Actuarial Society of South Africa

EXAMINATION

19 May 2016

Subject F204 - Pensions and Other Benefits Specialist Applications

MARKING SCHEDULE

The marking schedule below is indicative of what the examiners expect candidates to submit in their exam answers. Credit is given where candidates make valid points that are not contained in the marking schedule.

QUESTION 1

i) Set out the requirements in terms of Section 14 and the relevant regulations. You should include in your response a description of the responsibilities of each party in the Section 14 process. [16]

Some good answers but also some surprisingly poor answers given that this is a common process in the industry. Some candidates did not structure their answer to reflect the 16 marks available.

- Section 14 of the Act enables. Directive PF 6 (Board Notice 208) provides the detail.
- With minor exceptions, all Section 14 transfer must be approved by the Registrar of Pension Funds
- A S14 transfer is typically initiated by the employer of the transferor fund instructing the transferor fund to transfer a specified group of employees to another fund (the transferee fund) as at a specific date (transfer date)
- Typically all retirement funding contributions for the affected employees after the transfer date will go to the transferee fund
- Retrospective transfers (transfer date in past) and prospective transfers (transfer date in the future) are possible. Process differs slightly.
- Transferor fund:
  - o The board of the transferor fund will determine the transfer values as at the transfer date. This includes the allocation of any surplus or reserve account.
  - o Past practice (if any) and the valuator's advice will be important here
  - o Transferor fund's valuator must:
    - Certify whether the transfer values meet members' reasonable benefit expectations.
    - Detail the assumptions used to determine the transfer values

- Justify any deviation from the previous statutory actuarial valuation assumptions
- Set out the allowance made for discretionary pension increases
- Detail any surplus or reserves are included in the transfer values
- State whether the transfer values meet the PMBs
- Determine whether the transfer will impact negatively to the remaining members' benefit expectations
- Investigate the impact of the transfer on the financial soundness of the transferor fund

o Board of the transfer fund must also be satisfied members' benefit expectations are met.

o Directive 6 defines a transfer to be prejudicial to members if the member's resignation benefit before TV is greater than the resignation benefit after TV.

o If prejudicial:

- Transfer must be communicated to all affected members and the prejudice must be clearly explained
- At least 75% of members to vote in favour of transfer

o Transfer process must be clearly communicated to all members (including those not transferring).

o Members must be given at least 30 days to lodge any objections.

o The investment return to be added from date of transfer to the date of payment must be specified. This will usually be the return on the transferor fund's assets

o The transferor fund and its valuator must complete prescribed forms (Forms A and A1) which document the above process and these are then forwarded to the transferee fund.

- Transferee fund:

o The board of the transferee fund will determine what benefits to grant in respect of the transfer values received. This includes the allocation of any surplus or reserve accounts in the transferee fund.

- Past practice (if any) and the valuator's advice will be important here
- Transferee fund's valuator must:
  - Certify that the application of the transfer value in the transferee fund gives full recognition to the amount transferred in form of benefits granted to members and amounts allocated to surplus and reserve accounts
  - Certify whether the rights and benefits expectations of existing members in the transferee fund have been prejudiced.
  - If there is prejudice, the valuator must explain why this prejudice arises
  - Certify whether the transferee fund remains financially sound after the transfer and, if not, how financial soundness will be achieved.
  - Set out the impact on the funding level in the transferee fund
  - Set out the allowance made for discretionary pension increases in awarding benefits in the transferee fund
- The transferee fund and its valuator must complete prescribed forms (Forms A and A2) and then submit these with a submission letter to the Registrar for approval.
- The Section 14 documents should be submitted to the Registrar within 180 days of the effective date of the transfer (retrospective transfers)
- Details of any objections and how these were addressed must also be submitted to the FSB
- If transfer is due to a new employment agreement, copy of agreement must be submitted to the FSB
- A fee is payable to the Registrar for considering the Section 14 application
- Where a transfer will result in the transferor fund having no remaining assets or liabilities, additional forms must be completed and the transferor fund will need to produce audited financial statements as at the transfer date.
- Both funds should reach agreement about how benefits in the period between the transfer date and approval date are handled. Rules must be amended to affect this agreement if necessary. Care must be taken with risk benefits.

ii) Discuss the two most common methods of determining transfer values from a defined benefit pension fund. [4]

Most candidates failed to mention the "share of assets" approach. Reasonably answered by most candidates.

