

ASSET LIABILITY MANAGEMENT

THE SOCIETY OF ACTUARIES

NEXUS GENERATIONS

Techniques and Practices for Insurance Companies

CO-SPONSORED WITH THE ACTUARIAL SOCIETY
OF HONG KONG



GAINING THE
COMPETITIVE
ADVANTAGE.

ASIAN VENUE

INTERCONTINENTAL GRAND STANFORD HONG KONG
HONG KONG, P.R.C.

NOVEMBER 8-10, 2005



SOCIETY OF ACTUARIES

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475 North Martingale Road, Suite 600
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www.soa.org

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ASSET

THE SOCIETY OF ACTUARIES

LIABILITY

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MANAGEMENT

Techniques and Practices for Insurance Companies

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OF HONG KONG

Actuaries

The Best-Kept Secret in Business™



Not so long ago, ALM was synonymous with interest rate risk management. And while interest rate risk remains a focal point of ALM, the scope today has broadened considerably.

Over the last few years, Enterprise Risk Management (ERM), has been the center of attention in the risk management world. ERM comprises the management of all the risks facing an enterprise—both financial and non-financial. Notwithstanding the much deserved fanfare ERM has received of late, there has been a lot of activity in the area of ALM, which remains a vital part of an overall ERM framework and scope.

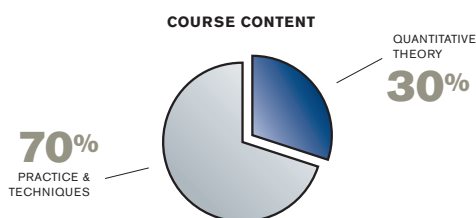
BEYOND RISK MITIGATION

Companies recite different reasons for doing ALM. While some companies view ALM as a compliance and risk mitigation exercise, others have started using ALM as a strategic framework to achieve the company's financial objectives. Some of the business reasons companies now state for implementing an effective ALM framework include gaining competitive advantage and increasing the value of the organization. The way in which ALM is practiced has also changed. Many will recall that ALM used to stand for "Asset Liability Matching" before becoming known as "Asset Liability Management". ALM has gone beyond measurement and mitigation of the risk exposure and contemplates an optimization framework for management of the financial risks.

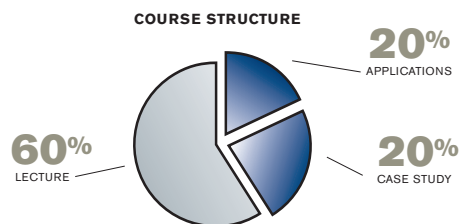
FROM THEORY TO PRACTICE

One of the first things ALM practitioners discover is that a lot of what they need to know to do their jobs is not found in any textbook. While the current literature offers a sound grounding in ALM theory, there is a paucity of industry specific and nation specific guidance for the practitioner. ALM as practiced differs between banks and insurance companies, and further differences exist for life insurance, P&C and pension plans. Nation specific issues relating to accounting methods, regulatory requirements and/or products offered shape the way ALM is practiced in Canada, the US and abroad.

This course covers the theory behind ALM, then provides the practitioner with the knowledge needed that is not covered in the textbooks. The focus of the course is on ALM techniques and practices for insurance companies.



Through the case studies and in-class applications, participants will learn by "doing". The state of ALM practice will be explored, and participants will gain an appreciation of how the ALM paradigm has changed and how companies can take ALM beyond risk mitigation.



Enrollment is limited to ensure the quality of the case studies and applications and provide the optimal learning environment.

WHO SHOULD ATTEND

This two and a half day course is targeted to four distinct groups:

- **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
- **ALM Practitioners** perhaps 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
- **Actuaries** looking to gain a more in-depth knowledge of this key area of practice and fulfill PD credits towards their FSA designation

WHAT YOU WILL GAIN

This course takes the participant beyond the theory that can be learned in text books and provides a unique hands-on training experience not found anywhere else. In addition to the case study approach, which is used heavily, the participant will learn and apply various ALM tools and techniques to quantify the risk exposure and execute various ALM strategies. Case study groups will be carefully selected to ensure complementary backgrounds. Participants can expect the following:

- Learn how to implement ALM as a strategic decision making framework to gain competitive advantage and increase organizational value
- Ensure that appropriate policies and control procedures are in place
- Practice advanced techniques for measuring risk exposure
- Learn the limitations and pitfalls of various risk metrics
- Learn how to understand and effectively communicate risk exposure and how to make more effective decisions
- Formulate an ALM strategy
- Execute a dynamic hedging strategy with equity guarantees
- Produce an ALM report that effectively communicates the exposure
- Participate in a mock ALM Committee meeting

Pre-reading material will be provided so that valuable class time is not spent covering topics that may already have been learned in advance by some and to ensure a threshold level of knowledge for all participants.

