

RET DAC Model Solutions

Fall 2021

1. Learning Objectives:

1. The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.
4. The candidate will be able to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.
5. The candidate will be able to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.

Learning Outcomes:

Given a plan type, explain the relevance, risks and range of plan features including the following:

- (a) Plan eligibility requirements
 - (b) Benefit eligibility requirements, accrual, vesting
 - (c) Benefit/contribution formula, including the methods of integration with government-provided benefits
 - (d) Payment options and associated adjustments to the amount of benefit
 - (e) Ancillary benefits
 - (f) Benefit subsidies and their value, vest or non-vested
 - (g) Participant investment options
 - (h) Required and optional employee contributions
 - (i) Phased retirement and DROP plans
 - (j) Risk-sharing provisions
- (4a) Identify how plan features, temporary or permanent, can adversely affect the plans sponsor.
- (4b) Assess the risk from options offered, including:
- (i) Phased retirement
 - (ii) Postponed retirement
 - (iii) Early Retirement
 - (iv) Option factors
 - (v) Embedded options
 - (vi) Portability options
- (4c) Recommend ways to mitigate the risks identified with a particular plan feature

1. Continued

- (4d) Analyze the issues related to plan provisions that cannot be removed.
- (5a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan.
- (5c) Assess the feasibility of achieving the sponsor's goals for their retirement plan.
- (5f) Design retirement programs that manage retirement risk and are consistent with sponsor objectives.
- (5g) Design retirement programs that promote employee behavior consistent with sponsor objectives.
- (5m) Recommend an appropriate plan type and plan design features for providing retirement benefits and defend the recommendations.

Sources:

DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing

Fundamentals of Private Pensions, McGill et al., 9th Edition, 2010, Chapter 5

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Critique the plan provisions with respect to Company ABC's objectives.

Justify your response.

Commentary on Question:

Successful candidates critiqued each plan provision in detail with respect to Company ABC's objectives. Some candidates only described a few plan provisions that help meet the company's objectives rather than critiquing them all individually and received partial credit.

Provision: Vesting

- A vesting period of 2 years will help reduce volatility from turnover of new hires as they must stay with the company in order to be entitled to a benefit
- A vesting period of 2 years may deter younger employees from joining Company ABC since they tend to be a more mobile workforce

1. Continued

Provision: Pensionable Earnings

- Overtime pay included as pensionable earnings will create volatility and uncertainty in projections when determining the expected share of retirement costs
- Overtime pay included as pensionable earnings will create uncertainty in retirement benefits and volatility in company costs

Provision: Employee Contributions

- Employee contributions help share the cost of the pension plan with Company ABC

Provision: Retirement Benefit

- An averaging period of 3 years can lead to more volatile retirement benefits as compared to a longer averaging period (e.g. 5 years)
- The retirement benefit is very generous and would be attractive to younger and long service employees

Provision: Early Retirement Benefit

- Early retirement subsidies are attractive to long service employees as they can retire prior to their normal retirement age with a more generous benefit than actuarial equivalence
- Early retirement subsidies are not service-related which limits retention incentives for long service employees
- Generous early retirement subsidies included in the retirement benefit will create volatility and lead to less predictable plan costs

Provision: Termination Benefit

- Actuarial equivalence reduction helps make the plan costs more predictable
- Might encourage retaining long service employees close to retirement due to the cliff eligibility of the early retirement subsidies

Provision: Portability

- Allowing portability on retirement can cause losses to the pension plan due to anti-selection and lead to volatility in funding requirements
- The plan pays a lump sum on termination which is attractive to a younger workforce as they tend to be more mobile
- Portability on retirement can be attractive to long service employees depending on their personal financial situation (e.g. potential for investment gains, more liquid, etc.)

1. Continued

Provision: Indexation

- The cost of indexing pension benefits can be unpredictable and cause fluctuations in funding requirements
 - No defined maximum of indexation can leave the company exposed to costly rises in pension benefits in periods of high inflation
 - Indexation of pension benefits to inflation is attractive to employees with long service as their pension does not lose purchasing power over time
- (b) Evaluate how the overtime policy aligns with Company ABC's objectives for the defined benefit pension plan.

Commentary on Question:

Candidates struggled with how the overtime policy would affect the sharing of retirement costs. Overall, candidates successfully evaluated how the overtime policy would affect the predictability of company costs, attraction of younger employees and the retention of long service employees.

Share Retirement Costs

- Employees will contribute on lower earnings throughout their career and close to retirement receive large increases in their retirement benefit due to a spike in pensionable earnings within their final 3 years as a result of the overtime policy
- Employees with steep earning profiles in a final average pension plan may cause Company ABC to fund a higher than expected share of the cost

Predictable Company Costs

- Company ABC may have difficulty projecting future benefits as the overtime policy creates uncertainty in future earnings

Attract Younger Employees

- The policy may lower Company ABC's attraction and retention of younger employees as they are given the least priority to receive overtime

Retain Long Service Employees

- The overtime policy will help retain longer service employees as they have priority for overtime hours
 - The overtime policy will help retain longer service employees because they have the potential to significantly improve their final average pay close to retirement leading to a higher benefit
- (c) Recommend two changes to the plan design if Company ABC wants to keep the overtime policy.

Justify your response.

1. Continued

Commentary on Question:

Most candidates did not receive full credit for this question. Many suggested to exclude overtime pay in the definition of pensionable earnings but failed to recommend another plan design change to mitigate the impact of the overtime policy to help meet the company's objectives. Other valid answers were also accepted and received credit if appropriate justification was provided

Company ABC can make the following plan design changes to meet their objectives given the overtime policy:

- Exclude overtime pay in the definition of pensionable earnings
 - This will eliminate the effect of the overtime policy on the pension plan and help Company ABC meet their need to share retirement costs as it will decrease the likelihood of employees having steep earning profiles
 - Removing overtime pay from pensionable earnings will reduce volatility in retirement benefits and allow Company ABC to better predict their costs to the plan
- Change the retirement benefit from a final average pension plan to a career average pension plan
 - The retirement benefit for career average plans is determined using the associated pay for each period of service. This mitigates the risk that Company ABC will fund an unequal share of the retirement costs due to employees with steeper earning profiles from the overtime policy
 - Career average plans also provide for more predictable company costs than final average pension plans since future earnings do not affect the retirement benefit accrued for previous years of service

2. Learning Objectives:

4. The candidate will be able to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.
5. The candidate will be able to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.