- Share of assets
  - Determined by multiplying the assets by the proportion of liabilities being transferred. Minimum of PMB
- Accrued liability
  - Based on service to date of transfer. Typically based on last statutory valuation assumptions (deviations must justified)
  - Proportionate share of any Investment and Solvency Reserves.
  - Must also consider allocation any other contingency reserves

iii) Estimate the assets, liabilities, reserve accounts and the overall financial position of the Fund as at 30 June 2016. State any further assumptions that you make. [20]

Most candidates made a reasonable attempt at projecting the liabilities and assets. Some candidates failed to apply an 18 month period correctly and some got confused as to what contribution rates impact on the assets and the liabilities. A number of candidates incorrectly applied the 18 month return on assets as an annual rate. Few candidates made a reasonable attempt at projecting the solvency and contribution reserves. Reasonably answered by most candidates.

Cashflows

- Assume salary roll stays constant at R1 200m per annum.
- Actual regular contribution paid: (7%+15%) x 18/12 x R1 200m = R396m
- Risk and expenses: 3% x 18/12 x R1200m = R54m
- Deficit funding contribution: 10% x 18/12 x R1 200m = R180m

- Contribution reserve shortfall: 4% x 18/12 x R1 200m = R72m
- Future service contribution rate for funded benefits: (15%+7%+4%-1%-2%) = 23%
- Future service cost: 23% x 18/12 x R1 200m = R414m
- Assume average resignation earned received average reserve value
- Assume any retirement get benefits equal in value to the ARV (will be reflected in active liability)
- Death and ill-health benefit in excess of ARV is insured. The value of benefits for any death or disability in the 18 months would then be reflected in the active liability estimate
- Average resignation benefit: (R4 275m x 1.1^(9/12)+R414m / 2 x (1.1)^(4.5/12))/5 000 = R961 262
- Resignation benefits paid: R961 262 x 15% x 5 000 = R721m
- Assume pension roll did not decrease due to deaths (some other reasonable assumption).
- Pensions paid: R90m +R90m / 2 x 1.05 = R137m

Assets

- Assets at 30 June 2015 = R6 587m x 1.12+(R396m-R54m+R180m-R721m-R137m) x 1.12^.5 = R7 022m
- Assumed risk premiums and expenses equals contribution made.

Liabilities

- Pensioner liability at 30 June 2015 = R1 260m x 1.1^(18/12) x 1.05/1.06 -R137m x 1.1^(9/12) = R1 293m
- Active liability at 30 June 2015 = R4 275m x (1.1)^(18/12) / 1.08 +(R414m-R721m) x 1.1^(9/12) = R4 237m

Reserves

- Contribution Reserve at 30 June 2015 = R431m x 1.1^(18/12) – R72m x 1.1^(9/12) = R420m

Solvency Reserve Actives at 30 June 2015

- SR Active 31.12.2014 = R855m for a 1.5% reduction in yield.
- Assume average age / duration of liabilities constant
- SR Active 31.12.2015 = R855/1.5*1 = R570m for a 1.0% yield reduction

Solvency Reserve Pensioners at 30 June 2015

- SR Pensioner 31.12.2014 = R126m for a 1.5% reduction in yield.
- Assume average age / duration of liabilities constant
- SR Pensioner 31.12.2015 = R126/1.5*1 = R84m for a 1.0% yield reduction

Financial position

Assets	
Market value:	R7 022m
Liabilities and reserves	
Active members:	R4 237m
Pensioners:	R1 293m
Solvency Reserve (actives):	R 570m
Solvency Reserve (pensioners):	R 84m
Contribution Reserve:	R 420m
Total:	R6 604m
Surplus:	**R 418m**

iv) Discuss the issues that XCorp should consider in discussions with ZKorp regarding the transfer of members from the Fund, taking into account the results of your calculations in part iii) above. [20]

Most candidates failed to address the issues that would matter to XCorp and spent time focussing on the issues that impact on the Trustees, funds and ZKorp. Very poorly answered.

