SOCIETY OF ACTUARIES
Strategic Decision Making Exam

Exam CFESDM

AFTERNOON SESSION

Date: Thursday, November 3, 2016
Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 4 questions numbered 7 through 10 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 8 – 10 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 because 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 CFESDM.

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****
Afternoon Session
Beginning with Question 7

7. (*5 points*) Bank XYZ uses Value at Risk (VaR) at the 99th percentile as its risk capital metric for assessing its investment portfolios. An analyst identifies a high risk investment which increases the portfolio's expected returns while keeping the same economic risk capital.

(a) (*2 points*) Assess whether such a situation is possible. Justify your answer.

The CRO is considering using expected shortfall (ES) as Bank XYZ's risk measure. The VaR and ES for two portfolios, A and B, at different confidence levels (α) are as follows:

	α	0.95	0.99	0.995	0.999
Portfolio A	VaR	162.1	208.1	247.9	325.8
	ES	222	260.9	295.7	365.8
Portfolio B	VaR	137.1	190.7	247.3	411.8
	ES	223.4	286.3	356.7	563.5

(b) (*2 points*) Determine which portfolio, A or B, is more risky. Justify your answer.

(c) (*1 point*) Recommend whether ES or VaR is a better risk measure. Justify your recommendation.

Question 8-10 pertains to the Case Study.
Each question should be answered independently.

8. (*11 points*) Warren Buffett describes the following characteristics of the property and casualty business (P&C):

I. All policies issued are annual renewable.
II. In extreme cases, claim payments can stretch over many decades.
III. P&C companies hold large sums of money that will eventually go to others. This is called float.
IV. Insurers get to invest this money for their own benefit with 100% of assets invested in a general account.
V. Underwriting loss is what the industry pays to hold its float.

(a) (*1 point*) Explain how the amount of float grows.

Information on Darwin Life Insurance Company (Darwin) can be found in Section 7 of the Case Study.

(b) (*5 points*) Analyze the similarities or differences for each of the above characteristics (I to V) between a typical P&C company and Darwin.

(c) (*5 points*) Assess whether Darwin should manage its business using the concept of float based on the analysis in part (b). Justify your assessment.

Question 8-10 pertains to the Case Study.
Each question should be answered independently.

9. (*12 points*) Information on Blue Jay Tire (BJT) can be found in Section 3 of the Case Study.

To prepare for the upcoming union bargaining, Pierre Beaudry, CEO of BJT, wants to better understand the following stakeholder groups:

I. Host communities
II. Customers
III. Non-unionized employees/contractors
IV. Bondholders

(a) (*2 Points*) Describe what the primary objective and the desired outcome are for each stakeholder group (I to IV) above in the union negotiation.

The CEO has prepared the following opening statement for the bargaining:

"It's been just over 4 years since we last sat down across the table from one another to negotiate the employment contract for the unionized employees of Blue Jay Tire. In light of the recent economic events, you will find that our proposal achieves everyone's goal of a strong and viable company for which we all love to work. [Pause] The management team and I are committed to meet our promises to all stakeholders, our host communities, our customers, our shareholders as well as our dedicated employees; after all, we all want to work for a successful company, right?!?! [Pause] Everyone at this table understands the best interests of both parties involved – we in the management team and you as representatives for our union employees; therefore, I feel everyone here is strongly aligned in our goals for this new contract. [Pause] The document that has been placed in front of you contains our formal proposal. We have been fair in the way we have balanced employees' interests as well as shareholders'. We already have the Board's buy-in. I'm sure after your review, you will be as committed to our proposal as we are."

(b) (*2 Points*) Explain which one of the six communication styles is most evident in the opening statement. Justify your answer.

9. Continued

(c) (*4 Points*)

(i) (*1 point*) Identify the negotiation strategy the CEO intends to use when dealing with the union.

(ii) (*3 points*) Describe three negotiation tactics that are implied by the language in the opening statement above.

(d) (*4 Points*)

(i) (*1 point*) Choose one sentence from the opening statement that reflects each of the negotiation tactics identified in part (c)(ii) that would need to be revised if the CEO wants to use a different negotiation strategy. Justify your choice.

(ii) (*3 points*) Construct alternative wording for each sentence identified in part (i) that implies a different negotiation strategy. Justify your answer.

Question 8-10 pertains to the Case Study.
Each question should be answered independently.

10. (*12 points*)

(a) (*1 point*) Describe four principal sources of liquidity risk for banks.

(b) (*1 point*) Describe what a liquidity index is.

Information on Big Ben Bank can be found in Section 6 of the Case Study.

(c) (*3 points*)

(i) Critique Big Ben Bank's liquidity profile as of 2015 based on its three liquidity measures.

(ii) Recommend how Big Ben Bank could improve its liquidity profile. Justify your recommendation.

The holder of a puttable bond has the right but not the obligation to sell the bond back to its issuer at a predetermined strike price. As of 2015, Big Ben Bank is considering a 1% allocation of its portfolio in the following:

Puttable bond	
Face Value	\$100
Fair Market Value	\$99
Strike Price	\$70

(d) (2 *point*) Assess the impact of the purchase of the above bond on Big Ben Bank's liquidity index. Justify your assessment.

10. Continued

In 2016, Big Ben Bank would like to raise $1 billion capital to provide financing for clients who need 10-year loans. Big Ben Bank is considering the following options:

- 5-year callable note with 5% coupon that gives Big Ben Bank an option to redeem at par
- 10-year contingent convertible bond with 7% coupon that would automatically convert to common shares when Big Ben Bank's equity fall below a predetermined threshold
- Preferred shares with 5% dividend that gives Big Ben Bank an option to buy back at par

(e) (5 *points*) Rank the three options above based on the impact on the following:

- Leverage
- Funding gap
- Liquidity
- Risk Management

Justify your ranking.

****END OF EXAMINATION****
Afternoon Session

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