Learning Outcomes:

- (4a) Identify how plan features, temporary or permanent, can adversely affect the plans sponsor.
- (4c) Recommend ways to mitigate the risks identified with a particular plan feature
- (5a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan.
- (5e) Identify the ways that regulation impacts the sponsor's plan design goals.
- (5f) Design retirement programs that manage retirement risk and are consistent with sponsor objectives.
- (5m) Recommend an appropriate plan type and plan design features for providing retirement benefits and defend the recommendations.

Sources:

DA-104-13 Deferred Retirement Option plans (DROP Plans)

DA-100-13 Issues for Implementing Phased Retirement in Defined Benefit Plans

DA-622-17 Canada Revenue Agency Frequently Asked Questions on Phased Retirement

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Recommend a valuation assumption change that reduces the impact of the DROP on the actuarial gain or loss.

Justify your response.

2. Continued

Commentary on Question:

Most candidates aptly identified the retirement assumption as the key assumption requiring an update corresponding to the participant behavior expected to occur due to the DROP feature. For maximum points, candidates had to describe the actuarial gain / loss implications of adopting DROP and how updating the retirement assumption would minimize the future gain/losses.

The plan should change to use retirement age decrements that better reflect the expected experience of the DROP to minimize volatility of gains/losses due to mis-estimating this assumption.

All else equal, the plan experiences actuarial gains if participants defer retirement beyond the age at which they have access to unreduced benefits.

The DROP is likely to cause certain participants to commence unreduced benefits earlier than they otherwise might. This will increase costs to the plan sponsor. It also will lead to actuarial losses unless the retirement age assumptions are adjusted to reflect the expected decrements with the DROP in place.

- (b) Recommend four plan design features that limit the increased cost and financial volatility of adding the DROP.

Justify your response.

Commentary on Question:

Candidates did well in identifying a variety of plan features that could offset the DROP cost and volatility. However, to achieve full credit, in addition to just naming the feature, candidates also needed to describe exactly how the new feature would counteract costs or minimize volatility.

Only four features are listed below; other valid responses with justification also received credit.

Indexing the DROP accounting crediting rate to be based on actual plan investment earnings. This transfers the investment risk, which can lead to larger contribution requirements, to the participant

Only allowing the DROP account benefit to be paid as an annuity would reduce the risk of volatile lump sum payouts and limit up front liquidity drain.

The plan could remove early retirement subsidies on future accruals. This can limit the overall benefits that are accrued by preventing participants from locking in unreduced benefits in their DROP account. However, this could also reduce the effectiveness of the DROP in deterring participants from terminating employment early.

2. Continued

Limiting employment after the end of the DROP period would eliminate the possibility of additional benefits being accrued after the DROP period. This also provides more certainty around the liability associated with any participant who elects DROP.

- (c) List criteria that would make an employee ineligible to collect retirement benefits while continuing to accrue benefits under the defined benefit plan.

Commentary on Question:

Most candidates were able to cite age restrictions (age 55 and 60 and not unreduced retirement eligible) but struggled to identify other criteria. Credit was provided for other valid reasons not listed in solution below.

An employee is ineligible to collect benefits while continuing to accrue if:

- they are under age 55,
- under age 60 and not eligible for an unreduced pension,
- the employer chooses to exclude the employee from eligibility, or
- the plan is a designated plan.

3. Learning Objectives:

9. The candidate will be able to apply the standards of practice and guides to professional conduct.

Learning Outcomes:

- (9e) Explain and apply all of the applicable standards of practice related to valuing retirement obligations.
- (9f) Recognize situations and actions that violate or compromise Standards or the Guides to Professional Conduct.

Sources:

DA-142-15: ASOP 4 - Measuring Pension Obligations and Determining Pension Plan Costs or Contributions

Embedded Options in Pension Plans: Catalogue of Embedded Options Survey of Prevalence of Embedded Options, pp.1-17

SOA Code of Professional Conduct

Commentary on Question:

This question tested candidates' knowledge and application of ASOP No. 4 – Measuring Pension Obligations and Determining Pension Plan Costs or Contributions as pertained to specific situations NOC was considering. Candidates generally performed better on parts (a) and (c) of this question. Candidates that performed well overall demonstrated how the ASOP specifically came in to play for the situation at hand. Reasonable answers not included below were also awarded credit.

Solution:

- (a) Describe considerations under Actuarial Standard of Practice No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions (ASOP 4) when assessing the reasonableness of this change.
- Reflect the different measurement date by either adjusting the data or adjusting the obligations to the measurement date. Adjustments must be reasonable
 - Actuary must determine whether the adjustment produces a reasonable result for the purpose of the measurement.
 - Things to consider adjusting, if appropriate:
 - Changes in demographics and participant count
 - Length of time since prior measurement
 - Differences in cash flows (BPs, contributions, ROA, expenses)
 - Changes in economic and demographic expectations
 - Plan provision changes

3. Continued

- Plan changes between the prior valuation date and the measurement date should be reflected. Plan changes adopted after measurement date may be reflected
 - Actuary should consider whether assumptions should be revised (versus simply using same assumptions as prior measurement)
- (b) Describe the considerations under ASOP 4 when determining how to value the new benefit provision.
- This plan provision is considered an “embedded option” as its value is derived primarily from the behavior of an underlying economic variable (in this case, investment return)
 - It is difficult to measure using deterministic procedures and assumptions due to benefits varying asymmetrically with experience (as described in 3.5.3 in ASOP 4)
 - The deterministic assumption would be that future investment return is exactly equal to the assumption (e.g., 6.25%) in each future year
 - In this case, a COLA would be triggered in every future year
 - This is unreasonable
 - Under ASOP 4, actuary should consider using an alternative procedure in this situation
 - Procedure should be based on professional judgment based on purpose of measurement and other factors
 - ASOP 4 provides an illustrative list of options, including stochastic modeling, option-pricing techniques, or assumptions adjusted for asymmetric impact of experience
 - One possibility: assume actual return exceeds 6.25% in half of future years and is less than 6.25% in the other half. So, use a COLA assumption for all future years = $\frac{1}{2}$ x inflation assumption. This approach may be reasonable if the 6.25% ROA assumption is interpreted/set as the median return.
 - Another possibility: perform stochastic modeling to determine a distribution of future investment returns using underlying CAPM assumptions (expected return, standard deviation, correlation between asset classes). Use model output to set COLA assumption. This approach may be reasonable if the 6.25% ROA assumption is interpreted/set as the mean return.
 - Actuary should describe the approach taken such that another actuary could objectively appraise it

3. Continued

- (c) Recommend how the actuary should respond to this directive.

Justify your response.

