as the population ages under other methods
- However further considerations may be:
- PUC is the method required under financial accounting standards and the Company may prefer the funding valuation to align with the accounting treatment;
- There is also the misperception that funding under the AAM will automatically ensure reasonably level contributions, revaluing the liabilities and funding each year or 3-year period will also result in a rising contribution
- This would be countered by ensuring an understanding of why the previous contribution may no longer be appropriate by considering which of the various

items of fund experience were not in line with the long term assumptions and adjusting the theoretical contribution by the impact that these factors would have on the future funding

**iii) Explain how the contribution rates are typically determined for members and the employer in a defined benefit fund. [6]**

*Poorly answered with not enough points being made given the available marks.*

- The cost of retirement benefits is generally split between the employer and the members.
- In the case of DB funds, the uncertainty of the overall cost for a given level of benefits means that it is not practical to fix both the employees' and the employer's contribution rate in advance.
- Balance of cost is the main option adopted by sponsors of DB funds.
- The members' contribution is fixed as a percentage of pensionable salary (possibly zero), and
- the employer then pays whatever is required to fund the liabilities, over and above the contributions payable by the members.
- As the employer is paying the balance of cost, it can be expected that its contribution rate will vary from time to time, increasing when experience has been worse than expected or when benefits have been improved, and decreasing when experience has been more favourable.
- In South Africa, the above situation might not necessarily apply, as a result of the Pension Funds Second Amendment Act, promulgated in 2001. In balance of costs funds, the employer would usually still be required to fund a deficit, but would not automatically be entitled to any surplus that may arise.
- The rules of the fund may define how surpluses that arise are to be allocated among stakeholders (employer, members and pensioners).
- Where fund rules are silent on the issue, the trustees have discretion in allocating surplus arising after the surplus apportionment date.
- Where members are paying contributions, a gearing effect exaggerates the relative effect of experience.
- The main feature of a balance of cost arrangement is that the employer accepts a virtually "open-ended" liability. It is for this reason that most DB funds have converted to DC funds in South Africa.
- Most private sector funds are contributory, as are nearly all public sector funds. Members' contributions are usually calculated as a percentage of earnings, and:
  - There is normally one rate for all members entitled to the same class of benefits.
  - The same earnings definition is normally used for benefit and contribution purposes.
  - Employee contributions tend not to depend on marital status.

- iv) **You have been requested to provide an opinion to the Company on the viability and appropriateness of the proposal in relation to legislation.** [6]

*Reasonably answered by most candidates.*

**Legislation:**

- Labour relations – the Company would need to take advice on the Labour Relations impacts
- This could be considered a change in the conditions of employment which may require consultation and agreement in some form
- The Pension Fund would need to comply with the Pension Funds Act and associated regulations, in particular Section 14
  - Section 14(1)(c) of the Act states that no transfer shall be of any force or effect unless:
  - “the registrar is satisfied that the scheme referred to in paragraph (a) is reasonable and equitable and accords full recognition to the rights and reasonable benefit expectations of the members transferring in terms of the rules of a fund where such rights and reasonable benefit expectations relate to service prior to the date of transfer;.....”
- The transfer value proposed is the ARV which in a typical DB fund can be expressed as the present value of a member’s accrued pension rights based on service and final salary at the date of calculation.
- The ARV is subject to a minimum of the Minimum Individual Reserve, which itself for a DB Fund would take account of the accrued pension in relation to past service
- The proposed transfer benefit may therefore meet the requirement in respect of giving recognition to the rights of members in respect of their past or accrued pensionable service.
- There could be some argument that this may not be the case. If you consider that the past benefit is effectively a deferred pension based on service, salary and a fixed accrual factor and that this deferred pension is effectively guaranteed and will grow with salary inflation, there is a possibility that poor investment returns or changes in the cost of purchasing a pension could result in the member not being able to secure the same pension at retirement in respect of this period of past service. In other words. there is some risk to the members that their actual deferred past service pension expectation may not be met.
- Directive PF No 6 - The purpose of this directive is to set out the conditions imposed by the Registrar in respect of the different types of transfers in terms of Section 14 and to clarify certain issues relating to these transfers.
  - The Directive states that if a transfer could result in members being worse off if they resign immediately after the transfer, the Board of the Fund must investigate this prior to applying for the transfer.
  - If it is found that members will be prejudiced by the transfer, the Principal Officer of the Fund must disclose full details of the prejudice to the Registrar.

