
SOCIETY OF ACTUARIES
Strategic Decision Making Exam

Exam CFESDM

AFTERNOON SESSION

Date: Thursday, October 29, 2015

Time: 1:30 p.m. – 3:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 4 questions numbered 6 through 9 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 7–9 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 6

6. (6 points) The Chief Risk Officer (CRO) of ABC Insurance Company is concerned that customers might view travel insurance as an unnecessary expenditure. The CRO recommends you read his favorite book, *Nudge*, so you can carefully consider choice architecture to overcome customers' cognitive biases when selecting coverage options. The CRO identifies the following cognitive biases that he believes deter customers from purchasing travel insurance:

- I. Availability bias
- II. Overconfidence
- III. Status quo bias

(a) (3 points) Explain how each bias, I-III, may deter customers from purchasing travel insurance.

The CRO suggests the following choice architecture techniques can be used to “nudge” customers to purchase travel insurance:

- A. Framing
- B. Using default options
- C. Structuring complex choices

(b) (3 points) Describe how each choice architecture technique, A-C, can be used to encourage customers to purchase travel insurance.

Question 7 pertains to the Case Study.
Each question should be answered independently.

7. (12 points) Bank XYZ currently defines capital targets as follows:

- Tier 1 actual capital is comprised of 100% equity capital.
- Tier 2 actual capital is comprised of 100% debt capital.
- Tier 1 Capital Ratio is defined as Stockholder Equity / Risk-Adjusted Assets.
- Risk-Adjusted Assets are computed by adjusting each asset class for risk in order to determine a bank's real world exposure to potential losses; an asset's risk adjusted value is calculated by multiplying the asset value by a factor (0.0 for risk-free and 1.0 for very risky).

Bank XYZ is currently backing 100% of its Economic Capital with Tier 1 Capital. A decision has been made to back its Economic Capital with 75% Tier 1 and 25% Tier 2 capital, with no changes to actual capital asset allocation. All transactions are about to be completed.

	Risk Adjusted Assets	Economic Capital (in \$millions)			Tier 1 Capital Ratio
		Total	Tier 1	Tier 2	
100% Tier 1	RA_1	100	100	0	$T1R_1$
75%/25% Tiers 1/2	RA_2	EC_2	$T1_2$	$T2_2$	$T1R_2$

RA – Risk Adjusted Assets
 EC – Economic Capital
 T1 – Tier 1 Capital
 T2 – Tier 2 Capital
 T1R – Tier 1 Capital Ratio

(a) (5 points)

