Actuarial Society of South Africa

EXAMINATION

19 October 2021

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

This question required candidates to assist a new mining company establish a retirement arrangement for staff. This question was reasonably well answered.

i) Outline the options available to the company, including the nature of the retirement benefits that could be provided, and the options for the retirement vehicles that could be used. [15]

In summary:

- Benefits can be provided on either a defined benefit, defined contribution or some combination (hybrid) basis;
- In terms of the income tax act benefits can be provided through a pension fund, provident fund or a retirement annuity fund;
- The employer could choose to set up a stand-alone retirement arrangement or chose to participate within an Umbrella arrangement

Defined benefit funds

- The benefit is defined in terms of a fixed formula typically based on salary, service and an accrual factor
- The cost of providing the benefits is not known precisely until all the benefits cease to be paid
- Estimates can be made in advance on the basis of assumptions about future investment returns, employment patterns and inflation to determine regular contributions for funding purposes.
- However, the ultimate cost of the benefits will depend on the actual experience of these factors.
- Members are often required to contribute at a fixed rate towards the cost of their benefits, with the employer meeting the balance of the cost.
- In South Africa many lower-paid employees found them difficult to understand and as a result did not trust them resulting in a major switch in the 1980's
- Further switching then continued as employers became more aware and concerned around the risks involved with an unknown cost
- Typically, a defined benefit fund would have taken the form of a pension fund and would have paid pensioners from within the fund

Defined contribution funds

- In this case the amount that the employee and employer contribute to the fund is fixed in terms of the rules
- The resulting benefit is then totally dependent on the accumulated value of those contributions
- Simpler to understand and subject to fewer regulatory requirements
- Main requirement is simply that assets need to equate to the value of the liabilities

- DC funds have become the common form of retirement funding in South Africa
- The members could have some flexibility in structuring their retirement benefits
- The DC makes additional voluntary contributions easier to manage

Hybrid funds

- In DC funds, a DB underpin is sometimes applied to protect the members against some of the risks of low investment returns.
- The underpin is usually at a level that would only apply in the event of exceptionally poor investment conditions.
- A more generous underpin may be applied after the conversion of a fund from a DB form to a DC form.
- *In South Africa, the term hybrid fund often refers to an arrangement whereby the retirement fund consists of both a pension fund and a provident fund.*
    - *The members' contributions are paid into the pension fund, which provides pension benefits at retirement.*
    - *The employer contributions are paid into a provident fund, which gives the member flexibility at retirement of choosing either a lump sum benefit or a pension benefit.*
- A hybrid fund can also refer to a fund with DB and DC categories
    - The Company could for example consider a DB Fund with allowance for DC additional voluntary contributions

Pension versus Provident funds

- A pension fund allows a member to take up to one third of their accumulated benefits as a lump sum but must use the balance to purchase a pension;
- A provident fund member will receive a lump sum equal to the accumulated benefit on retirement but may convert part of this lump sum into a pension;
- Member contributions to a pension fund were always tax deductible;
- Member contributions to a provident fund were not tax deductible
- Legislation has effectively changed both of these
  (if the candidate goes into detail around changes then credit can be given here or below but not both)

Stand-alone versus Umbrella:

- Stand-alone funds are funds that are entirely independent of any other arrangement and established for the purpose of a single or related group of employers or their subsidiaries
- Multi-employer funds known as umbrella funds have increased in popularity in recent years.
- This is the result of the following:
- Economies of scale of a single large fund result in lower administration costs for the underlying sections.
- This is an important benefit to small employers for whom it would be expensive to establish and maintain a stand-alone fund.
- Increased regulation places more and more responsibilities on the board of trustees of stand-alone funds. These are avoided in an umbrella fund where a single board of trustees is responsible for the entire fund.