- Under ASOP 4, this is a prescribed assumption set by another party
- Evaluation:
 - ASOP 27 addresses selection of economic assumptions (including inflation) as well as evaluation of prescribed assumptions
 - Assess materiality of assumption: actuary would deem inflation material as COLAs have pronounced effect on liability
 - Review appropriate recent and long-term historical data (ex. Consumer price indices, Implicit price deflator, Inflation forecasts, Yields on government security and debt (nominal and inflation-indexed))
- Response:
 - Discuss with CFO that the assumption is likely unreasonably small over the long term—liabilities and expense would be understated because actual COLAs over the long term would be expected to exceed 1% more often than not
 - Present CFO with evidence to support actuary's claim
 - Consider offering an alternative assumption that the actuary would be willing to sign off on
 - Select and ultimate rates may be a valid compromise (lower short-term, higher long-term)
 - ASOP 27 explicitly allows a select and ultimate inflation assumption
 - Code of Prof Conduct, Precept 10 is relevant: actuary should exercise courtesy and cooperation
- Disclosure: if the CFO cannot be convinced to change the assumption to something the actuary can support, certain items must be disclosed:
 - Source of prescribed assumption (who set it)
 - That the assumption significantly conflicts with what would be reasonable for the purpose of the measurement
 - ASOPs 4 and 41 address communication/disclosure related to prescribed assumptions
 - Code of Prof Conduct, Precept 4 is relevant: actuary should ensure communication is clear and appropriate
- Code of Prof Conduct, Precept 8 is relevant: actuary should exhibit control of his/her work product and ensure it's not used to mislead other parties

4. Learning Objectives:

1. The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.
3. Candidate will understand how to analyze the risks faced by retirees and the participants of retirement plans and retiree health plans.
5. The candidate will be able to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.
7. The candidate will be able to analyze/synthesize the factors that go into selection of actuarial assumptions.
8. The candidate will be able to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.

Learning Outcomes:

Describe the structure of the following plans:

- (a) Traditional defined benefit plans
- (b) Defined contribution and savings plans
- (c) Hybrid plans
- (d) Retiree Health plans
- (e) Other alternative retirement plans such as shared risk plans, target benefit plans, etc.

Given a plan type, explain the relevance, risks and range of plan features including the following:

- (a) Plan eligibility requirements
 - (b) Benefit eligibility requirements, accrual, vesting
 - (c) Benefit/contribution formula, including the methods of integration with government-provided benefits
 - (d) Payment options and associated adjustments to the amount of benefit
 - (e) Ancillary benefits
 - (f) Benefit subsidies and their value, vest or non-vested
 - (g) Participant investment options
 - (h) Required and optional employee contributions
 - (i) Phased retirement and DROP plans
 - (j) Risk-sharing provisions
- (3c) Evaluate benefit adequacy and measure replacement income for members of a particular plan given other sources of retirement income.

4. Continued

- (5a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan.
- (5d) State relationships or recognize contradictions between a sponsor's plan design goals and the retirement risks faced by retirees.
- (5e) Identify the ways that regulation impacts the sponsor's plan design goals.
- (5f) Design retirement programs that manage retirement risk and are consistent with sponsor objectives.
- (5g) Design retirement programs that promote employee behavior consistent with sponsor objectives.
- (7a) Evaluate appropriateness of current assumptions.
- (7b) Describe and explain the different perspectives on the selection of assumptions.
- (8f) Demonstrate the sensitivity of financial measures to given changes in plan design.

Sources:

Fundamentals of Private Pensions, McGill et al., 9th Edition 2010, Chapter 9

DA-173-18: How accurately does 70% Final Employment Earnings Replacement Measure Retirement Income (In) Adequacy? Introducing the Living Standards Replacement Rate (LSRR) – (sections 3.1, 3.2, 3.4, 4 & 5 and Appendices background only)

Managing Post-Retirement Risks: Strategies for Secure Retirement, 2020

DA-102-13: Evaluating the Design of Private Pension Plans: Costs and Benefits of Risk Sharing

DA-136-17: Selection of Actuarial Assumptions, Consultant Resource Manual, SOA Version, Mercer, (excluding pp. 1-4,14-25,29-32 and 68-109)

DA-140-21: ASOP 27 Selection of Economic Assumptions for Measuring Pension Obligations

DA-179-19: Introduction (A58), IFRS1 (paragraphs 1-40 & Appendix A), IAS 19, IFRIC14.

4. Continued

Commentary on Question:

Part a and b were numerical questions and both were answered well, with many candidates receiving full credit for these parts. Candidates did okay on part c which tested their comprehension and application of the material.

The question tested the viability of converting a DB plan into a DC plan and maintaining plan sponsors' objectives.

Solution:

- (a) Calculate the Service Cost under International Accounting Standard IAS 19, Rev 2011 as a percentage of base pay for the existing DB plan for the average participant.

Show all your work.

Commentary on Question:

See above

The model solution for this part is in the Excel spreadsheet.

- (b) Calculate the flat DC contribution as a percentage of base pay for the average participant necessary to restore the lump sum value lost due to the DB plan freeze.

Show all your work.

Commentary on Question:

See above

The model solution for this part is in the Excel spreadsheet.

- (c) Critique the appropriateness of this suggested design based on the stated goals of Company ABC.

Commentary on Question:

See above

Critique of Using Stated Assumptions from (b) to Define Everyone's Rate

- Determining the contribution % using average age, service and pay will not produce an appropriate DC replacement for every employee
- Generally, using plan average age, service and pay will produce too high a DC % for younger employees/new hires to replace future value of lost DB plan
- Using plan averages will produce too low a result for older employees to replace future value of lost DB plan

4. Continued

- Using 0% pay increase assumption is not reasonable
- Using the same average retirement age with no decrements may be appropriate for this type of analysis since a DC contribution target % must be pegged to a single age
- Using a date earlier than the normal retirement age (65) will build in the value of the retirement subsidy into the DC plan. Is this intended?