- At both dates, 50% of the active liability is just under 40% of the total liability. This is a substantial transfer from the Fund
- There is unlikely to have been a transfer out of the Fund of this size before and as such there is unlikely to be any precedent in the Fund for dealing with transfers of this size and the transfer basis would need to be negotiated from scratch

- XCorp will negotiate with ZKorp regarding the transfer and may even include this in the purchase agreement. This is however not necessarily binding on the board of trustees of the Fund.

- Potentially, if Section 197 of the Labour Act is deemed to apply, transferring members of ZKorp might be entitled to a resignation benefit under the Fund at transfer date. Get legal advice as to whether this will apply.

- If benefits in the new fund are the same (or close) to those in the Fund, then a recognition of the same pension service dates that applied in the Fund would give members equivalent benefits. Must check that discretionary benefits are similar (pension increase policy in particular).

- Also check that transfer value will cover cost of benefits in new fund if pension service dates are retained. Should be the case as transferor fund is fully funded.

- Alternatively if benefits differ will need to apply individual transfer values to purchase service in new fund.

- Might mean some members are better or worse off in respect of certain benefits. Would want to ensure that resignation benefit is at least equivalent after transfer to satisfy "no prejudice" requirement in S14

- No salary increase granted in last 18 months. Might be pressure to catch-up in future. Ideally allow for this increase in liability in determining the final transfer value basis.

- Asset based TV as at 30 June 2016 would result in surplus being transferred. Depending on what the Fund rules state regarding the surplus (or what the Trustees decide if the rules are silent), ZKorp might want compensation for this in the purchase price.

- Especially since ZKorp have been paying 10% deficit reduction contributions.

- Similarly ZKorp may consider the Contribution Reserve as belonging to the employer as this subsidises the employer contribution rate. May want to compensate for this to in the purchase price.

- If actuarial reserve value plus reserves basis is used for transfer values, minimum would be ARV plus proportionate share of active member solvency reserve. Surplus and contribution reserve would be negotiated and probably reflected in purchase price for ZKorp.

- Without part of contribution reserve or surplus, XCorp contribution rate will increase from the 15% currently being paid by ZKorp. 10% deficit contribution can also fall away in new fund. Allow for both these factors in assessing employee expenses in ZKorp.

- Similarly, risk benefit and administration expenses might differ in new fund. Former will depend on risk profile of members transferring. Latter might increase as smaller membership (although new fund might increase in membership with other acquisitions

QUESTION 2

i) List the aspects that would need to be understood by the Financial Director, analysed by yourself and therefore included in your report. [8]

Well answered by most candidates but most answers did not list enough points about the Company's 3 retirement funds.

- <u>The Environment:</u>
- A brief introduction to the South African Pensions Landscape
- An introduction to the Pension Funds Act and general legislative framework
    - Obligations/objectives of the Fund
    - Role of Trustees both member and employer
    - Company's legal obligations
- Detailed analysis of the Funds:
- Size of the portfolios:
    - By membership – pooling of risks
    - By assets – ability to manage investment risk and solvency
- Membership demographics:
    - average age,
    - gender,
    - type of pensions (pensioners vs spouse and children)
    - Past mortality experience
- Funding levels/ solvency
    - Analysis per fund
    - Past valuation reports
- Valuation bases
    - General principles in setting assumptions
    - Understanding the basis relative to funding level
    - Comparison across funds
    - and how they compare to IAS
- Pension Increase Policies
    - Historic practice
    - Historic pension increase levels
    - CPI catch ups
    - Relative to minimum pension increase
- Investment Strategy
    - Each funds strategy, IPS
    - Assets classes
    - Level of matching or other protection

- Strategy in respect of managing cash flow
- Regulation 28

- Report on general risks and uncertainties for the Company in relation to these arrangements

ii) Discuss the various considerations that would need to be taken into account when considering a merger. [8]

Well answered by most candidates.

- Funding level and related policies
  - Use of surplus
  - Allocation of surplus between Fund and Employer
  - Targeted solvency levels
- Current Valuation bases
  - Comparison
  - Strongest to weakest
- Suitable new vehicle
  - One of the existing arrangements or new arrangement
  - If one which one, how would you choose
  - Size of assets, size of membership
  - Convenience or other factors – link to future active members
- Potential transfer basis
  - Agreement between Funds and actuaries
  - IAS 19 basis
  - Company role / influence
  - How to manage disagreements
- Pension Increase Policies
  - Managing different targets
  - Historic increases and practice
- Communication Strategy
- Pensioner expectations
- Rules of each fund
- Pension Funds Act
  - Section 14
  - Minimum Benefits/Increases
  - Directives / Board Notices

- Market trends – what have major companies done

iii) Suggest how you could deal with differences in the funding levels and pension increase policies if the pensioner pools are to be merged. [8]

Poorly answered by most candidates.