LAPTOP COMPUTERS

Course delegates are required to bring their own personal laptop computer to be used during the course. Required software includes Microsoft Excel (2000 or later; with macros enabled) and Adobe Acrobat Reader (5.0 or later) .

A CD drive is necessary.

Adobe Acrobat Reader can be downloaded at www.adobe.com

PROFESSIONAL DEVELOPMENT

This course has been approved for 15 units of Professional Development Credit by the Society of Actuaries

Visit the SOAWeb site (www.soa.org) for more information on PD units.

ATTIRE

Business casual attire is appropriate for this seminar.

ABOUT

NEXUS GENERATIONS

Nexus Generations was founded in 2002 to provide actuarial consulting services and advanced risk management solutions to the financial services industry. More information about Nexus Generations is available at www.nexusgenerations.com

SOCIETY OF ACTUARIES

The Society of Actuaries is a nonprofit professional society of 17,000 members involved in the modeling and management of financial risk and contingent events. The mission of the SOA is to advance actuarial knowledge and enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal problems involving uncertain future events.

THE ACTUARIAL SOCIETY OF HONG KONG

The Actuarial Society of Hong Kong (ASHK) is a full member of the International Actuarial Association (IAA) and its current membership stands at 484 of whom 237 are fully qualified Fellows. The ASHK regulates the actuarial practice of members by issuing Professional Standards and Actuarial Guidance Notes and has a mandate to increase the value of the actuarial profession to the community.

FACULTY

CHARLES L. GILBERT, FSA, FCIA, CFA

Charles L. Gilbert provides Asset Liability Management consulting to the financial services industry. Prior to forming his own firm in 2002, Mr. Gilbert was the leader of the Asset Liability Management initiative for Tillinghast – Towers Perrin in North America.

Mr. Gilbert is the chairperson of the Society of Actuaries Exam Committee for Course 8V – Investments and has been active within the Education and Examination Committees since 1994. He is also chairperson of the Canadian Institute of Actuaries Working Group on Asset Liability Management, co-founder of the Asset Liability Management Practitioners Association in Canada, chairperson of the Society of Actuaries Task Force on ALM Principles, representative for the Society of Actuaries and the Canadian Institute of Actuaries on the International Actuarial Association Financial Risks Committee, treasurer of the Society of Actuaries Risk Management Section Council, a member of the Society of Actuaries Risk Management Task Force, a director of the Board of the Canadian Institute of Actuaries, a member of the Canadian Institute of Actuaries Practice Standards Council, and a member of the Society of Actuaries Finance Practice Advancement Committee. Mr. Gilbert is the immediate past chairperson of the Canadian Institute of Actuaries Committee on Investment Practice and past secretary of the Society of Actuaries Investment Section Council.

Mr. Gilbert has conducted training sessions for the Office of the Superintendent of Financial Institutions on Asset Liability Management and is a frequent speaker and moderator at industry gatherings.

EMILY PAPWORTH, FIAA

Emily Papworth is a consulting actuary in Tillinghast's insurance and financial services consulting practice in Hong Kong. She joined the firm in 1997 following two year's experience with Prudential UK in New Zealand. Ms. Papworth is active in the area of financial risk management and is a frequent speaker and writer on the topic.

Ms. Papworth has worked with clients on over 40 assignments across Asia including Asset Liability Management, appraisal values/embedded values, US GAAP, strategic business analysis, distribution strategy and economics, pricing and product development and expense analysis. Ms. Papworth is very familiar with the products and issues facing insurers in Asia as well as the local regulatory and accounting frameworks. She is also familiar with the US GAAP reporting framework, having been involved in US GAAP conversion projects in China, Japan and South Korea. More recently, she managed the US GAAP conversion project for the Initial Public Offering of China Life, the largest life insurer in Mainland China, on the Hong Kong and US Stock Exchanges.

Ms. Papworth is also actively involved in developing capital market simulation software currently being used by insurers in Asia.

