

Special Edition
2009 GLOBAL
FINANCIAL CRISIS
CLASS SIZE LIMITED



ASSET LIABILITY MANAGEMENT

Techniques and Practices for Insurance Companies

Fairmont Le Château Frontenac
Québec, Canada
August 17-19, 2009

INTEREST RATE MODELS

Master Class "Expert Edition"

Fairmont Royal York
Toronto, Canada
June 11, 2009

DYNAMIC HEDGING

Westin Copley Place
Boston, United States
October 14, 2009

SEEK RISK OPPORTUNITIES.
CONTROL EXPOSURE.
CREATE VALUE.

NEXUS
RISK MANAGEMENT

PREAMBLE

The recent global financial crisis exposed deficiencies in the risk management approaches of many financial institutions. Insurance companies and pension plans that did not implement effective Asset Liability Management strategies found themselves exposed to interest rate risk that could have been immunized at no cost. Some Variable Annuity writers learned the lessons painfully from not implementing effective dynamic hedging strategies.

Executing ALM at a tactical level to control risk is no longer sufficient to compete in today's marketplace. Best practices have emerged that provide the opportunity to implement ALM as a strategic decision-making framework, fully integrated with Enterprise Risk Management, to maximize shareholder value, optimize capital and better control risk.

VALUE PROPOSITION

ALM TECHNIQUES AND PRACTICES

ALM Techniques and Practices provides intensive hands-on training on ALM techniques, practices and advance applications. Participants receive content-rich course materials along with valuable utilities and templates.

- Learn how to implement ALM as a strategic decision-making framework to gain competitive advantage and increase value
- Ensure appropriate policies and control procedures are in place
- Practice advanced techniques for measuring risk exposure
- Learn the limitations and pitfalls of various risk metrics
- Understand risk exposure and make more effective decisions
- Formulate ALM strategies
- Structure LDI solutions
- Produce an ALM report that effectively communicates the exposure
- Participate in a mock ALM committee meeting

Pre-course material, assigned readings and a number of application exercises will be provided for the participant to cover outside of class time. Participants will also be trained to use several valuable utilities and templates that are yours to keep and provided as part of the course fee.

INTEREST RATE MODELS

MASTER CLASS "EXPERT EDITION"

Interest Rate Model Master Class "Expert Edition" is an advanced one day program providing more than seven hours of hands-on applications and case studies. Participants learn stochastic modeling techniques and diffusion processes for interest rates. In addition to the valuable models you will receive, participants gain hands-on practice to build, calibrate and use your own interest rate models.

- Learn stochastic modeling techniques
- Explore diffusion processes for interest rates
- Program Monte Carlo simulations
- Program stochastic differential equations
- Build interest rate models
- Calibrate models using market data
- Apply interest rate models to calculate exposure

DYNAMIC HEDGING

MASTER CLASS "EXPERT EDITION"

Dynamic Hedging Master Class "Expert Edition" is an advanced one day program providing more than seven hours of hands-on applications and case studies. Participants learn about hedging instruments and dynamic hedging techniques.

- Learn about hedging instruments and dynamic hedging techniques
- Practice advanced techniques for measuring risk exposure
- Formulate a dynamic hedging strategy to hedge equity-based guarantees
- Execute a hedge position
- Perform attribution analysis
- Quantify the cost of guarantees / embedded options

WHAT SOME OF OUR PARTICIPANTS HAD TO SAY

“In 5 days I learned more at this course than in all the conferences I have ever been to over my entire career.” – **PHOENIX**

“This was by far the best course I have ever attended.” – **HONG KONG**

“Good coverage of current topics and practices. The contents and the program were demanding and also very rewarding.” – **TOKYO**

“You not only thoroughly covered the theoretical concepts, but gave me some step-by-step instructions on how to implement ALM back home at work. Great job - thanks!” – **NEW YORK**

“Hands-on experience through case studies, in particular the mock ALM committee meeting, brings theoretical knowledge into practice and helps visualize what I will need to tackle in life.” – **TOKYO**

“The staff was fabulous in providing support and guidance. This was a very positive experience.” – **PHOENIX**

“The life analyst now has a better understanding and an arsenal of tools and questions to better analyze the risks of the life insurance companies.” – **LONDON**

“I especially liked the opportunity to participate by doing the applications. The utilities provided are very helpful.” – **QUEBEC CITY**

“Course material is comprehensive, practical and very useful. Case studies and applications are very useful in cementing ideas.” – **LONDON**

“This is the best actuarial event ever to come to the Czech Republic” – **PRAGUE**





Nexus Risk Management is a leading provider of risk management tools, training, expertise and execution to enable our clients to have the sharp focus needed to achieve their financial objectives. Worldwide we work closely with insurance companies and pension plans, rating agencies and regulators, leading experts from academia and the investment industry as well as reinsurers and other counterparties. Our promise is to bring together deep industry knowledge, leading edge techniques and best practices from around the world.