<u>Funding level:</u>

- Valuation basis to arrive at funding level and differences
- Consider merged fund valuation basis
- Consider the allocation of surplus where available
- Company's rights to any of the surplus over and above reserves
- Current pensioner rights to the surplus, Rules legislation
- Could do surplus apportionment before merger:
  - Either on funds' own basis or ideally on a merged fund basis
  - Allocate between Company and Pensioners
  - Pensioner portion retained for those pensioners and used to:
    - Once off increase,
    - fund a change in pension increase policy
    - Set aside a bonus pool
  - Company allocation:
    - to fund less funded arrangements where possible
    - assist in adjusting pension increase policies
    - once off adjustments
    - Change in basis or funding to "merged" basis

<u>Pension Increase Policies:</u>

- Different categories of pensioners
  - Simplest
  - Managing different targets
  - Historic increases and practice
- Single new policy
  - Using surplus to align either through increases, changes in policy
  - Which to select, most affordable of the 3 or the highest target
    - Depend on assets available and ability to adjust and align
- Merger may be on a purchase pension type basis
  - Each fund attempts to purchase a pension in new arrangement
  - Using current funding
  - Cannot reduce existing level of pension
- Pensioner expectations to be managed

- Pensioner categories simpler for communication but does not remove all risks of having single entities
- Communication
- Agreement on transfer

iv) Set out the points that you would make in your response. [10]

Well answered. Better candidates included suitable asset class ranges.

- The trustees should consider the following asset classes, subject to overall investment objectives and risks
- The PFA and regulations will specific the appropriate limits with regards to the asset classes that can be used
- The objective would be to achieve a targeted pension increases subject to maintaining funding level

- SA equities:
  - To provide an element of inflation matching for pensions
  - Reasonable range, 35%–50%, say
  - Level would be determined through ALM to allow sufficient long term growth relative to short term liquidity needs
  - Listed high quality equities preferred due to liquidity for a pension paying portfolio
- Foreign equities:
  - Diversification benefits despite SA liabilities as in more global economy
  - To match inflation linked pension liabilities, but with a currency risk where pensions are local currency
  - Reasonable range, 0% up to 15% (less than maximum allowed of 25%)
  - Subject to overall limit with local of 75% in terms of REG 28 but likely to be no greater than 60% of typical pensioner portfolio with duration of around 10 years (other reasonable comment, i.e. not up to 75%!)
- SA property:
  - Due to liquidity may tend to avoid
  - Listed only due to liquidity constraints
  - Although listed has closer relation to equity
  - Unlisted likely to provide further diversification at a potentially unacceptable liquidity risk given the pensions pool
  - provides match for inflation linked pension liabilities
  - Reasonable range, 0% to 10%, say

- Subject to direct limits

- Foreign property
  - As per SA
  - Additional exchange rate volatility
  - Wide range of listed opportunities
  - Subject to limits

- Fixed interest:
  - Reasonable range, 20% to 70%
  - Likely to hold more inflation linked bonds for inflation targeting pension increases
  - Adds diversification
  - and importantly the stability
  - Large portion nominal still appropriate considering the pension liabilities can be considered as two elements in relation to current pensions paid for the remaining lifetime and future increases on those pensions
- Corporate bonds
  - as for RSA bonds, but with a credit risk
  - with risk comes a potential enhanced yield
  - only highly rated if at all due to liquidity risk of pension paying portfolio
- Index-linked bonds
  - Assist in matching benefits that increase according to a price index
  - Added diversification with stable potential inflation matching returns
  - Unlikely to be 100% of assets despite the inflation match as the cashflow matching would not be possible and would result in redemptions losing the inflation protection/guarantees
- Cash
  - % as required based on liquidity requirements
  - 5% to 10% at most
  - To meet immediate liabilities, expenses, benefits
  - Includes short dated bills and bonds

v) For each fund set out the advantages and disadvantages of the investment strategy and the particular asset classes used within each strategy. You should include in your response any particular considerations relating to the pensioner liabilities. **[16]**

Well answered by the better candidates but some poor attempts as well.