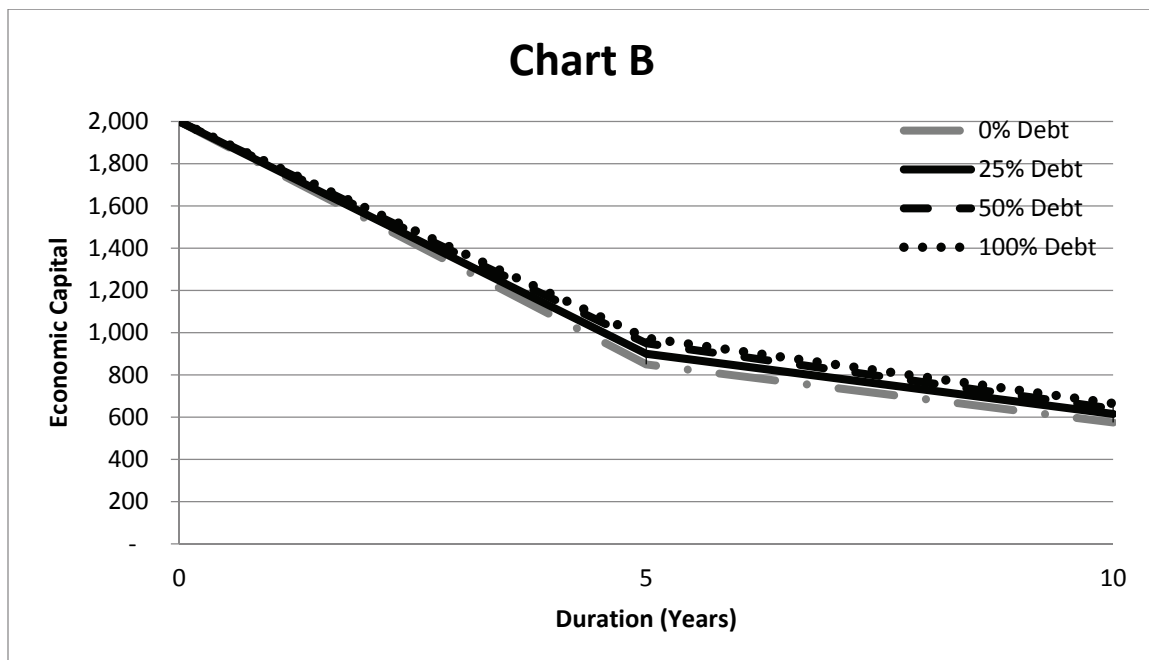
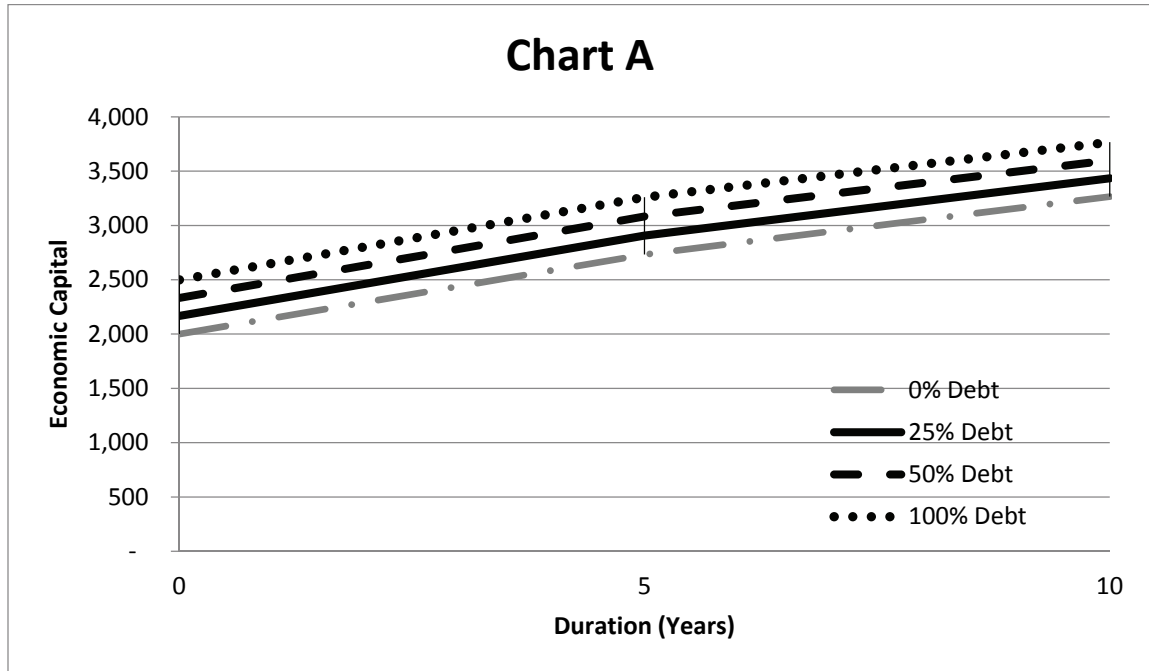
- (i) Explain what will happen to Bank XYZ's total Economic Capital, Tier 1 component, and Tier 2 component.
- (ii) Explain what will happen to Bank XYZ's Risk Adjusted Assets.
- (iii) Explain the overall directional effect on Bank XYZ's Tier 1 Capital Ratio.
- (iv) Explain the significance of making this change to Bank XYZ's stockholders.

Question 7 continued on next page

7. Continued

Information on Blue Ocean and Darwin can be found in Sections 5 and 7 of the Case Study respectively.