Critique of Appropriateness of Design of plan to Meet Sponsor's Stated Goals

- Future hires will determine long term cost profile of plan as current participants with the frozen DB benefit retire
- New hires receiving the high DC % contribution will be provided a higher benefit at retirement than the DB plan would have provided
- May exceed legislated DC limits for some participants
- The 3 goals stated by the company are not able to all be satisfied at the same time for a going concern company
- Goal a) and c) are possible to achieve together, but would need to provide a different DC % for each employee and it would need to change every year, which violates goal b)
- Goal b) and c) are possible to achieve together, but this will not produce the same DB plan value for all employees
- Goal a) and b) cannot be achieved together
- DC plan will have a larger P&L cost of annual accruals vs. that of the DB plan since the goal is to give all employees the same DC % AND replace DB lost value -> does not immediately meet plan sponsor goal
- This is because the DC plan does not build in decrements or discounting to determine the annual contribution provided; whereas, the DB plan cost does
- However, moving to DC plan will remove future volatility in Balance Sheet since shifting risks to employees (i.e. interest rate, return on assets etc.)
- The DB service cost will increase over a person's career in a final average pay plan due to shortening of discount period and be volatile due to different than expected salary increases and changing interest rates
- The DC contribution will increase due to salary increases but be more stable since not dependent on interest rates or past service impacts

5. Learning Objectives:

4. The candidate will be able to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.

Learning Outcomes:

- (4c) Recommend ways to mitigate the risks identified with a particular plan feature
- (4e) Assess the impact of possible changes in plan design due to changes in legislation.

Sources:

DA-166-17: Shifting Public Sector DB Plans to DC, pp. 1-22

DA-114-13: Risk Management and Public Plan Retirement Systems - Appendices only (pp. 1-33 background only)

Commentary on Question:

This question was testing the candidates' ability to think like an employer for the design of an early retirement incentive program (ERIP) and comparing the similarities and differences in the public vs. private sector. The question was generally well done. Candidates generally did well to highlight eligibility and design considerations for an ERIP, but missed more specific points from a public or private plan perspective.

Solution:

Compare and contrast the considerations when designing an early retirement incentive program for the following:

- (i) Public sector pension plan
- (ii) Private sector pension plan

Similarities:

- Eligibility criteria for the program and target employees – need to consider the overall goal of the ERIP: who the program is targeting, and estimated take up rate. For example: all employees reaching age 62 by date X.
- Design of ERIP – what are the enhancements being offered by the program? For example: improving early retirement subsidies, additional years of service, improved payment options, etc.
- Cost considerations and affordability – offering additional benefits comes with a cost. What is that cost? Can the plan afford it, given current and projected funded status?
- Intergenerational inequity – the enhancements offered by the program only benefit those who elect to take advantage of the ERIP, which means additional costs are picked up by the plan and “future” service. Is that fair?
- Employee morale – how will the ERIP affect employee morale, of those eligible and not eligible for the ERIP?

5. Continued

- Timing – when is the window of eligibility and window of election for the ERIP
- Communication strategy – how will the program be announced? How can employees ask questions? Will there be a waiver for the employee to sign?

Considerations specific to public sector pension plan:

- Union rejection – public sector plans typically cover unionized employees. Any plan changes will need to go through union approval.
- Generous benefit – public sector plans typically offer more generous benefits (in part since they are not eligible for social security). The ERIP design would need to take these generous plan provisions into consideration.
- Tax payers – ultimately, the costs of the ERIP will be passed on to the tax payers. How will they feel about this?
- Societal consideration – there are other budgetary uses for public funds. For example, public programming (hospitals, schools, etc.). Is the ERIP the best use for the funds?
- Diffuse governance structure – there are many stakeholders in a decision for a public sector pension plan, and many parties will have a say in making the decision, many of which may lack pension knowledge or have different motivations (i.e. elected officials).

Considerations specific to private sector pension plan:

- Well defined decision makers – unlike for the public sector, private sector plans have well defined decision makers, so creating an ERIP will go through an easier approval process.
- Profit motive – private companies have a straight forward profit motive, so the main consideration in whether or not to offer an ERIP comes down to whether it makes sense from a cost perspective. Will it reduce future costs?
- Less generous benefits – private plan benefits are generally less generous, which means an ERIP has greater value in motivating employee behavior.
- Post-retirement health benefit – private companies can use the continuation of post-retirement health benefits as an incentive in the ERIP.
- Specialized skills – private plan employees tend to be less homogenous (compared to the public sector), the wrong design in the ERIP, and unintended take up rates, would mean loss of valuable knowledge.

6. Learning Objectives:

6. The candidate will be able to analyze, synthesize and evaluate plans designed for executives or the highly paid.

Learning Outcomes:

- (6b) Given a specific context, apply principles and features of supplemental retirement plans.

Sources:

Morneau Shepell Handbook of Canadian Pension and Benefit Plans, Shepell, Morneau, Whiston, Bethune and Clooney, J. Gregory, 16th Edition, 2016, Ch. 11.

Canadian Pensions and Retirement Income Planning, Willis Towers Watson, 6th Edition, 2017. Ch. 23.

DA-626-20: Tax, Retirement & Estate Planning Services: Tax Topics – Retirement Compensation Arrangements

DA-627-20: Personal Tax Planning – A Fresh Look at Retirement Compensation Arrangements: A Flexible Vehicle for Retirement Planning

Commentary on Question:

The question was testing candidates' knowledge of different funding options for Supplemental Executive Retirement Plans (SERPs) and applying that understanding to calculate the balances in different accounts under two different funding approaches.

Solution:

- (a) Describe the advantages and disadvantages of the two funding options from the perspective of Company XYZ.

Commentary on Question:

Part (a) tested a candidate's understanding of two different funding methods: Retirement Compensation Arrangement (RCA) and letter of credit. Candidates had to provide three advantages and disadvantages for each funding option in order to receive full credit. Credit was given for other valid advantages or disadvantages not listed below.

6. Continued

Funded Retirement Compensation Arrangement (RCA)

Advantages	Disadvantages
Prefunds the liability so there is no terminal funding for the employer when benefits commence	Can be a large cash outlay to pre-fund when the cash could have earned better returns by investing elsewhere in the company
Contributions are tax deductible	Half of the money goes into a Refundable Tax Account with CRA and earns no investment returns
Benefit security for the executive	Administrative burden of filing RCA forms

Letter of Credit

Advantages	Disadvantages
Frees up cash as letter of credit fees are lower than actual contributions	Letter of credit fees are a sunk cost and can get quite expensive as liabilities increase
Contributions are tax deductible	Letter of credit must be unsecured, otherwise if backed by specific assets then may need to make a contribution to the Refundable Tax Account
Still provides benefit security for the executive	Letter of credit needs to be renewed annually

- (b) Calculate the balance of the RCA and refundable tax account at the end of Year 4 under each of the following:
- (i) Option 1
 - (ii) Option 2

Show all work.

Commentary on Question:

In part (b), candidates had to apply their understanding of both funding arrangements to calculate the balance in each account (RCA and Refundable Tax Account) at the end of Year 4.