Through our offices in Toronto and Seoul we provide highly specialized risk management products and services to our clients globally.

SOFTWARE

Nexus Risk Platform is a powerful tool for managing the risk associated with assets and liabilities. The ALM module allows users to measure and monitor multiple dimensions of interest rate risk, aggregate risk, execute sophisticated ALM strategies, reduce resources required, and perform portfolio optimization.

CONSULTING

Nexus Risk Management helps companies implement risk frameworks and formulate innovative strategies to gain competitive advantage. We believe risk management should be the front and centre focus of all strategic decisions enabling companies to achieve their financial goals subject to their risk tolerances and constraints. By keeping a clear focus on risk at all times and making informed risk decisions, companies can maximize stakeholder value.

ASSET MANAGEMENT

Through strategic partnerships we provide integrated asset management and ALM services by managing the assets directly against the liability cash flows and focus on the financial objectives of our clients, allowing us to add significant value over the traditional asset management approach. Our services offer our clients the ability to free up resources devoted to ALM while ensuring that ALM best practices are being performed.

TRAINING

Nexus Risk Management is a leading industry provider of ALM courses and training. Our widely acclaimed Asset Liability Management Techniques and Practices for Insurance course has been conducted successfully around the world along with a new Master Class series. We also offer extensive on-site corporate training that is customized to best suit your needs.

Toronto

Seoul

Nexus Risk Management
170 University Avenue, Suite 905
Toronto, ON M5H 3B3 Canada
+1 416 593 9500
+1 416 593 1511 (facsimile)
www.nexusrisk.com

FACULTY

Charles L. Gilbert, FSA, FCIA, CFA, CERA

Charles L. Gilbert is president and founder of Nexus Risk Management Inc. providing advanced risk management solutions to the financial services industry globally. Mr. Gilbert does a wide range of Asset Liability Management and Enterprise Risk Management related work for several insurance and reinsurance companies worldwide.

Through a number of joint ventures Mr. Gilbert executes ALM strategies and portfolio optimization for asset management clients, conducts on-going research and provides training.

Previously, Mr. Gilbert was the leader of the Asset Liability Management initiative for Tillinghast - Towers Perrin in North America and was also responsible for building the Equity Risk Management initiative for the firm.

Prior to joining Tillinghast, Mr. Gilbert was Head of Asset Liability Management and Corporate Actuary at ING Life where he was responsible for Asset Liability Management, as well as the valuation, pricing and financial management for investment products.

Mr. Gilbert has over 20 years of experience in the life insurance industry and has trained over 1,000 ALM practitioners, regulators, rating agency analysts and senior management on Asset Liability Management worldwide.

John C. Hull, PH.D.

John C. Hull is the Professor of Derivatives and Risk Management in the Joseph L. Rotman School of Management at the University of Toronto.

Dr. Hull is an internationally recognized authority on derivatives and risk management. Recently his research has been concerned with credit risk, executive stock options, volatility surfaces, market risk, and interest rate derivatives. He was, with Alan White, one of the winners of the Nikko-LOR research competition for his work on the Hull-White interest rate model. He has acted as consultant to many North American, Japanese, and European financial institutions. He has written three books "Risk Management and Financial Institutions" (second edition to be published in 2009), "Options, Futures, and Other Derivatives" (now in its seventh edition) and "Fundamentals of Futures and Options Markets" (now in its sixth edition). The books have been translated into many languages and are widely used in trading rooms throughout the world. He has won many teaching awards, including University of Toronto's prestigious Northrop Frye award, and was voted Financial Engineer of the Year in 1999 by the International Association of Financial Engineers. He is co-director of Rotman's Master of Finance program.