- A clear communication exercise must be carried out by the Board, in which the affected members must be comprehensively advised of any prejudice they may suffer. The Board needs to certify to the Registrar that explicit approval for the transfer has been obtained from at least 75% of the affected members.
- The Boards of both the transferor and the transferee funds must be satisfied that a transfer is reasonable and equitable and accords full recognition to the rights and reasonable benefit expectations of the members. Boards should not merely rely on a statement to this effect by the valuers.
- Communication must compare the benefits in the 2 funds
- In the case of the Company's proposed transfer, members are unlikely to be worse off if they resign immediately after the transfer, since the proposed transfer value is the ARV which is likely to exceed Minimum Benefits.
- Therefore, under this specific definition of prejudice, members would not be prejudiced by the proposed transfer.
- There may however still be perceived prejudice by members as a result of losing out on their future defined benefits.
- While the Fund / Company would not need to obtain positive approval from 75% of members in terms of this directive, the Fund / Company may still want to show that the majority of members have not objected to the proposal, i.e. to show that less than 25% of members have actually objected. The wording of the communication should be drafted in such a way that no formal objection to the proposal is deemed to be an approval.
- As part of the communication exercise, transferring members must be provided with an estimate of their transfer values at the effective transfer date. They must also be given sufficient information about the transfer so as to make an informed choice with regards to whether or not they should object to the transfer.
- Members must be given at least 30 days in which to lodge any objections.
- If members have valid concerns or complaints, these should be addressed and where necessary, the scheme of transfer should be amended.
- The Board of the transferor fund must then certify that the transfer values accord full recognition to the rights and reasonable benefit expectations of the transferring members. In this statement, there is no mention that these rights and reasonable benefit expectations relate only to past service. In so far as the directive provides guidance and supports the provisions of the Pension Funds Act, it is reasonable to assume that the Act takes precedence and therefore that the form is referring only to past service. However, this is not explicit and may require a legal opinion for confirmation.

v) **Discuss the question of enhancements on transfer in relation to the Company's proposal.** [7]

<i>Poorly answered by most candidates.</i>
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- As set out in the Company's proposal there is a clear desire to avoid adding a "incentive". However, an incentive and fair compensation for loss of benefits or acceptance of additional risk are not the same.

- Compensation can take various forms. Historic DB to DC conversions used various forms to incentivise or compensate members for the change in benefits structure:
- The simplest being the fixed percentage allocation to the actuarial reserve value.
  - The most common justification for this basis of compensation is on an investment reserve basis where under the DC arrangement members would accept the risk of losses on their assets.
  - A fixed margin allows for some “fat” in the transfer value that could absorb some level of investment losses.
  - While a fixed percentage appears reasonable on the basis that the greater the actuarial reserve the greater the investment risk, younger members are likely to have lower reserve values and hence receive a lower Rand compensation. Arguably they have a longer period of time over which to achieve the expected returns. Older members are potentially at greater risk given how close they are to retirement although with the common lifestage investment models they would likely be moving into lower risk portfolios and the additional compensation may be wasted.
- Another form of compensation would be to determine the required transfer value on a projected benefit basis.
  - The method would start by capitalising the projected defined benefit pension at retirement and discount this to the transfer date.
  - You would then deduct the present value of the expected future contributions at the contribution rate in terms of the new DC arrangement leaving the balance as the required transfer value to ensure that members have a reasonable chance of achieving the same benefits.
  - The calculated difference between this projected benefit and the actuarial reserve value would therefore be the compensation offered and is likely to differ across members based on their age, or period to retirement, at the transfer date.
- Finally, compensation could be offered in respect of the past service benefits for the risks that members would be accepting by transferring to a DC arrangement through building margins of conservatism into the actuarial reserve values being offered.
  - The difference between the transfer value determined as the actuarial reserve on a more conservative basis and that determined on a best estimate basis would be considered the compensation for the risks accepted.
  - In order to cover the potential risks, margins could be included in the discount rate (or assumed rate of investment return) as well as the post retirement mortality assumptions.
- A simple incentive is therefore unlikely to be appropriate compensation in some form is likely to be appropriate given the risks being accepted through the transfer to a DC arrangement as well as the loss of future benefits.
- A further alternative if the Company insists on no providing enhancements to the transfer values could be to instead enhance the future benefit accrual:
  - Alternative contribution category could be proposed for transferring members;
  - Higher contribution to meet the future benefit needs;
  - While increased cost for Company likely to be lower and more stable cost than DB
  - Could use some form of scaling based on service