In a similar fashion to Bank XYZ, RPPC evaluated the impact of equity and debt allocations on economic capital for Blue Ocean and Darwin. The results of the evaluation are contained in Chart A and Chart B.



7. Continued

One of Chart A and Chart B comes from Blue Ocean and the other chart comes from Darwin.

(b) (3 points)

- (i) Identify the company represented by Chart A.
- (ii) Identify the company represented by Chart B.
- (iii) Justify your identification by providing three reasons.

Darwin's Liquidity and Capital Committee has decided to implement the following initiatives:

- I. Reinsure 20-year level term and 30-year level term
- II. Modify and expand lines of credit and other credit facilities
- III. Place a moratorium on sales of Universal Life with Secondary Guarantee and Fixed Annuity products

(c) (4 points) Explain the effects each initiative, I-III, will have on Darwin's Economic Capital. Justify your answer.

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

8. (12 points) Information on Darwin can be found in Section 7 of the Case Study.

(a) (2 points)

- (i) Identify the type of communication used by the team to provide Roger Heilman feedback at the meeting to prepare for the discussions with Insight Ratings.
- (ii) Assess the implication of the feedback provided to Roger Heilman at the meeting.

The Vroom-Yetton model is a managerial approach to decide the degree of associate involvement in group decisions.

(b) (1 point) Identify the managerial approach to associate involvement used by Roger Heilman when determining how to prepare for the meeting with Insight Ratings. Justify your answer.

There are five Values of Group Decision Making:

1. Time
2. Cost
3. Nature of the Problem
4. Satisfaction and Commitment
5. Personal Growth

For each of the five Values of Group Decision Making:

(c) (5 points) Assess Heilman's approach identified in part (b) to prepare for the Insight Ratings meeting.

8. Continued

In addition to Heilman's approach, consider two alternative approaches to associate involvement:

C2 - Manager consults relevant associates as a group;

G2 - Associates work together to find a solution.

- (d) (4 points) Rank the three approaches to prepare for the Insight Ratings meeting in order of appropriateness from most appropriate to least appropriate. Justify your ranking using the five Values of Group Decision Making.

**Question 9 pertains to the Case Study.
Each question should be answered independently.**

9. (10 points) Information on Blue Jay Air can be found in Section 2 of the Case Study.

Consider the following attributes about Blue Jay Air:

- A. Blue Jay Air has had a solid reputation in the airline industry for the past 30 years.
- B. Blue Jay Air's routes cover the full geographical region of the United States as well as major cities in Canada.
- C. Blue Jay Air has a deep-rooted relationship with the business community.
- D. Blue Jay Air has great cost control since its labor force is not unionized.
- E. Safety training is the always a top priority for Blue Jay Air.

(a) (3 points) Identify each attribute, A to E, as either a core competency or a sustainable competitive advantage. Justify your answer.

Observations about Blue Jay Air, its competitors and the industry are as follows:

- I. There will be a potential price war with new entrants to the market.
- II. Blue Jay Air has outdated planes.
- III. Competitors are having trouble keeping flights on time.
- IV. Blue Jay Air has been negotiating with international airports to expand its flight routes.
- V. Orange Sky Airline has been aggressive in implementing its loyalty program by recognizing other airlines' elite members' status.
- VI. Blue Jay Air has increased its exposure to interest rate volatility due to the significant amount of long-term debt and finance leases it holds.
- VII. Globalization is the current trend for business environment.
- VIII. Blue Jay Air is going to acquire an aircraft manufacturer.
- IX. Airlines are struggling to sell more high-fare tickets.

(b) (5 points) Identify each observation, I to IX, as a Blue Jay Air strength, weakness, opportunity or threat. Justify your identification.

9. Continued

Four types of risk management strategies are:

1. Loss Controlling
2. Risk Trading
3. Risk Steering
4. Diversification

For one of the weaknesses you identified in (b):

- (c) (2 points) Recommend one risk management strategy from strategies 1-4 to best manage the weakness. Justify your recommendation.

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

USE THIS PAGE FOR YOUR SCRATCH WORK

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