
SOCIETY OF ACTUARIES
Retirement Benefits Canada – Company/Sponsor Perspective

Exam CSP-RC

MORNING SESSION

Date: Friday, May 1, 2009

Time: 8:30 a.m. – 11:45 a.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 120 points. It consists of a morning session (worth 60 points) and an afternoon session (worth 60 points).
 - a) The morning session consists of 6 questions numbered 1 through 6.
 - b) The afternoon session consists of 6 questions numbered 7 through 12.

The points for each question are indicated at the beginning of the question. Questions 3, 5, and 6 pertain to the Case Study, which is enclosed inside the front cover of this exam booklet.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets since they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam CSP-RC.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.

CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

****BEGINNING OF EXAMINATION****
Retirement Benefits Canada – Company/Sponsor Perspective
MORNING SESSION

- 1.** (10 points) Critique the arguments for and against equity investments inside of defined benefit pension plans sponsored by government agencies for their employees.

- 2.** (10 points) The Human Resources manager of a defined contribution pension plan sponsor is considering adding lifestyle funds with targeted maturity dates (Target Date Funds) to the plan's investment option line up.

Evaluate the following proposed Target Date Fund design:

Asset Class	For expected retirement in 2010	For expected retirement in 2025	For expected retirement in 2040
Long-only domestic equities strategy	0%	20%	40%
Long-short domestic equities strategy	0%	10%	10%
Domestic fixed income	90%	50%	20%
Company stock	10%	20%	30%

Question 3 pertains to the Case Study
--

- 3.** (10 points) For new hires after January 1, 2009, NOC is considering whether to offer the current retiree medical program or, alternatively, to increase base pay by \$4,000 per year.

Assess both NOC's and the employees' risks under each of these alternatives.

4. (8 points) Your firm has recently been hired by XYZ Company to provide actuarial services for its pension plan. The previous accounting valuation report contained only the following information with respect to plan provisions, assumptions, investments and census data:

XYZ Company Pension Plan Provisions:	
Normal Retirement Age:	Age 65
Early Retirement Age:	Age 55
Normal Retirement Benefit:	2% of final three-year average earnings times years of service
Early Retirement Reduction:	3% per year from age 60
Normal Form:	Life only if single Joint and Survivor 60% if married, without reduction
Termination Benefit:	Lump sum value of the accrued benefit
Eligibility:	2-year waiting period
Assumptions:	
Discount Rate:	5.5% per annum
Expected Return on Assets:	7% per annum
Salary Increase:	4% per annum
Retirement Age:	55
Mortality:	GAM83 Table (with mortality improvement projection to 2009)
Turnover Rate:	Experience data from 1990 to 1995
% married:	0%
Asset Mix:	
Invested in Pooled Funds	
Census Data:	
Data used for the valuation was received from XYZ Company and XYZ Company has attested to its completeness and accuracy.	

Based on the above information, evaluate areas where the prior actuary may not have complied with accepted actuarial practice.

Question 5 pertains to the Case Study

5. (10 points) NOC is proposing to the Union the following changes in respect of the retirement benefits for the National Oil Full-Time Hourly Union Pension Plan:

- Service will be frozen at December 31, 2008 for the purpose of determining the Normal Retirement Benefit;
- Service after December 31, 2008 will be recognized in the National Oil Full-Time Hourly Union Pension Plan only for the purpose of determining vesting and eligibility to early retirement and the subsidized Early Retirement Benefit; and
- Effective January 1, 2009, hourly union employees will accumulate pension benefits in a new DC ERP with an employer contribution equal to 6% of salary.

You are given the following:

- Employer contributions and benefit payments for 2008 are as expected;
- The actual return on assets for 2008 is -20% . The actual return on assets for 2009 is as expected;
- NOC expects an experience gain on the ABO of \$10,000,000, measured at December 31, 2008;
- The 2009 expected return on assets (EROA) assumption is 6.5% per year;
- No change in the discount rate or other actuarial assumptions is expected at December 31, 2008;
- Employer contributions and benefit payments for 2009 would have been equal to those for 2008 if no plan changes were made; and
- The total payroll of the hourly union employees is expected to increase at 4.0% per year.

Estimate the 2008 and 2009 net periodic benefit cost and one-time charges in accordance with CICA 3461 assuming the proposed changes are implemented. Show all work.

Question 6 pertains to the Case Study

- 6.** (12 points) BIG Oil's defined benefit pension assets are invested 60% in equities and 40% in fixed income as of the most recent year-end date. NOC's CFO suggests that this same asset mix would also be appropriate for the National Oil Full-Time Salaried Pension Plan, given that NOC and BIG operate in the same industry.
- (a) Describe the factors that NOC should consider in determining the appropriate target asset allocation for the Salaried Pension Plan.
 - (b) Describe the modeling technique that you would recommend and the assumptions that you would use in performing an asset/liability study to analyze the Salaried Pension Plan's asset allocation.

****END OF EXAMINATION**
MORNING SESSION**