Fund A:

- A single strategy has been adopted for both pensioners and in service DC members, high equity weighting, high foreign exposure
    - The strategy appears to be significantly weighted to what may otherwise be an appropriate strategy for a reasonably young in service population
    - Pensioner portfolio at 25% of total assets may be sufficient for a segregated strategy
    - Depends on size of total portfolio
    - The strategy may have been implemented for simplicity's sake,
    - However, you would then expected an overall strategy that takes account of the weighting towards the assets/liabilities under each section of the Fund
    - Looking at the overall strategy from a pensioner perspective:
    - High equity allocation allows target of returns in excess of inflation which assists in meeting the 100% CPI target
    - However, this may be too high and result in volatile returns and funding level making it difficult to manage pension increases in the short term
    - High exposure to foreign assets provides good diversification
    - But the pensions being in ZAR would therefore be exposed to short term currency fluctuation, long term expected depreciation
    - Foreign cash while providing diversification could ultimately be a bet on currency which would not be an appropriate long terms strategy
    - Taken into consideration with the low or nil allocation to local cash there may be liquidity constraints with respect to pension payments
    - You would have to assume that the current cash inflows are sufficient to meet the current benefit and pension outflows
    - Otherwise, there is a significant lack of short term liquid assets
    - Liquidation of the long term investments comes at a risk of having to realise assets at inopportune times
    - Being close to 100% funded
        - the strategy may have been adopted to attempt to build surplus over the short to medium term and assist in meeting the expected cost of benefits
        - this comes at a significant investment risk to the Fund and sponsor
        - the fund does not appear to have an appropriate level of solvency reserves exacerbating the risk

Fund B:

- Pensioner only fund, some equity weighting, high fixed interest and cash weightings
    - The strategy has a not unreasonable balanced
    - Being a closed pensioner only fund:

- Cash flow would be a concern and may explain the high allocation to cash
- The appropriate level will depend on the expected duration of the pension liabilities
- Some exposure to local equity provides for a long term inflation protection
- The exposure may be on the low side which may also relate to a short duration of pensioner liabilities
- If there duration is not particularly short the fund may wish to have a greater exposure to inflation beating investments either through increased equity or some exposure to liquid property investments
  - The Fund has a 75% inflation target and based on expected return of the various assets classes this may be a reasonable target.
- They have significant excess assets which may also explain the more conservative strategy
- May be protecting capital although they would be exposed to some interest rate risk
- Significant surplus may on the other hand allow the fund to take a little more risk and provide higher increases, ad-hoc increase or bonuses
- However, the high exposure to nominal bonds may be less appropriate
- Liquidity only from coupons with high redemption amounts
- May not be appropriate match for cashflow
- Inflation linked bonds provides some protection from inflation in the cashflows but may also not be an appropriate match for the cashflows
- Given the inflation target the allocation to fixed interest should possibly be towards inflation linked
- With large exposure to cash likely less need for liquidity

Fund C:

- A single strategy has been adopted for both pensioners and in service DB members, low equity weighting, high property exposure, high nominal fixed interest
  - The strategy appears to be significantly weighted to pensioners in that there is significant exposure to cash and fixed interest
  - The exposure is unlikely to be entirely appropriate even if a pensioner only portfolio as not enough growth assets to target increases that can beat inflation
  - Hurdle rate implies not specific inflation target but generally some relevance to inflation would form part of the pensioner expectations
  - Unless there is an exceptionally short duration the exposure to cash is too high and there would be better strategies for matching the cashflow requirements

- While the valuation basis is less exposure to interest fluctuations over the long term there is likely to be a disconnect between inflation and the pension increases
- Given the size of the pool the strategy appears overly conservative
- Some cognisance should be taken of the in service liabilities although this are likely to be dwarfed by the size of the pensioner pool
- High property allocation may need to be investigated further
- It's possible this may be exposure to a single property, Company premises etc
- However, if it's a well-diversified liquid portfolio then it would provide good diversification and good exposure to an asset class expected to outperform inflation