Ms. Papworth holds Bachelor of Commerce and Bachelor of Science degrees from the University of Auckland. She is a Fellow of the Institute of Actuaries of Australia.

K. RAVINDRAN, P.H.D.

Dr. K. (Ravi) Ravindran is the founding principal of Annuity Systems Inc. (ASI) 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 risk management consulting on the equity 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.

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 was previously an Adjunct Professor at the University of Waterloo and the University of Calgary. He is the author of the book "Customized Derivatives: A Step-by-Step Guide to Using Exotic Options, Swaps, and Other Customized Derivatives". Some of his other articles have formed part of the Society of Actuaries examination syllabus.

Dr. Ravindran has recently reduced the amount of time spent on consulting and trading assignments to focus on lecturing and setting up a hedge fund to arbitrage mispriced products across different markets.

ROBERT R. REITANO, PH.D., FSA, MAAA

Robert R. Reitano is Professor of the Practice in Finance at Brandeis University. Dr. Reitano was formerly Executive Vice President & Chief Investment Strategist of John Hancock/Manulife, where he was responsible for the Company's General Account Portfolio's. Dr. Reitano managed the Global Investment Strategy Group of 50 investment research officers, investment and financial analysts and support staff organized into 7 teams in Boston and Toronto.

Dr. Reitano was board member and Chairman of the Committee of Finance for John Hancock Variable Life Insurance Company and Investors Partner Life Insurance Company, board member of other John Hancock subsidiaries, Chairman of three investment oversight committees responsible for the Company's Pension Plans, 401(k) plans, and Variable Series Trust, and served as the Company's Derivatives Supervisory Officer.

A frequent industry speaker and teacher, his research papers have appeared in the Journal of Portfolio Management, the North American Actuarial Journal, the Transactions of the Society of Actuaries and the Actuarial Research Clearing House. His research has won an Annual Prize of the Society of Actuaries and two biennial F.M. Redington Prizes awarded by the Investment Section of the Society of the Actuaries.

Dr. Reitano has a Ph.D. in Mathematics from M.I.T., is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries and a member of the International Actuarial Association. He has served on the Editorial staff and provides editorial support for several finance and actuarial journals. He taught previously in the Finance programs of Boston University and Reykjavik University.

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 throughout the course.

This program combines ALL of the course content, utilities and templates from both ALM Essentials and Techniques and Practices into 2.5 days of intensive hands-on training.

TUESDAY, NOVEMBER 8, 2005

TECHNIQUES AND PRACTICES—DAY 1

- 8:00 Registration
- 8:30 Breakfast
- 9:00 Welcome, Course Overview and Introductions
Gilbert
- 9:20 Anatomy of a Failure
Gilbert
- Overview of ALM Risk Metrics and Strategies
Gilbert and Papworth
- ALM Framework Implementation
- 10:30 Break
- 10:45 Term Structure of Interest Rates
Reitano
- 11:15 Derive Spot Rate Curve Using Bootstrapping Techniques
Gilbert
- Calculate Implied Forward Curve
Reitano
- 11:45 Financial Markets and Market Mechanics
Ravindran and Papworth
- 12:30 Lunch
- 13:30 Financial Economics—Review of Essential Concepts
Gilbert
- Portfolio Theory
Reitano
- 14:10 Determine Asset Mix Using Efficient Frontier Analysis
Gilbert
- 14:30 Valuation Methods
Gilbert
- 15:00 Value Assets and Liabilities
Reitano
- Identifying Risks
- Measuring Exposure
- 15:30 Break
- 16:30 Calculate Risk Metrics and Analyze Exposure
Reitano
- Limitations of Risk Metrics
- 17:15 Quantify Interest Rate Risk Exposure
Gilbert
- 18:00 Apply ALM Techniques (Interest Rate Risk)
Faculty
- Formulate ALM Strategies (Interest Rate Risk)
Faculty
- 19:30 End of Day 1
Reception with Faculty / Informal Q&A
- 21:00 End