- Participation in an umbrella fund allows the employer to focus on their core business by avoiding the distractions involved with the governance of a standalone retirement fund.
- The increased use of technology allows stand-alone funds to replicate their benefit structures in umbrella funds.
    - This includes flexible contribution rates,
    - flexible death benefits,
    - investment strategies and
    - member investment choice.
- The downside of participation in an umbrella fund is the lack of control and influence over the management of the fund.
- Downside of umbrella is the regulator still manages the fund as if they are combined entity –
    - so a transfer of ESA for one employer will not be allowed if other sub-funds have a deficit resulting in an overall deficit.
- South African regulations distinguish between two types of umbrella funds:
    - Type A: 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 or recognised bargaining council or industry.
    - Type B: A set of general rules contains the governing principles of the fund and each employer has a special set of rules applicable to them.
    - This type of fund is usually set up by a service provider and there are no relationships between the participating employers.
- Most umbrella funds are DC in nature to avoid cross-subsidies between members of different participating employers and the consequences of a deficit on unrelated employers.

ii) Outline the conditions for tax approval and the tax treatment of contributions, withdrawal and retirement benefits and investments in respect of South African retirement arrangements. [10]

Conditions for approval

- The Income Tax Act defines a pension fund as "a fund that provides annuities on retirement and benefits for dependants on death",
- The following conditions are required for tax approval:
- There must be recurrent contributions at specified scales.
- Membership must be a condition of employment for all or a specified class of employees
- Current employees must be given the option to join within 12 months of when a fund is established.
- Not more than one third of the annuity may be commuted for cash.
- Management of the fund needs to preclude the employer from control of the fund or assets, and from deriving any monetary advantage.
- SARS must be notified of all changes to the rules.
- There can be no commutation of a dependant's pension after six months.
- The rules of the fund need to have been complied with.
- The definition of a provident fund is similar except for the definition of retirement benefit, which may be taken as a lump sum.

- In practice, once the Commissioner has approved a fund, the approval stands indefinitely, but it is only granted for one year. This means that, if the Commissioner discovers something in a fund's rules that he/she no longer approve of, he/she has the power to say that they will not renew approval unless that rule is changed.

Taxation of pension funds

Contributions:

- For pension fund members tax deductibility of member contributions changed in 2016 from 7.5% of pensionable earnings, to 27.5% of the greater of their taxable income or the total remuneration received from their employer.
- This is subject to a yearly maximum of R350 000.
- Contributions exceeding the maximum of R350 000 are carried forward and deemed as contributions for the following year.
- The carried forward amounts are decreased by contributions set off when calculating taxable retirement fund lump sums or retirement annuities.

Investment income:

- Investment income of retirement funds, including capital gains tax and dividends, is exempt from tax.

Benefits:

- A lifetime exemption of R500 000 applies to lump sum retirement benefits. On retirement, the first R500 000 (the lifetime exemption) is tax-free, the next R200 000 is taxed at 18%, the next R350 000 at 27%, and the balance (i.e. the benefit in excess of R1 050 000) is taxed at 36%.
- Withdrawal benefits previously taken are included in the R500 000 lifetime exemption.
- The tax-free amount is therefore reduced by any previous withdrawal amounts taken.
- Annuity income is subject to normal income taxation.
- On resignation, the first R25 000 (which counts towards the lifetime exemption amount) is tax-exempt and the next R635 000 is taxed at 18%, the next R330 000 at 27% and the balance at 36%.

Taxation of provident funds

- The tax position of a provident fund is exactly the same, except that any contributions not allowed for tax are added to the tax-free lump sum when a benefit becomes payable.
- Furthermore, any retirement from a provident fund before the age of 55 is taxed as a resignation benefit.