6. Continued

In Option 1, many candidates applied interest on the full contribution, rather than splitting the contributions first, then calculating the investment return. Candidates still received partial credit if the rest of their calculations were correct.

In Option 2, a common error was to try to calculate the RCA balance, however, the RCA balance at the end of Year 4 is zero since it is a notional account.

Another common error was to forget to add the letter of credit fees together to calculate the balance in the Refundable Tax Account at the end of Year 4.

Candidates received partial credit if the rest of their calculations were correct.

The model solution for this part is in the Excel spreadsheet.

7. Learning Objectives:

1. The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.

Learning Outcomes:

Describe the structure of the following plans:

- (f) Traditional defined benefit plans
- (g) Defined contribution and savings plans
- (h) Hybrid plans
- (i) Retiree Health plans
- (j) Other alternative retirement plans such as shared risk plans, target benefit plans, etc.

Sources:

Morneau, Whiston, Bethune and Clooney, J. Gregory, 16th Edition, 2016

- Ch. 11

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Define a Multi-Employer Plan (MEP) and a Specified Multi-Employer Plan (SMEP) under the Income Tax Act.

Commentary on Question:

Most candidates were able to define a MEP, but many struggled with the definition of a SMEP

MEP: A registered pension plan is a MEP in a calendar year if, at the beginning of the year, it is reasonable to expect that no more than 90% of the active members be employed by a single employer or related group of employers

SMEP: A SMEP is a particular type of MEP that is administered pursuant to a collective bargaining agreement and not dependent on the financial experience of the plan and must meet one of the following three categories:

- All (or substantially all) of the participating employers are not exempt from tax and contributions made are based on hours worked by individual employee
- Can be designated by the Minister to be a SMEP
- Met the definition of a SMEP in the immediately preceding calendar year

7. Continued

- (b) Describe the advantages and disadvantages of the following from the employer's perspective:
- (i) Joining a MEP
 - (ii) Sponsoring a single employer pension plan

Commentary on Question:

Most candidates did well on this part of the question.

(i) Advantages

Fixed contribution amount set out in collective bargaining agreement between employers and union

Board of trustee has no power to increase contributions

If funding won't be sufficient, benefits would be reduced i.e. no increased funding if plan is in a deficiency

Trustees determined benefit formula to convert negotiated contributions into member benefits - benefit increases and reductions are common

Smaller employers have access to pension plan with lower costs than a single employer plan (SEP) as costs are shared amongst all employers

Pooling of assets reduces longevity risks

Cheaper/easier to administer

(i) Disadvantages

Employer component of board generally appointed by employer bargaining association, often senior management of plan's largest employers – not every employer gets represented

In some provinces, MEPs must meet the same funding rules as SEPs

Funds in a MEP do not belong to any one employer, but belong to members

Benefits set by board of trustee, no ability to change them and same for every member

(ii) Advantages

Can design the plan provisions to achieve the specific business objectives of the employer (e.g., HR incentive, workforce management, etc.)

Employer can adjust cost sharing and plan costs to their preference

(ii) Disadvantages

Employer bears the following risks entirely: investment risk, longevity risk, etc.

Benefits cannot be reduced

Contributions can increase and be volatile depending on the plan's funding level

7. Continued

- (c) Explain the calculation of the Pension Adjustment for the following:
- (i) a defined benefit MEP
 - (ii) a defined benefit SMEP

Commentary on Question:

Most candidates answered this question well. Candidates did not receive full credit if they did not fully explain the calculation of a Pension Adjustment.

MEP

For a defined benefit plan that is a MEP but does not meet the definition of SMEP, Pension Adjustments (PAs) are calculated in the same manner as a Single Employer Pension Plan

PA = 9 x benefit entitlement - \$600

SMEP

For a defined benefit plan that is a SMEP, it is permitted to report PAs using the rules that apply to defined contribution pension plans

PA = total contributions made in the year by the employer and member

8. Learning Objectives:

8. The candidate will be able to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.

Learning Outcomes:

- (8a) Perform valuations for special purposes, including:
- (i) Plan termination/windup
 - (ii) Accounting valuations
 - (iii) Open group valuations
 - (iv) Plan mergers, acquisitions and spinoffs
- (8e) Advise plan sponsors on accounting costs and disclosures for retirement plans under various standards and interpretations.

Sources:

DA-168-19: IFRS and US GAAP: Similarities and Differences, Ch. 5 only

DA-157-18: PWC IFRS Manual of Accounting Ch. 12 (excluding FAQ 12.113.2 to 12.127.1]

DA-179-19: Introduction (A58), IFRS1 (paragraphs 1-40 & Appendix A), IAS19, IFRIC14

Commentary on Question:

Overall, candidates performed poorly on this question. For part (a), partial credit was given to candidates who carried forward any mathematical errors. Many candidates struggled with the accounting principles related to curtailments and special termination benefits.

Solution:

- (a) Calculate the revised 2021 Defined Benefit Cost, including the change to Other Comprehensive Income, under International Accounting Standard IAS 19, rev. 2011 (IAS 19).

Show all work.

Commentary on Question:

Part (a) required candidates to determine the curtailment impact in addition to the impact of the enhanced benefits as part of the revised benefit cost calculation. However, several candidates incorrectly included the actuarial gain/loss due to change in the discount rate at July 1, 2021 as part of the curtailment impact when the assumption change actuarial gain/loss is to be captured in OCI at year-end. Successful candidates determined the expected DBO at July 1, 2021 using the duration provided in the case study and then used that DBO to determine the curtailment impact.

8. Continued

Most candidates failed to correctly calculate the OCI impact at year-end (that is, isolate the actuarial gain/loss due to the discount rate assumption).

The model solution uses simple interest; credit was also provided if candidates used compound interest.

The model solution for this part is in the Excel spreadsheet.

- (b) Compare and contrast the accounting treatment of the retirement incentive program under IAS 19 and U.S. Accounting Standard ASC 715.

No calculations required.

Commentary on Question:

Although most candidates provided general differences/similarities about timing and amortization, candidates failed to include commentary specifically about treatment of the early retirement window (ERW) recognition under the two standards.