In addition to the University of Toronto, Dr. Hull has taught at York University, University of British Columbia, New York University, Cranfield University, and London Business School. Earlier in his career he worked as a corporate planning analyst with British Shoe Corporation. He is an Associate Editor of eight academic journals.

K. Ravindran, PH.D.

K. (Ravi) Ravindran is the founding principal of Annuity Systems Inc. and the former Chief Executive Officer of RGA Financial Products. Dr. Ravindran works with companies worldwide in all aspects of the risk management process including trade execution. He has personally managed the risk exposure associated with Variable Annuity products on assets under management of over USD 100 billion and has provided consulting on the equity risk exposure associated with assets under management of almost USD 200 billion. Dr. Ravindran has also helped risk-manage Equity Indexed Annuity business and has provided extensive risk management services to the energy markets. He is known as the pioneer to apply derivatives-based hedging techniques from the capital markets to Variable Annuities.

Dr. Ravindran ran the exotic derivatives desk for Toronto Dominion Bank globally and has executed derivatives trades for clients as part of his risk management services. He has traded and made markets in nearly every category including equity, interest rate, currency, commodity, mortality and credit.

Dr. Ravindran is an Adjunct Professor at Reykjavik University. In addition previous Adjunct Professorships at the University of Waterloo and the University of Calgary, he has taught graduate courses and executive programs at business schools around the world. He is the author of a number of books, papers and articles on derivatives and serves as associate editor of "Handbook of Derivatives".

Dr. Ravindran also manages a private equity fund that arbitrages mispriced products across different markets in alternative asset classes.

HOTEL INFORMATION

TORONTO, CANADA

JUNE 11, 2009

Fairmont Royal York
100 Front Street West
Toronto, ON M5J 1E3
Tel: 866 840 8402
www.fairmont.com/royalyork/



QUÉBEC CITY, CANADA

AUGUST 17-19, 2009

Fairmont Le Château Frontenac
1 rue des Carrières
Québec, QC G1R 4P5
Tel: 866 540 4460
www.fairmont.com/frontenac/



BOSTON, UNITED STATES

OCTOBER 14,

2009 Westin Copley Place
10 Huntington Avenue
Boston, MA 02116
Tel: 617 262 9600
www.westin.com/copleyplace



REGISTRATION

You may register using three methods:

REGISTER ONLINE: (credit card required):

To register online, go to www.nexusrisk.com and click on from the main menu. Payment must be received by July 10, 2009 in order to receive ALM Essentials free of charge.

REGISTER BY MAIL:

Payment must be received two weeks before course begins. Mail your registration form with check payable to:

Nexus Risk Management Courses
170 University Avenue, Suite 905
Toronto, ON M5H 3B3
CANADA

IN PERSON ON SITE:

You may register at the on-site registration desk located at the Hotel Location beginning at 7:30 a.m., on the first day of the event. Please check website as class size is limited.

REGISTRATION CONFIRMATION

Confirmations are e-mailed upon completion of registration.

CANCELLATION

All cancellations must be made in writing **no later than four weeks before the event** to the Customer Care Center () in order to obtain a refund of the registration fee. Nexus Risk Management will refund the registration fee, minus a **processing fee of 10%**. Refund requests received after the conclusion of the seminar will not be honored. Nexus Risk Management reserves the right to cancel any program if conditions warrant. In the event of such cancellations, registration fees will be refunded in full. We are not responsible for any discounted airfares or hotel penalties that an attendee may incur due to cancellation.

I require a special meal: Kosher Vegetarian Fruit Plate

Under the Americans with Disabilities Act, do you require one of these specific aids or services to fully participate in this meeting?

Audio Visual Mobile

Registration Fees Register for or any package by **July 10, 2009** to get bonus ALM Essentials five-week e-learning pre-course. Payment must be received by **July 10**. Fees include all breakfasts, lunches, networking receptions and related course materials.



<input type="checkbox"/> Interest Rate Models Master Class (June 11)	\$1,450 USD
<input type="checkbox"/> ALM Techniques and Practices for Insurance (August 17-19)*	\$4,300 USD
<input type="checkbox"/> Dynamic Hedging Master Class (October 14)	\$1,450 USD

* Includes ALM Essentials if payment received by **July 10, 2009**.