- vi) **Discuss the importance and relevance of personalised communication and financial decision-making tools and the factors that should be considered in their design.** [10]

*Some reasonable attempts but also some poor answers. Surprising since this a topical issue at present.*

***Personalised member communication***

- Given the responsibility on members of DC funds to manage their own retirement savings plans and the flexible benefits provided to do so, it is important that members are equipped to make informed financial decisions.
- As such, financial tools are required which allow individuals to make decisions about their retirement funding and other important financial issues.
- Such tools already exist and are widely used by financial planners. While many tools are available online for the general public (usually on the websites of financial services providers), the take-up has been somewhat slower.
- As time goes by and individuals become more financially savvy or more concerned about their retirement funding, there will be greater demand for such tools by the general public.
- In the past, actuaries have primarily assisted retirement funds (as well as insurance companies and wealth management firms) to make financial decisions. While this type of work will continue, there is an increased appetite by corporate customers to assist their members or clients to make individual decisions. Actuaries are increasingly being called on to create tools to assist in the financial education of individuals, which will allow those individuals to make decisions on an informed basis.
- When creating such tools, it is important to understand the issue from the individual's perspective.
  - What factors influence the outcomes and what risks do individuals face when using such tools?
  - An understanding of the compliance and regulation issues is vital to any study of financial decision-making tools.
  - As the onus of financial decision-making increasingly passes to the individual, strict regulation controls the production of financial decision-making tools. In some cases, these tools cross over into the advice environment, which is heavily scrutinised by regulators.
- South African retirement funds are required by law to provide members with a benefit statement on an annual basis.
  - This statement provides information such as personal details, level of retirement savings and investment strategy.
  - Many trustees have, however, realised that this information does little to assist members with their retirement planning, for example, what lump sum is required to purchase a certain level of income at retirement and how big a benefit is the member on target to achieving.
  - As a result, many funds provide their members with retirement projections, either in paper-based format or online.

- Online projection tools have the advantage of allowing individuals to add additional information, like spouse's details and additional investments, to refine their retirement projection.
- Retirement projections provided by funds do, however, have limitations.

#### ***Setting assumptions for these tools***

- The assumptions used for retirement projections are similar to those used for DB fund valuations.
  - However, where DB valuations are performed for a group of individuals, DC retirement projections are performed at individual level.
  - The level of uncertainty and variation of the results are therefore significantly higher.
- One key assumption that is difficult to determine and nearly impossible to set at individual level is the salary increase assumption.
  - This will depend on individuals' specific career progression in their industry and will be difficult even for the individuals themselves to predict.
- The annuity that will be purchased at retirement is another key assumption that is difficult to determine at individual level.
  - The fund's objective—target RR based on an assumed annuity can be used to determine the annuity for retirement projection purposes, but the specific circumstances of the individual—whether he/she is married, the age difference and the level of the spouse's pension—will still be unknown

#### ***Members do not understand the uncertainty of the results***

- While all projection tools have disclaimers stating that the result is only a projection, many people see a mathematical result as something written in stone—a prediction of the future.
- They do not understand the extent to which the results are driven by the data they enter and, of course, the underlying assumptions.
- This process is exacerbated if the calculator shows results to an exact rand figure.

#### ***Lack of understanding of sensitivity of results to different assumptions***

- Most individuals would not realise how sensitive the results of a projection of retirement benefits may be to changes in key assumptions—
- especially their rate of return, salary increases and longevity.
- A good projection tool will need to show the user a range of results at different rates of return, for example, 1% higher and 1% lower than the rate they entered, and also the results if they lived longer than expected.

#### ***Lack of understanding of present values and the effect of inflation***

- In the past, the results of many calculator tools were expressed in future rand value—that is the undiscounted values of the figures were displayed.
  - This can be misleading if a person is trying to compare those results to their current salary to get a feel for their future standard of living.
  - Expressing the results in today's rand value will help prevent such misunderstandings.