8. Continued

	ASC-715	IAS19
Timing	<ul style="list-style-type: none"> - Recognized at July 1, 2021 - ERW loss is recognized when employees accept the offer and the amount can be estimated 	<ul style="list-style-type: none"> - Recognized at July 1, 2021 - ERW loss recognized at earlier of date entity recognizes related restructuring costs or employee can no longer withdraw from offer
Interim Remeasurement	<ul style="list-style-type: none"> - Liability remeasured as of July 1, 2021 using updated discount rates - Assets and liability remeasured based on the special termination event date 	<ul style="list-style-type: none"> - Liability remeasured as of July 1, 2021 using updated discount rates - Assets and liability remeasured based on the special termination event date
Gain/Loss Amortization	<ul style="list-style-type: none"> - Gain/loss amortized using 10% corridor 	<ul style="list-style-type: none"> - No gain/loss amortization
ERW recognition	<ul style="list-style-type: none"> - The increase in liability is immediately recognized (if a gain, it would have reduced any existing unamortized losses) - Entire prior service cost is recognized in expense - Total of the two above items is the ERW charge, shown as a separate line item 	<ul style="list-style-type: none"> - Full change in liability due to ERW is recognized as a curtailment expense - ERW charge shown in past service cost

9. Learning Objectives:

8. The candidate will be able to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.

Learning Outcomes:

- (8a) Perform valuations for special purposes, including:
- (i) Plan termination/windup
 - (ii) Accounting valuations
 - (iii) Open group valuations
 - (iv) Plan mergers, acquisitions and spinoffs
- (8d) Advise plan sponsors on accounting costs and disclosures for their retirement plans under various standards and interpretations.

Sources:

DA-157-18: PWC IFRS Manual of Accounting Ch. 12 (excluding FAQ 12.113.2 to 12.127.1)

DA-185-20: Plan Curtailments & Settlements Under FASB ASC Topic 715 Relating to Plan Terminations, Part 1

DA-186-20: Plan Curtailments & Settlements Under FASB ASC Topic 715 Relating to Plan Terminations, Part 2

DA-168-19: IFRS and US GAAP: Similarities and Differences, Ch. 5 only

Commentary on Question:

This question was intended to test if candidates could apply the accounting standards to a realistic example of plan termination timing. Most candidates provided basic accounting concepts. Well prepared candidates were able to demonstrate a deeper understanding of how to apply the accounting concepts to this scenario. Many candidates showed poor understanding of accounting principles for a terminating plan.

Solution:

- (a) Describe the effect on the 2021 Net Periodic Pension Cost (NPPC) under U.S. Accounting Standard ASC 715 (ASC 715) if Company XYZ's pension plan prior to the termination was structured as:
- (i) Open and ongoing
 - (ii) Closed to new entrants
 - (iii) Frozen for all participants

9. Continued

Commentary on Question:

The intention of this question was to test candidates' knowledge of the differences in accounting treatment of an amendment to terminate a plan under ASC 715 from the three different statuses.

Most candidates responded there would be a curtailment in 2021 due to the plan termination, however, the curtailment would actually occur during 2020 since that is when the plan amendment was adopted (and the termination was probable to occur). Credit was also given for responses which assumed curtailment accounting occurred during 2021.

Open and Closed plans would be treated the same:

- Service cost would be based on a full year of accruals
- PBO used for interest cost would reflect accruals to 12/31/2021
- EROA should be based on portfolio allocation
 - Consideration should be given if the sponsor plans to reduce the equity allocation during the year or wait until the following year
- Gain/Loss (G/L) Amortization
 - Corridor would shrink for unfunded plans or plans where PBO is used for corridor since the PBO is reduced
 - No change to amortization period since active employees still accruing
- No PSC amortization since fully recognized during 2020 curtailment

Frozen plans

No change to any component of NPPC, except for possibly EROA for the same reason as mentioned above

- (b) Compare and contrast the calculation of the following:
- (i) 2022 NPPC under ASC 715
 - (ii) 2022 Defined Benefit Cost under International Accounting Standard IAS 19 (IAS 19)

Commentary on Question:

This part was testing candidates' knowledge of the considerations that need to be made between the plan termination/wind-up date and settlement date. Candidates responding only with the similarities and differences in components of NPPC under ASC 715 and DBC under IAS 19 without relating it to the plan termination received minimal points.

9. Continued

	ASC 715	IAS 19
Service Cost	No SC for accruals after 2021	No SC for accruals after 2021
Interest Cost	<p>PBO should reflect no further accruals</p> <p>Consideration should be given if estimated plan term cost should be reflected in PBO</p> <p>Assumptions should reflect any changes needed due to plan term</p> <p>If plan term PBO is not used, no change in method to determine DR, else use DR that reflects short time until settlement</p>	<p>DBO should reflect no further accruals</p> <p>DR should still reflect old method.</p> <p>IC based on net funded status</p>
EROA	EROA assumption may be adjusted to reflect shift to more liquid assets and less risky assets	<i>N/A – see IC</i>
Net g/l	Amortized over average remaining life expectancy instead of average future working lifetime	No difference from before - g/l's are immediately recognized
PSC	<p>Curtailment</p> <p>Accounting would have been done for FY2020 and all outstanding bases would have been recognized</p>	N/A - Plan Change would have been recognized in FY2020 at time of plan term amendment

9. Continued

- (c) Explain how the 2023 NPPC under ASC 715 would be calculated.

Commentary on Question:

Most candidates were able to identify there would be a remeasurement during the year which would result in ½ year of NPPC calculated normally and then \$0 for the remainder of the year.

The typical expense calculation would be recognized for 1/1/2023-6/30/2023. PBO should be based on plan termination estimates. IC and EROA should reflect expected payments, contributions, and settlement discount rates.

The plan would then be remeasured on 6/30/2023 (or final asset distribution date) to reflect the final contribution and asset distributions, which zeroes out the assets and liabilities. Settlement accounting would be required which recognizes the remaining AOCI at the remeasurement date. This would then leave all balance sheet components at 0.

10. Learning Objectives:

1. The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.
3. Candidate will be able to analyze the risks faced by retirees and the participants of retirement plans and retiree health plans.
4. The candidate will be able to evaluate plan design risks faced by sponsors of retirement plans and retiree health plans.
5. The candidate will be able to evaluate sponsor's goals for the retirement plan, evaluate alternative plan types and features, and recommend a plan design appropriate for the sponsor's goals.

Learning Outcomes:

Describe the structure of the following plans:

- (a) Traditional defined benefit plans
- (b) Defined contribution and savings plans
- (c) Hybrid Plans
- (d) Retiree Health plans
- (e) Other alternative retirement plans such as share risk plans, target benefit plans, etc.