TECHNIQUES AND

ALM ESSENTIALS is designed to provide a review of fundamental ALM concepts. This five-week e-learning course delivers on-line lectures and practice sessions and includes valuable references and selected readings to help prepare participants for the intense Techniques and Practices that will follow. Participants who register by July 10, 2009 will receive this valuable course material.

MONDAY, AUGUST 17, 2009 - DAY 1

FAIRMONT CHÂTEAU FRONTENAC
QUÉBEC CITY, CANADA

- 7:30** **Registration**
- 8:00** **Breakfast**
- 8:30** **Welcome, Course Overview and Introductions**
C. Gilbert
- 9:00** **☞ Anatomy of a Failure**
C. Gilbert
- ☞ ALM Framework Implementations**
C. Gilbert
- ☞ ALM Best Practices**
C. Gilbert
- 11:00** **Break**
- 11:15** **☞ Review ALM Practices of Leading Insurance Companies**
Faculty
- 12:30** **Lunch**
- 13:30** **☞ Term Structure of Interest Rates**
C. Gilbert
- 14:00** **☞ Derive Spot Rate Curve Using Bootstrapping Techniques**
C. Gilbert
- ☞ Calculate Implied Forward Curve**
C. Gilbert
- 14:45** **Break**
- 15:00** **☞ Market Consistent Valuation**
C. Gilbert
- ☞ Exotic Derivative Structures**
K. Ravindran
- 16:15** **☞ Pricing Investment Guarantees**
C. Gilbert
- ☞ Value Assets and Liabilities**
C. Gilbert
- 17:30** **Reception with Faculty/Informal Question
and Answer**
- 19:00** **End**

KEY

- ☞ Lecture
☞ Application
☞ Case study

PRACTICES

SEEK RISK OPPORTUN

TUESDAY, AUGUST 18, 2009 - DAY 2

FAIRMONT CHÂTEAU FRONTENAC
QUÉBEC CITY, CANADA

- 8:00** **Breakfast**
- 8:30** 🗨 **Policies and Control Procedures**
C. Gilbert
- 9:00** 📖 **Formulate ALM Strategies**
Faculty
- 10:00** **Break**
- 10:15** 🗨 **Uses and Limitations of Traditional Risk Measures**
C. Gilbert
- 🗨 **Advanced ALM Risk Metrics and Analyses**
C. Gilbert
- 12:00** **Lunch**
- 13:00** 📖 **Calculate Risk Metrics and Analyze Exposure**
C. Gilbert
- 📖 **Quantify Interest Rate Risk Exposure**
Faculty
- 14:00** 📖 **Rebalance Portfolio to Within Risk Limits**
Faculty
- 📖 **Measure Impact of Change in Interest Rates**
Faculty
- 15:30** **Break**
- 15:45** 🗨 **Modeling Interest Rates**
C. Gilbert
- 🗨 **Dynamic Hedging**
K. Ravindran
- 17:00** **End**

LAPTOP COMPUTERS

Course delegates are required to bring their own personal laptop computer to be used during the course. Required software includes Microsoft Excel (2003 or later) and Adobe Acrobat Reader (8.0 or later). Course delegates are required to bring their own personal laptop computer to be used during the course. Required software includes Microsoft Excel (2003 or later) and Adobe Acrobat Reader (8.0 or later).

📖 CASE STUDY

The case study approach will be used heavily throughout this course. Participants will interact with other industry professionals and learn through doing. Small workgroups will be assigned for the case studies. Some case studies will require the use of a laptop computer.

ITIES. CONTROL EXPOSURE. CREATE VALUE.

WEDNESDAY, AUGUST 19, 2009 - DAY 3

FAIRMONT CHÂTEAU FRONTENAC
QUÉBEC CITY, CANADA

- 8:30** **Breakfast**
- 9:00** 🗨️ **Risk Reporting and Communication**
C. Gilbert, K. Ravindran
- 🗨️ **Investment Strategy and Portfolio Optimization**
C. Gilbert
- 10:30** **Break**
- 10:45** 📅 **Working Session Prepare Presentations for Case Study**
- 12:00** **Lunch**
- 13:00** 📅 **Participate in Mock ALM Committee Meeting**
Faculty
- 15:00** **Review and Closing Remarks**
- 15:30** **END**

ACCESS TO FACULTY

In addition to scheduled class time, questions and discussion are encouraged outside of the lectures and practice sessions.