Taxation of retirement annuity funds

- Retirement annuity (RA) fund members previously enjoyed tax deductibility of 15% of non-pensionable earnings.
- From 2016 a member may now contribute 27.5% of the greater of taxable income or the total earnings from their employer into their pension, provident and RA funds.
- This is subject to a yearly maximum of R350 000. As with normal pension funds amounts exceeding this limit are carried forward to the following year.

iii) Briefly explain the changes in taxation legislation over the last few years and the resulting additional considerations for the company. [3]

- Over the last few years there has been tax alignment across pension, provident or retirement annuity funds.
  - The tax deductibility of contributions have been aligned across all funds
- Initially the amendments were going to introduce tax harmonisation and the annuitisation of retirement funds over a specific amount.
  - However, the annuitisation requirement for provident and provident preservation fund members was postponed due to political opposition.
- Annuitisation will now take effect from 1 March 2021, although this would only apply in respect of benefits accrued after that date.
- Compulsory annuitisation means that future benefits accruing under either a pension or provident fund need to be used to buy an annuity subject to a portion being available as a lump sum and any benefits that had accrued prior to 1 March 2021 retaining their ability to be taken as a lump sum;
- Therefore, there will no longer be a distinction between pension and provident funds in respect of future benefits.
- It is proposed that all accrued rights will be preserved,
  - for example, members of DC provident funds will have a record of their accumulated credit up to the effective date of change maintained, and will be allowed to take this portion (including investment returns to date of retirement) as a lump sum, subject to the same tax credit for contributions already taxed before the change.
- If the employer is starting with no prior fund then there would be no difference in future benefits,
- however, provision may need to be made for past benefits being transferred into the new fund
- The unions desire for a dc provident fund would need to be understood
  - Does this relate to the understanding of other provident funds in the sector and the historic nature of these funds; or
  - is this aimed at allowing members to preserve past benefits within the same provident fund structure?

iv) Briefly explain the factors that affect members' benefits and how these could be incorporated into the design of the fund to maximise these benefits. [6]

The main factors that affect the retirement outcome include:

- The amount being contributed to the fund
- investment portfolio
- insurance cover
- fees
- retirement age

These can be addressed to maximise benefits by:

- Most people aim for a standard of living in retirement similar to that which they enjoyed while working

- Industry targets suggest 60% to 80% of a person's pre-retirement income, as they have fewer expenses in retirement (no additional savings, potentially no home loans, less dependants relying on them and less tax)
- Projection methods can show a person's expected retirement benefit as an expected annual income and can be used to determine the level of contribution that combined with the expected level of investment returns would result in a high probability of meeting the target benefits;
- Ability to add an additional contributions or additional one-off lump sums can also be included
- The way in which the assets are invested both during the accumulation and potentially the drawdown phase would impact the final benefits
- Most DC funds offer a range of investment choices to allow members to take some control over their own retirement arrangements;
- The decision to change to a more aggressive (higher-growth) asset mix is the one decision a person can make that will probably have the greatest effect on their retirement result.
- Insurance cover: If insurance is available within the fund, the individual could be given control the level and type of insurance cover, which also controls the cost of premiums and therefore the net contributions that are available for retirement saving;
- Fees and other costs: impact on the net retirement savings and therefore when designing the fund consideration needs to be given to maximizing the efficiency of the fund
    - standalone funds versus industry or umbrella funds depending on number of employees
- Retirement age: In past generations, most people retired at a specific age—often 55, 60 or 65. This may be changing either where individuals continue working longer or need to work longer to increase their savings or reduce the capital needed post retirement

QUESTION 2

This question asked candidates to analyse the impact of post-retirement medical aid benefits on a company's financials. This question was the most poorly answered of the 3 questions in the exam, which was not surprising given that it was somewhat skewed to candidates who had experience with valuing this benefit.

i) Estimate liability as at 30 April 2021. State any assumptions that you make. [8]

- 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% for pensioners
- and 10% for employees as duration is longer.
- Assume medical aid increase at 1 May