Given a plan type, explain the relevance, risks and range of plan features including the following:

- (a) Plan eligibility requirements
- (b) Benefit eligibility requirements, accrual, vesting
- (c) Benefit/contribution formula, including the methods of integration with government-provided benefits
- (d) Payment options and associated adjustments to the amount of benefit
- (e) Ancillary benefits
- (f) Benefit subsidies and their value, vest or non-vested
- (g) Participant investment options
- (h) Required and optional employee contributions
- (i) Phased retirement and DROP plans
- (j) Risk-sharing provisions

- (3a) Identify risks faced by retirees and the elderly.
- (3b) Describe and contrast the risks face by participants of:
 - (i) Government sponsored retirement plans
 - (ii) Single employer sponsored retirement plans
 - (iii) Multiemployer retirement plans, and
 - (iv) Social insurance plans

10. Continued

- (3c) Evaluate benefit adequacy and measure replacement income for members of a particular plan given other sources of retirement income.
- (4a) Identify how plan features, temporary or permanent, can adversely affect the plans sponsor.
- (4b) Assess the risk from options offered, including:
 - (i) Phased retirement
 - (ii) Postponed retirement
 - (iii) Early Retirement
 - (iv) Option factors
 - (v) Embedded options
 - (vi) Portability options
- (5a) Describe ways to identify and prioritize the sponsor's goals related to the design of the retirement plan.
- (5b) Assess the tradeoffs between different goals.
- (5h) Evaluate the pros and cons from both a sponsor and employee perspective of introducing options that impact the labor force demographics.
- (5m) Recommend an appropriate plan type and plan design features for providing retirement benefits and defend the recommendations.

Sources:

Fundamentals of Private Pensions, McGill et al., 9th Edition, 2010

- Chapters 5 & 9

Morneau Shepell Handbook of Canadian Pension and Benefit Plans, Shepell, Morneau, Whiston, Bethune and Clooney, J. Gregory, 16th Edition, 2016

- Chapter 3

DA-102-13: Evaluating the Design of Private Pension Plans: Cost and Benefits of Risk Sharing

DA-107-13: Green DB Eliminate Wasteful Practices and Make Your DB Plan Sustainable

DA-114-13: Risk Management and Public Plan Retirement Systems, Appendix only

DA-166-17: Shifting Public Sector DB Plans to DC, pp. 1-22

10. Continued

Commentary on Question:

Most candidates answered this question very well, with many earning full points for their answers. This was not a difficult question as the concepts tested are central to this exam and the question format and plan features were straightforward to analyze.

Solution:

- (a) Describe the differences in the following risks between Option 1 and Option 2 from the perspective of Company XYZ:
- (i) Longevity risk
 - (ii) Inflation risk
 - (iii) Retirement risk

Commentary on Question:

Points were awarded for other reasonable answers that explained the risk differences between the two options. The few candidates who answered the question from the perspective of the participants did not receive credit for their answer.

- (i) Longevity Risk
Option 1 has subsidized survivor pension, therefore greater longevity risk to the employer as potentially covering the cost of the spouse as well
- (ii) Inflation Risk
Option 1 provides higher uncertainty of inflation costs and therefore has more downside risk
Depending on long-term inflation assumptions, Option 1 may provide higher inflation cost to the plan
- (iii) Retirement Risk
Early retirement reduction factor may make employees stay until unreduced at age 65 in option 2
In low inflation environment, employees may decide to retire under option 1 to get guaranteed indexation

10. Continued

- (b) Evaluate each plan provision independently under Option 1 and Option 2 from the perspective of:
- (i) Employee A
 - (ii) Employee B

Justify your response.

Commentary on Question:

The model solution below provides an answer that would receive full credit. Credit was also awarded if a candidate had different rationale that still made sense. Few candidates commented on fairness changes set out below.

(i) **Lifetime Pension**

Member A

Lifetime pension for one year of service under Option 1
= $1.4\% \times 50,000 + 2.0\% \times (\$100,000)$
= \$2,700

Lifetime pension for one year of service under Option 2
= $1.80\% \times 150,000 =$
= \$2,700

No change to lifetime pension

Member B

Since all the member's income is less than \$50,000, member will have an increase in pension with Option 2 due to the accrual rate increase from 1.40% to 1.80%

This accrual rate is fairer to this member since member has the same accrual rate as everyone else for all their income

(ii) **Indexation**

Members A and B

Option 1 provides some protection against high inflation

Option 2 provides protection against low inflation

(iii) **Early Retirement Reduction**

Member A

Member is not expected to retire before age 60 so may not affect behavior under Option 1

10. Continued

Reasonably large reduction under option 2, therefore may delay retirement

Member B

Member expecting to retire before age 60, therefore will get subsidized early retirement under Option 1

Very large reduction under Option 2, which may cause them to retire later

Increased early retirement reduction in Option 2 fairer to all employees, was subsidizing early retirement under Option 1

(iv) **Normal Form of Pension**

Member A

Member is single, so change to normal form has no effect on pension

Member B

Member is married so will now have to pay for joint and last survivor coverage if elect a joint survivor pension

Same pension option for all employees is fairer, was subsidizing married members under Option 1.

- (c) Calculate the replacement ratio provided by the pension plan as a percentage of final average earnings at retirement for Employee A assuming all service was earned under:
- (i) Option 1
 - (ii) Option 2

Show all work.

Commentary on Question:

Most candidates answered this part correctly. The model solution for this part is in the Excel spreadsheet.

11. Learning Objectives:

3. Candidate will understand how to analyze the risks faced by retirees and the participants of retirement plans and retiree health plans.
7. The candidate will be able to analyze/synthesize the factors that go into selection of actuarial assumptions.
8. The candidate will be able to recommend and advise on the financial effects of funding policy and accounting standards in line with the sponsor's goals, given constraints.

Learning Outcomes:

- (3a) Identify risks face by retirees and the elderly.
- (3b) Describe and contrast the risks face by participants of:
 - (i) Government sponsored retirement plans
 - (ii) Single employer sponsored retirement plans
 - (iii) Multiemployer retirement plans, and
 - (iv) Social insurance plans
- (7b) Describe and explain the different perspectives on the selection of assumptions.
- (7d) Recommend appropriate assumptions for a particular type of valuation and defend the selection.
- (8a) Perform valuations for special purposes, including:
 - (i) Plan termination/windup
 - (ii) Accounting valuations
 - (iii) Open group valuations
 - (iv) Plan mergers, acquisitions and spinoffs

Sources:

DA-174-18: An Improved Application of the Variable Annuity

DA-140-21: ASOP 27 - Selection of Economic Assumptions for Measuring Pension Obligations

DA-188-21: AAA practice note on Variable Annuity Plans - pp. 6-20 and Appendix (pp. 55 -58)

Commentary on Question:

This question requires candidates to demonstrate understanding of variable annuity and accounting considerations. In addition, candidates are expected to explain the interaction between the hurdle rate and inflation. In general, candidates did better on part c than on either part a or b.