Participants will have the ability to interact with faculty informally and after hours throughout the course.



📅 APPLICATION

Exercises where participants learn by applying tools and techniques to real life examples. The exercises in the application sessions are designed to be completed by each participant individually. All applications require the use of a laptop computer. ALM tools and analytics will be provided.

COURSE MATERIALS

PRE-COURSE PACKAGE

1. Detailed Course Overview
2. Pre-Reading Package
3. Bibliography/List of Suggested Background Readings
4. SOA ALM Specialty Guide
5. Survey Questionnaire

ON-SITE PACKAGE

1. Hand-outs of All Presentations (Bound Copy and CD)
2. ALM Tools (Coded in Excel)
 - Bootstrapping techniques
 - Price sensitivity charts and statistics
 - Approximation techniques using Taylor Series Expansion
 - Impact of changes in interest rates on economic value
 - Stochastic models
 - Risk profile
 - Replicating portfolios and hedging techniques
 - Calculating volatility and building correlation matrices
3. Case Study Material
 - Annual reports
 - Regulatory frameworks regarding risk management
4. Sample Policy Templates
 - ALM Policy Statement and Procedure Manual
5. Sample ALM Report Template
6. ALM Committee Package
 - Agenda
 - Minutes
 - Reports
7. Group Assignments

WHO SHOULD ATTEND

Asset Liability Management Techniques and Practices has both reflected and influenced industry best practices, regulatory guidance and rating agency assessment. This course is a must for anyone responsible for risk management. Past course participants have immediately put to use the tools and techniques provided, used insights gained to prepare for reviews with rating agencies and regulators and have realized real bottom line results from being able to apply ALM at a strategic level. Course participants typically include:

- Senior management looking to gain a firm grasp of the financial risks facing their organizations, make more effective business decisions and use ALM strategically, beyond risk mitigation and compliance;
- Risk professionals already well versed in the underlying theory, but who want to gain further deep insight into the tools and techniques that are used in industry practice today;
- Professionals looking to enter into the field of ALM and who are willing to invest some additional time pre-course to learn the basic concepts;
- Asset managers and investment bankers wanting to provide sound ALM solutions to their clients;
- Actuaries looking to gain a more in-depth knowledge of this key area of practice;
- Board members looking to ensure they have the requisite knowledge of risk management in order to perform their fiduciary responsibilities.

ALL LECTURES AND COURSE MATERIALS
WILL BE CONDUCTED IN ENGLISH.

INTEREST RATE M

Master Class “Expert Edition”

THURSDAY, JUNE 11, 2009

FAIRMONT ROYAL YORK
TORONTO, CANADA

- 8:00** **Breakfast and Registration**
- 8:30** **Welcome and Introductions**
- 8:45** ● **Stochastic Calculus**
J. Hull
Brownian Motion
J. Hull
Derivatives Pricing
J. Hull
- 10:30** **Break**
- 10:45** ☞ **Program Stochastic Differential Equations**
C. Gilbert
- 11:15** ● **Models of the Short Rate: Vasicek and CIR**
J. Hull
- 12:00** **Lunch**
- 12:45** ● **Monte Carlo Simulation of Interest Rate Processes**
J. Hull
- 13:15** 2 **Calibrate Interest Rates Using Spot Rate Models**
C. Gilbert
- 13:45** ● **Pricing Interest Rate Derivatives
(Bond options, Caps, Swaptions)**
J. Hull
- 14:45** **Break**
- 15:00** ● **No-Arbitrage Models: Hull-White and Black-Karasinski**
J. Hull
Forward Rate Models: HJM and LMM
J. Hull
- 17:00** **End**

LAPTOP COMPUTERS REQUIRED



☞ APPLICATION

Exercises where participants learn by applying tools and techniques to real life examples. The exercises in the application sessions are designed to be completed by each participant individually. All applications require the use of a laptop computer. ALM tools and analytics will be provided.