Expected payments adjusted for actual increase	= 27.0 x (1+5%) / (1+8%) = 26.3
Employee liability on 2020 assumptions	= 220.4 x (1+10.7%) + (30.6) x (1+10.7%) = 276.2
	Above will include any new retirees so split between employee and pensioner liability won't be correct
Pensioner liability on 2020 assumptions	= 260.1 x (1+10.7%) - (26.3) x (1+10.7%) = 260.3
New assumptions	Discount rate = 12.7% Because nominal and real rate increase by 2%, inflation and medical aid increase assumption remain unchanged Assuming medical aid increase still equal inflation plus 2.0%
Employee liability 2021	= 276.2 x (1 – 10% x2) = 221.0
Pensioner liability 2021	= 260.3 x (1 – 8% x2) = 218.7
Est liability 2021before medical aid increase adj	= 221.0 + 218.7= 439.7
Liability after medical aid increase adj	= 439.7 / (1 + 8.0%) *(1 + 5.0%) = 427.5

Credit given for other reasonable assumptions

ii) Using the results in i) above, estimate the charges to profit or loss and other comprehensive income for the year ending 30 April 2021. [3]

P&L	Service cost = 30.6
	Interest cost = 276.2+260.3-30.6+26.3-220.4-260.1 = 51.7
	P&L charge = 30.6+51.7
OCI	=276.2+ 260.3- 427.5 =109.0
	Credit

iii) Discuss the points you would make in reply to the CFO. [7]

- The liabilities depend critically on medical aid contribution increases.
- Medical aid contribution increases are primarily driven by increase in the health care costs (medical inflation) but
- Are also driven by factors specific to the specific medical aid or even benefit option within the medical aid. This would include utilisation rate, claim underwriting, administration costs etc.
- The is no investment product that matches medical inflation and, given that medical aid contribution increases can vary between medical aid and benefit option, there is no investment product that provide an exact match to specific medical aid contribution increases.
- The investment product might attempt to match medical aid contribution increase on an approximate bases:
  - By investing in inflation linked debt in an attempt to earn a real return above price inflation which may then come close to medical inflation; or
  - By investing in equites that are correlated with medical inflation in some way (hospital groups, pharmaceuticals etc
- By simply reflecting the liability in the Company's accounts, it is in effect an investment in the Company. Financially it only makes sense to move to an external portfolio if the return is expected to be better that the return on equity in the Company. Shareholder's might ask some questions if an external portfolio is used.
- Investing with an investment manager will incur fees that don't occur by only recognising the liability in the company's accounts
- Also require governance time to monitor the investment portfolio
- With the sharp increase in yields and subsequent R109m credit to OCI, an investment in matching inflation linked assets will :
  - lock in current high yields and
  - remove volatility in the debits and credits to OCI in future.
- The company has no control over interest rate movements and it is also independent of company performance.
- By putting aside assets to cover the liability, there may be greater pressure from employees to benefit from these assets even if they don't qualify for the benefit (e.g. on resignation)
- An alternative approach to funding via an investment portfolio would be to do so through a combination of investment portfolio for actives and future increases, and purchasing matching annuities for the benefits in payment (pensioners)
  - Provides an exact match to a portion of the liabilities
  - Annual increases in the benefit would be matched each year by a purchase of additional annuities
  - New retirees would result in a new annuity purchase
  - Disadvantage would be that the full current pension liability (at least level annuity) would have to be funded now

- Would require a cash outflow every year to purchase the increase as a result of medical aid inflation
- Would require a cash outflow for each retirement
- Simplest would be to keep purchasing from the same insurer
  - – possibly 3rd party risk exposure
  - Exposed to one insurer's pricing, or more complexity with multiple insurers
- Difference between annuities purchased and total liability in company financials would then be what is invested in an investment portfolio to provide for future increases and retirements

iv) Set out five alternatives and briefly describe how each contains or makes the future liability more predictable.

1) Close to new employees

- This will contain the ultimate cost of the scheme in the long term
- However in the short to medium term the existing variability in the scheme liability will continue without any other changes discussed below.
- No cost to implement but
- Will result in 2 categories of employees, with and without PRMA subsidy. Might be problematic in future.