WEDNESDAY, NOVEMBER 9, 2005

TECHNIQUES AND PRACTICES—DAY 2






- 8:30 Breakfast
- 9:00 Rebalance Portfolio to Within Risk Limits
Faculty
- Measure Impact of Change in Interest Rates
Faculty
- 10:30 Break
- 10:45 Exotic Derivative Structures
Ravindran
- Binomial Model
Reitano
- 12:15 Lunch
- 13:15 Introduction to Simulations
Gilbert
- 13:45 Generate Risk Profile Using Stochastic Techniques
Gilbert
- 14:00 Brownian Motion
Ravindran
- Diffusion Processes for Interest Rates
Reitano
- Calibration of Models
- ALM Techniques and Strategies—Equity Risk
- 15:30 Break
- 15:45 Dynamic Hedging
Ravindran
- 16:30 Execute Dynamic Hedge for Variable Annuity
Ravindran
- 17:15 ALM Practices
Gilbert and Papworth
- Policies and Controls
- Risk Reporting and Communication
- 18:00 End of Day 2

THURSDAY, NOVEMBER 10, 2005

TECHNIQUES AND PRACTICES—DAY 3

- 7:30 Breakfast
- 8:00 Prepare ALM Report
Gilbert
- 8:30 Review ALM Practices of Leading Insurance Companies
 Faculty
- 9:00 Group Working Session
Prepare presentations for Case Study C6
- 9:30 Participate in mock ALM Committee Meeting
Faculty
- 11:30 Review and Closing Remarks
Gilbert
- 12:00 End of Techniques and Practices

KEY

- | | |
|--|--|
|  Lecture |  Case study |
|  Application |  Open forum |
|  Assigned Reading | |

CASE STUDY

The case study approach will be used heavily throughout this course. Participants will interact with other industry professionals and learn through doing. Case studies for this course include:

- Reviewing ALM practices of leading insurance companies
- Rebalancing Portfolio (recommending trades based on existing exposure and calculating resulting exposure)
- Participating in a mock ALM Committee Meeting
- Developing an ALM strategy for a block of business

Small workgroups will be assigned for the case studies. Some case studies will require the use of a laptop computer.

APPLICATION

Applications are hands-on training exercises where participants learn by applying tools and techniques to real life examples. Applications covered in this course include:

- Calculating interest rate risk and equity risk exposures
- Bootstrapping the term structure and calculate implied forward curve
- Using stochastic techniques to develop a risk profile
- Preparing ALM report
- Quantifying the value added by ALM
- Executing a dynamic hedging strategy for a product

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 MATERIAL

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
 - (used to determine group assignments for case study, focus presentations)

ON-SITE PACKAGE

1. Handouts 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
 - Dynamic hedging techniques
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



ALL LECTURES AND COURSE MATERIALS WILL BE CONDUCTED IN ENGLISH.

WHAT SOME OF OUR PARTICIPANTS HAD TO SAY:

"This was by far the best course I have ever attended."

– LONDON

"Hands-on experience through case studies, in particular the mock ALM Committee meeting, brings theoretical knowledge into practice and helps visualize what will need to be tackled in real-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."

– STANDARD AND POOR'S

"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 very useful in cementing ideas."

– LONDON

"This is an excellent seminar and I will strongly recommend the course to my colleagues."

– TOKYO

"Lectures were excellent. Assignments and case studies were great opportunities to apply what was presented. Thank you!"

– QUEBEC CITY

PAST ALM COURSES

Over 200 professionals world-wide have participated in ALM Techniques and Practices:

PHOENIX, UNITED STATES
DECEMBER 4-7, 2003

QUEBEC CITY, CANADA
SEPTEMBER 26-30, 2004

LONDON, UNITED KINGDOM
JUNE 20-24, 2004

NEW YORK, UNITED STATES
APRIL 4-7, 2005

**STANDARD AND POOR'S*
NEW YORK, UNITED STATES**
JULY 13-14, 2004

BRUSSELS, BELGIUM
MAY 16-19, 2005

TOKYO, JAPAN
JULY 27-31, 2004

* SPECIAL CUSTOMIZED
EDITION OF ALM TECHNIQUES
AND PRACTICES

CUSTOMIZED IN-HOUSE TRAINING IS ALSO AVAILABLE FOR YOUR ORGANIZATION. CONTACT NEXUS GENERATIONS FOR MORE INFORMATION.