MODELS

COURSE MATERIALS

ON-SITE PACKAGE

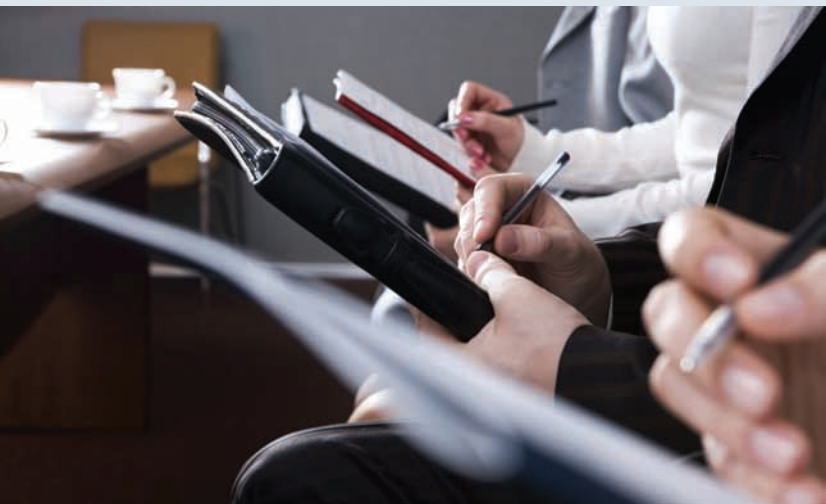
1. Course Manual and CD
2. Excel Based Models and Tools
 - Stochastic models
 - Collection of interest rate models
 - Model calibration
 - Historical market data
3. Application Exercise and Solutions

WHO SHOULD ATTEND

Interest Rate Models Master Class Expert Edition is designed for the risk professional looking to gain an in-depth understanding of Interest Rate Models. This course will be valuable to anyone working with and calibrating interest rate models. Course participants typically include:

- Risk professionals with a solid mathematical background who work with interest rate models;
- Actuaries looking to gain a more in-depth knowledge of how to construct and calibrate interest rate models














ALL LECTURES AND COURSE MATERIALS
WILL BE CONDUCTED IN ENGLISH.



DYNAMIC HEDGING

WEDNESDAY, OCTOBER 14, 2009

WESTIN COPLEY PLACE
BOSTON, UNITED STATES

- | | | |
|--------------|---|---|
| 8:00 | Breakfast and Registration | |
| 8:30 | Welcome and Introductions | |
| 8:40 |  Review of Hedging Instruments
K. Ravindran | |
| 9:00 |  Calculate the Greeks
K. Ravindran | |
| 9:45 |  Delta Hedging
K. Ravindran |  Lecture |
| 10:30 | Break |  Application |
| 10:45 |  Execute Delta Hedge
K. Ravindran |  Case study |
| 11:45 |  Dynamic Hedging
K. Ravindran |  Open forum |
| 12:30 | Lunch | |
| 13:30 |  Execute Dynamic Hedging for Variable Annuity
K. Ravindran | |
| 14:30 |  Attribution Analysis
K. Ravindran | |
| 15:00 | Break | |
| 15:15 |  Pricing Exotics
K. Ravindran | |
| 16:00 |  Quantify Cost of Guarantee/Embedded Options
K. Ravindran | |
| 17:30 | End | |

LAPTOP COMPUTERS REQUIRED

CASE STUDY

The case study approach will be used heavily throughout this course. Participants will interact with other industry professionals and learn through doing. Small workgroups will be assigned for the case studies. Some case studies will require the use of a laptop computer.

COURSE MATERIALS

ON-SITE PACKAGE

1. Course Manual and CD
2. Excel Based Models and Tools
 - Stochastic models
 - Delta hedging simulator
 - Dynamic hedging model
 - Option pricing calculator
 - Risk metrics and analytics to calculate Greeks
 - VaR and CTE
3. Application Exercise and Solutions
4. Case Study Material
 - Production descriptions (guaranteed products)
 - Stochastic models
 - Illustrative liability cash flows and market data
5. Group Assignments

WHO SHOULD ATTEND

Dynamic Hedging Master Class Expert Edition is designed for the risk professional involved in implementing and executing dynamic hedging strategies for equity-based guarantees. This course will be valuable to anyone looking to gain greater insights into dynamic hedging. Course participants typically include:

- Risk professionals with a solid mathematical background who are responsible for dynamic hedging;
- Actuaries looking to gain a more in-depth knowledge of how to implement and execute dynamic hedging strategies;

ALL LECTURES AND COURSE MATERIALS
WILL BE CONDUCTED IN ENGLISH.





170 University Avenue, Suite 905
Toronto, ON M5H 3B3 CANADA
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ASSET LIABILITY MANAGEMENT

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