2) Limit impact of medical aid option changes

- Prevent pensioners from changing their medical aid option in retirement (or only allow a cheaper option) or
- Allow the pensioner to change medical aid option but keep the original option for determining the employer subsidy.
- Will reduce the variability in the liability in future although
- Unlikely that pensioners change benefit options that frequently (especially to more expensive options with a 50% co-payment).
- Will need to communicate with employees and pensioners
- Possibly give pensioners a period of time before implementing.
- Will probably contain costs, especially if subsidy is applied to options with lower contribution.

3) Link subsidy increase to inflation or other index

- Will make liability more predictable as only 1 increase (not changes by option)
- Like that Company subsidy will reduce below 50%. Might be pressure to adjust this in future.
- Might even be possible to match liabilities if the index is investable (e.g. price inflation)
- Unless index is expected to be higher than medical aid contribution increases, a reduction in the liability will occur.
- Will make liability more predictable as only 1 increase (not changes by option)

4) Base subsidy amount on service with Company

- Current subsidy is 50% irrespective of service. Can change this to an accrual per year of service (e.g. 1.6% per annum)
- Easy to introduce for new employees but
- May result in significant reduction for older employees with short service.
- No impact on pensioners
- Won't remove variability on its own but will probably result in some cost saving in the case of new employees at older ages.

5) Buyout benefit

- The Company could consider buying out the subsidy scheme liability:
  - In the case of employees, the cost would probably be close to the accrued liability. In theory employees should be compensated in some way for the future service cost. However, they can now resign and keep their buyout benefit.
  - In the case of pensioners, the cost is likely to exceed the liability if annuities are purchased.
- Will probably result in an increased cost compared to liability. No issues with future variability.
- Only viable if Company can finance the buyout. Potentially could use its retirement fund if it has an ESA

- Most likely scenario will be to combine some of the options set out above.

Alternatives – not possible to provide an exhaustive list – other reasonable suggestions will also get credit, including:

- *Capping the subsidy at a specified limit (increasing with medical inflation) - containing costs and increasing predictability*
- *Providing a fixed subsidy to all pensioners, regardless of option – increasing predictability and possibly also containing cost*
- *Reducing or removing the spouse's benefit for new employees (even though it will be unpopular) – containing costs*
- *Increasing the retirement age to qualify for this benefit (from 55 to 65 to 60 to 65) – containing costs*

v) Discuss the reasons for the variances by employee. [4]

- The subsidy is 50% irrespective of service. The liability is based on the accrued service as a proportion of total potential service to comply with IAS19. Result is that employees with shorter potential service will have a higher liability per year of service.
- Benefit option. Typically, the employee liability is based on their current medical aid option. A more expensive option will result in a higher liability per year of service all else being equal.
- Age. The accrued liability per year of service will be higher for older employees, all else being equal.
- Gender. Depends on valuation assumptions but more likely to have a higher liability per year of service for a female due to higher life expectancy (all else being equal)
- Marital status. If actual marital status is used for employees (unusual) it would result in a higher liability per year of service for a married member, all else being equal

vi) Draft your response to the CFO. [6]

- A CTC approach towards PRMA benefits is not common. Usually the benefit is provided as an additional cost to the employer.
- The true cost of the subsidy benefit for each employee will vary based on the factors discussed in the previous question.
- It will be complicated therefore to have an accurate cost per employee and explain this to employees.
- Limits and restrictions will be required in order to prevent anti-selection by employees (e.g. CTC is based on cheaper option and employee moves to more expensive option in retirement).
- In practice some form of overall CTC appliable to the "average" employee will need to be determined and applied to all employees i.e. much like the employer contribution under a defined benefit pension fund.
- Will work better where the benefit accrues with service
- Where an explicit CTC charge is made for the subsidy, employees will reasonably expect a benefit on resignation. This will further increase the cost of the scheme.