HOTEL INFORMATION

HOTEL INFORMATION

InterContinental Grand Stanford Hong Kong

70 Mody Road

Tsimshatsui East

Kowloon

Hong Kong

P.R. of China

Phone: +852-2721-5161

Fax: +852-2732-2233

grandstandford@interconti.com

Room Rates:

Standard Queen: HK \$1,250.00 (not including tax and service charge)

Cutoff date:

Thursday, October 6, 2005

We have arranged for hotel reservations to be made by telephone. To reserve the rate quoted in the brochure, the following procedures should be completed:

- Make your reservation by the cut-off date of October 6, 2005
- Use the phone number quoted in the brochure and identify yourself as part of the Society of Actuaries

Rooms are available at the rate quoted above as long as there are rooms remaining in the Society of Actuaries block or until the cutoff date of October 6, 2005. After this date, rooms will be on a space and rate available basis.

HOTEL CANCELLATION

A deposit, with a major credit card, equal to one night's stay is required to hold each reservation. This deposit is refundable if notice of cancellation is received 72 hours prior to your scheduled arrival and a cancellation number is obtained. All deposits will be charged at the time the reservation is made. No show reservations will forfeit the full first night's deposit.

EARLY DEPARTURES:

All guests will be asked to check-in to verify their departure date. At that time you may change your departure date without penalty. An early departure fee may be charged to any guest who decides to depart before that verified date.

ATTIRE

Business casual attire is appropriate for this seminar.

LOCATION & AIRLINE

The InterContinental Grand Stanford Hong Kong is a five-star hotel conveniently located in the shopping, business and entertainment district of Tsim Sha Tsui East, in Kowloon. Hong Kong International Airport is located 38 kilometers (50 minutes by airport shuttle, 40 minutes by hotel limousine or taxi) from the hotel. If you require a limousine, shuttle bus service or assistance with your ground arrangements, please proceed through Exit Gate B after clearing customs and go to the InterContinental Grand Stanford pickup counter B11 for assistance.

REGISTRATION

You may register using two methods:

Register **ONLINE** (credit card required):

Go to www.soa.org and click on *Meetings/Seminars, Events, and Continuing Education Programs*.

Register **BY MAIL**:

Mail your registration form with check payable to:

*Society of Actuaries
ALM Course - Hong Kong
P.O. Box 71293
Chicago, IL 60694*

If you wish to send a wire transfer as payment please email us at wiretransfer@soa.org for specific wire transfer instructions.

Payment in full must accompany your registration and must be made in U.S. funds or equivalent.

Participants are strongly encouraged to register before October 10 in order to gain access and go through the Pre-Course Material.

If registering within five business days of the program, you are required to register on-site at the program. Please call the Society of Actuaries, Continuing Education Department at 847.706.3540 to confirm space availability.

REGISTRATION CONFIRMATION

Confirmations are e-mailed upon completion of registration.

REGISTRATION FEE

Registration fees are shown for Techniques and Practices.

Your registration fee includes:

- All breakfasts, lunches and networking receptions as indicated
- All related course materials including policy templates and utilities
- Opportunities for one-on-one Q&A with the faculty

FEE	
<i>Member of an Actuarial Organization</i>	\$4,300 USD
<i>Non-Member</i>	\$4,575 USD

ALL CANCELLATIONS MUST BE MADE IN WRITING NO LATER THAN OCTOBER 25, 2005 TO THE CUSTOMER SERVICE DEPARTMENT (CANCEL@SOA.ORG) IN ORDER TO OBTAIN A REFUND OF THE REGISTRATION FEE. THE SOCIETY OF ACTUARIES WILL REFUND THE REGISTRATION FEE, MINUS A PROCESSING FEE OF \$500. REFUND REQUESTS RECEIVED AFTER THE CONCLUSION OF THE COURSE WILL NOT BE HONORED. THE SOCIETY RESERVES THE RIGHT TO CANCEL ANY COURSE 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.

REGISTRATION FORM

Payment must be made in full in order to register.

Please print:

Preferred First Name on Badge _____

First Name _____

Last Name _____

Company _____

Address _____

City _____

State/Prov. _____

ZIP/PC _____

Phone _____

Email Address _____

Check all that apply:

Member of an Actuarial Organization

\$4,300 USD

Non-Member

\$4,575 USD

*For registration using a credit card please register online at www.soa.org. Click on *Meetings/Seminars, Events, and Continuing Education Programs*.*

PAYMENT INFORMATION

Check Enclosed (Payable to Society of Actuaries)

TOTAL ENCLOSED

00-230143-00000-1011

Special meal requirements: **Kosher** **Vegetarian** **Fruit Plate**

Please check here if you require specific aids or services to fully participate in this meeting. **Audio** **Visual** **Mobile**

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