11. Continued

Most candidates did not fully answer the questions asked in the answers they provided. They provided general answers about ASOP 27, setting a discount rate assumption, and the hurdle rate instead of applying their knowledge to this specific question.

Solution:

- (a) Describe how Actuarial Standard of Practice No. 27, Selection of Economic Assumptions for Measuring Pension Obligations, applies to the selection of the discount rate assumption under International Accounting Standards IAS 19, Rev 2011 (IAS 19) for a defined benefit pension plan.

Paragraph 83 of IAS 19 requires that the rate used to discount post-employment benefit obligations (both funded and unfunded) shall be determined by reference to market yields at the end of the reporting period on high quality corporate bonds.

Section 3.13 of ASOP 27 does require the actuary to use the guidance set forth in the standard whenever the actuary has an obligation to assess the reasonableness of a prescribed assumption.

Section 3.9 (Selecting a Discount Rate) of ASOP 27 described the discount rate as a rate that is used to calculate the present value of expected future plan payments. Also, a discount rate may be a single rate or a series of rates, such as a yield curve.

Specifically, section 3.9 (Selecting a Discount Rate) of ASOP 27 includes “Market-Consistent Measurement” where the discount rate may be approximated by market yields for a hypothetical bond portfolio whose cash flows reasonably match the pattern of benefits expected to be paid in the future.

- (b) Describe the unique considerations when setting the discount rate assumption under IAS 19 for a Variable Annuity Plan.

The sponsor’s obligation is independent of market interest rates. Because the obligation is tied directly to the performance of the portfolio of assets, changes in market interest rates have no effect on the sponsor’s obligation.

Section 3.12 of ASOP 27 deals with the consistency of material economic assumptions selected by the actuary and generally requires that all such assumptions for a particular measurement be consistent.

In some cases, the actuary will be required to use a prescribed assumption.

Some actuaries read section 3.6 of ASOP 27 as requiring that the actuary select an expected return on assets that represents a reasonable expectation of returns on the actual asset portfolio.

For complex variable annuity options, the actuary should consider using alternative valuation procedures, such as stochastic modeling, option-pricing techniques, or deterministic procedures in conjunction with assumptions that are adjusted to reflect the impact of variations in experience from year to year.

11. Continued

- (c) Describe the interaction between the hurdle rate and inflation in a Variable Annuity Plan.

Plan administrator establishes a hurdle rate, which can be set as the pension plan fund's targeted real rate of investment return.

The difference between the hurdle rate and the plan fund's actual investment return is used to adjust monthly pensioner payments each year

For example, if hurdle rate is 4% per annum and actual investment returns for a particular year are 6%, members would receive a 2% increase in their monthly pensions.

If the selected hurdle rate is close to the average real rate of return of the plan's underlying assets over the long-term, retirees are not exposed to inflation risk.

This is because the pension increase average will be close to the average rate of inflation over the long term.

With a well selected hurdle rate that approximates the pension plan fund's real rate of return, and well managed investments, variable annuities have performed very well and average annual pension increases have been comparable to inflation over time.

However, if the real rate of return is declining, the inflation protection would diminish unless the hurdle is adjusted over time to account for the decline.

12. Learning Objectives:

1. The candidate will be able to analyze different types of registered/qualified retirement plans and retiree health plans.

Learning Outcomes:

Describe the structure of the following plans:

- (a) Traditional defined benefit plans
- (b) Defined contribution and savings plans
- (c) Hybrid plans
- (d) Retiree Health plans
- (e) Other alternative retirement plans such as shared risk plans, target benefit plans, etc.

Sources:

DA-619-20: CAPSA Guideline No. 8: Defined Contribution Plans

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) (4 points) Describe the information that should be provided to a member in a registered defined contribution pension plan that offers variable benefits according to CAPSA Guideline No. 8: Defined Contribution Plans.

Commentary on Question:

Credit was given for responses that described the information that should be provided to members in a variable DC plan according to CAPSA Guideline No. 8. Responses that just listed general disclosure requirements of DC plans did not receive credit. Candidates who did relatively well were able to connect the information to the variable aspect of the retirement benefit. Candidates may have been confused whether the question related to the accumulation or decumulation phase as the question was not specific in that respect. Candidates received credit for responses related to both accumulation (e.g. investment options, default investment options) and decumulation (e.g. sustainable withdrawal rates, withdrawal options, etc.).

The solution below represents an answer that would have received full credit, but it is not an exhaustive list of information that should be provided. Other valid responses not shown below also received credit.

Information to variable benefit members:

- Sufficient detail on the investment options available in the plan so they can make informed investment decisions.

12. Continued

- Information on any changes to the menu of investment options available.
 - Information on how their contributions will be invested if they do not provide investment instructions (i.e. the default investment option).
 - Information on withdrawal amount options including any minimum and maximum withdrawal requirements.
 - Income estimates based on a range of investment return assumptions (pessimistic, best estimate, and optimistic) and withdrawal patterns or an income projection tool that accommodates varying investment return assumptions and withdrawal patterns.
 - Disclaimers that actual future income patterns will likely vary from estimates.
 - Assumptions used in the estimates.
 - Instructions on how to choose the withdrawal amount.
 - Obtain professional advice from qualified advisors.
 - Disclose any changes in fees and additional fees charged as a result of entering the decumulation stage.
- (b) Describe the advantages and disadvantages of providing income estimation tools to variable benefit plan members regarding their withdrawals from the following perspectives:
- (i) Plan member
 - (ii) Plan Sponsor

Commentary on Question:

Credit was given for responses that describe the advantages and disadvantages as they relate to the estimation tool, not just general advantages of variable benefits. Candidates generally did not do as well in part b) as the rest of the question.

Plan Member

Advantage

- member can make informed investment decisions;
- member can change investment mix with changes in their risk tolerance;
and
- members can select funds with the level of fees they are comfortable with.

12. Continued

Disadvantage

- poor decision making may cause money to run out sooner than illustrated;
- members may lack the sophistication to understand the information provided to them;
- members may not be able to withdraw the amounts they want and when they want due to the legislated minimums and maximums.

Plan Sponsor

Advantage

- provide members with the ability to monitor their account balances; and
- provide members the limited ability to manage the investment and longevity risk
- helping members understand their benefits enhances appreciation of the pension benefits offered.

Disadvantage

- employer subject to legal risk for errors and omissions;
- increased burden to administer variable benefits; and more complex rules for variable benefits with some jurisdictions prohibiting variable decumulation products.