QUESTION 3

This question focused on the provision of state social security benefits in South Africa. This question was straightforward and well answered.

i. Briefly describe the environment in which these benefits are provided. [5]

South Africa has:

- High levels of unemployment (more than 25%)
  - Resulting high levels of poverty
- Poor savings culture
- High HIV prevalence
  - Value place on death and disability benefits
  - Often at the expense of long-term savings
  - Child headed households and a disproportionately large number of orphans
- Well-developed private retirement benefit provision
  - Good coverage of formally employed South Africans
  - Includes retirement, death, funeral and often disability benefits
- Smaller companies, informal sector and unemployed have little in the way of retirement savings
  - Reliance on state benefits
- Tax incentives in place to encourage retirement savings
  - Tax relief on contributions
  - Tax relief on investment returns
  - Tax-free savings accounts

ii. Briefly describe these benefits and, for each benefit, state how it is funded. [7]

State provision in the form of social security grants:

- Old age grant
  - Payable to citizens over age 60
  - Means tested
  - Currently R1860 per month (R1880 for the over 75s)
  - Funded through general tax revenue on a PAYG basis

- Unemployment Insurance Fund (UIF)
  - For those who have lost employment
  - Includes domestic workers
  - Income based on period of service and average salary during service
  - Funded by compulsory contributions from employers
    - Employer and employee each pay 1% of pay

- Disability grants
  - Payable if disability results in being unable to work for 6 months or more
    - Disability assessed by state doctor
  - Income of R1860 per month
  - Means-tested
  - Payable to age 59
  - Funded through general tax revenue on a PAYG basis

- Child grants
    - R445 per month (means-tested) paid to primary caregiver
        - Caregiver to provide evidence
    - Funded through general tax revenue on a PAYG basis

iii. Outline the advantages and disadvantages of pre-funding the state old-age grant. [4]

Advantages:
- required contributions are less volatile
- i.e. not exposed to reduction in worker/pensioner ratio
- can plan better for increases in average age
- good investment returns earned may reduce required contributions
- may be beneficial to the country in assisting to develop capital markets and efficient allocation of capital.

Disadvantages:
- could be a huge initial burden
    - depending on how quickly benefits are to be fully funded
    - Need to pre-fund for future benefits as well as still fund for those in payment already
- capital markets may not be able to absorb investments, leading to bubbles and uncertainty
- large investments may give rise to political pressure to utilise these for pressing socio-economic needs.

i) State the principal conditions of this FSCA draft conduct standard, including:

a. General conditions

b. Measuring and monitoring sustainability

c. Communication to members.

[6]

This was a straightforward question, but was generally poorly answered.

General Conditions summary:

When including a living annuity in an annuity strategy the board must take into account

- The annuity strategy should represent the average member of a specific category
- Should assist those who may not feel comfortable making a decision
- Should consider the general risks that members are exposed to
    - of retirement savings being depleted too soon,
    - poor returns on invested capital
    - and excessive fees
- may have different strategies for different categories
- Where including a living annuity:
    - It must be appropriate and must offer more protection where this is a default rather than a specific choice;
    - Sustainability of income must be measured and monitored and communicated

Measuring and monitoring sustainability:

- Fund must measure sustainability by considering the payment of a particular income over the expected lifetime of the pensioner
- Where income payments increase in line with a targeted percentage of inflation, the chosen target should be communicated
- Can be measured:
    - As a monetary amount that is likely to continue to be paid based on capital and reasonable assumptions; or
    - As the expected number of years until the capital no longer supports the drawdown level
- Must ensure that:
    - where the living annuity is provided by the Fund this is monitored by the Fund; and
    - Where purchased on behalf of a member is monitored by the external provider applying the same criteria that would be applied by the fund
- The sustainable income level may result in a monthly pension that is lower than the required living income

Communication to members:

- Where living annuity is part of the strategy and paid by the fund or a fund policy must communicate to members:
    - At inception the expected commencement income and drawdown rate and risk and sustainability of the annuity;
    - Subsequent to inception information on the performance, updates on the continued sustainability and warnings where increase targets or targeted income may not be achieved
- Where purchased from external provider:
    - Agree that the external provider communicates on the same basis;
    - And monitors this communication.
- There must be clear communication that this type of annuity provides no guarantees

ii) Explain how the recommended, maximum and fund-specific rates should be determined? [6]

Candidates made a fair attempt at this question, but most candidates did not get the marks available for the more technical elements. Candidates also did not distinguish between the recommended published rates, and those that would be appropriate for the fund.

- The published rates would have provided a maximum and a recommended scale on the basis that there might be some ideal targeted drawdown that would sustain a pensioner based on a reasonable assumption around their life expectancy and an assumed return on investment
- The ideal targeted drawdown would likely assume a reasonable probability of achieving the result and as such may have some margins included and may have been tested at a high probability of success
- Drawdown rates should be attractive so as not to push members out of an annuity strategy

- The maximum drawdown would then likely have been based on the ideal target but with all margins removed and to some extent a assuming a best estimate case (perhaps a 60% probability of success)
- The maximum rate is intended to provide protection to the individual from drawing excessive amounts and depleting their savings too soon
- The rates of drawdown would have been based on age on the basis that ultimately the drawdown is intended to provide for the remainder of the pensioner's lifetime and in theory may include some allowance for the spouse to continue to draw thereafter
- The older the pensioner the lower the expected lifetime and the higher the potential drawdown rate could be to sustain that pensioner.
- In determining the Fund's own drawdown strategy, the following should be taken into account:
    - The age of the pensioners;
    - The fund's best estimate of future mortality;
    - A potential margin for improvements in mortality over the lifetime of the pensioner;
    - Consideration of whether allowance should be made for a spouse to continue to draw on the pension;
    - The investment portfolios that may be available to the living annuity account including expected and targeted returns and expenses;
    - The margin of safety that the Fund would wish to build into the model, i.e. the greater the desired probability of success the greater the margins required and the lower the recommended drawdown rates would be

iii) Assess the implications of the proposed increase in the level of the state old-age pension and the child grant. [7]

- If nothing else changes then the cost of providing this benefit will double.
- The level of increase in benefit is significant, and may result in behaviour change
- In the longer term, qualifying families may have more children to access the higher grant which increases costs further.
    - Increase in birth rates possible

- Current funding is via ongoing tax revenue
    - This would need to be increased significantly to fund increased benefit levels
- This could mean increasing marginal tax rates.
- Government could choose to print money
    - May not want any resulting inflationary impact
- Or raise funds through borrowing – e.g issuing bonds
    - Consequence of increased debt – possibly long-term

- This would increase the value of any exemption on contributions which might encourage higher contributions.
- However, higher tax rates mean less disposable income for the employed
    - which means contributions to retirement funding becomes less affordable and may then reduce.
- On balance, the latter effect should dominate.

- As birth is affected by income levels, it is possible that birth levels will drop if tax rises.

- Alternatively, government may raise the funds by reducing or removing retirement tax incentives
  - Redistribute from employed to unemployed.
  - May have the effect of reducing retirement contributions.

- If switching to a funded approach, the situation will be worse as contributions will need to be made in respect of both current and future generations.

- If contribution rates are not sufficiently flexible and scheme membership is voluntary, then members will simply withdraw or become paid up – taking their contribution to zero.

- Some savers may find the state benefit is now more generous than what they can provide for themselves.
- They may stop saving entirely in order to ensure they don't fail the means test.
- Alternatively, the state may alter the means test so fewer people qualify for the benefit, which would reduce costs and encourage private saving.
- Alternatively the means-test could be more strictly enforced.

- If private and state benefits are integrated, contributions to private and occupational arrangements may drop further.