

# ADVANCED STRATEGIC ASSET AND LIABILITY ALLOCATION FOR SOVEREIGNS

## Course Outline:

- Strategic risk management versus real-time and tactical.
- Risk measurement versus risk management
- What strategic risk management is used for and why?
- Dynamic Financial Analysis
- What is optimal risk management
- Determining and structuring overall objectives
- Structuring model objectives and constraints
- Static versus dynamic approaches
- Mean-variance and fixed-mix problem
- Contingent claims analysis
- The dynamic stochastic optimization approach
- Structuring liabilities
- Framework for stabilization funds and central banks
- Framework for Pension Reserve Funds
- Frameworks for Sovereigns
- Incorporating social and other objectives
- Adjusting existing methods for requirements of sovereign risk

## Who Should Attend:

Anyone interested in understanding and applying strategic risk management to sovereign wealth funds, other sovereign institutions, or sovereigns.

## Course Format:

### Adaptation & Customisation To Specific Needs & In-House Programs

Programs can be customised and adapted to specific requirements of participants or institutions. To find out more, please contact our sales representatives.

**See contact details on Page 3.**

### Date & Location:

Millennium Hotel, Abu Dhabi

6 May 2008

Singapore

September 2008



**PINNACLE**  
training academy

A BUSINESS UNIT OF THE PINNACLE GROUP INTERNATIONAL  
(TPGI PTE LTD)

## About Your Course Leader:



**Prof. Dr. Jerome L. Kreuser**  
*Executive Director/Founder,*  
*The Riskontrol Group GmbH,,*  
**Advisor on International Reserves**  
**Management, IMF**

Dr. Kreuser, building on 24 years of financial modeling at the World Bank, founded The Riskontrol Group GmbH in 2000 in Bern, Switzerland for the development of state-of-the-art tools and techniques for and consulting on the strategic analysis and management of financial risks due to uncertainty in interest rates, exchange rates, commodity prices, macro-economic factors, etc. associated with asset/liability portfolios. The Group designs and builds tailor-made, enterprise-wide, integrated, and open risk management models for strategic asset/liability management. The Group provides services in risk education, research, maintenance, and client partnership programs. The Group has designed a new method (patent pending) for reverse engineering derivatives in ALM models. Clients include central banks, ministries of finance, pension funds, and (re)insurance companies.

Dr. Kreuser, under the aegis of the International Monetary Fund, provides expertise (advisory, technical, and training) to central banks on reserve management, the development of risk management capabilities, and on sovereign risk including optimal asset and liability management.

Dr. Kreuser has held several positions at the World Bank during the period from 1974-1998 including head of Modeling Support for Finance and Projects and head of the Quantitative Analysis Consulting Group. He led a project, funded by the World Bank Research Committee, for developing and applying state-of-the-art tools for asset/liability management in developing countries for central banks and ministries of finance. He has developed and implemented portfolio models, cash flow models, industrial planning models, health sector models, economic models, and other project sector models.

He has provided the modeling leadership for several World Development Reports. He has worked on projects in Africa, the Middle East, Latin America, and China. He has also advised the Finance Complex on modeling applications on derivatives and the World Bank pension fund on new analytical techniques. He regularly taught workshops on modeling applications in economics and finance and an international workshop on risk management for central banks and ministries of finance. Dr. Kreuser co-developed and implemented one of the first dynamic asset and liability optimization models under uncertainty for risk analysis that was applied in the real world. It was regularly used in weekly strategy meetings in the mid-seventies in the World Bank's Treasurer's Department for the management of their fixed income portfolio of around \$US 6 billion.

Dr. Kreuser is an Adjunct Full Professor of Operations Research at George Washington University. Since 1982, he has regularly taught a graduate course on the Applications of Linear and Nonlinear Optimization with applications in Economics and Finance. Dr. Kreuser received acclaim for his teaching methods and the course has since become a regular part of the curriculum. He has regularly taught international workshops on the theory and application of modeling in finance, projects, and economics, in Washington, DC; Munster, Germany; and Madrid, Spain. He also taught a workshop on strategic-integrated asset and liability management in Cologne, Germany. Dr. Kreuser has developed numerous analytical and optimization tools and techniques for finance and economics at the University of Wisconsin and at the IBM Scientific Center.

Dr. Kreuser holds a Ph.D. in Mathematical Programming/Numerical Analysis and a Masters and B.A. with Honors in Mathematics from the University of Wisconsin.

## Course Overview:

Strategic sovereign asset and liability allocation can be considerably different than that for corporations or financial institutions. For example, sovereigns do not have the option to sell equity stakes and they do have the option to default. The sovereign objectives will determine the asset allocation. Should the sovereign objectives be to reduce risks to the whole country, the government, or reduce them to some part of their balance sheet? We will consider all possibilities.

Central bank objectives can generally be reduced to safety, liquidity, returns, and stability; in that order of importance. By stability we mean the orderly transition or smoothing of indicators over time. For example, it is generally preferred that no large jumps occur in the shortfall in the liquidity portfolio over time. While modest amounts of shortfall may be tolerable, large amounts are usually not.

Some sovereign wealth funds behave like and have objectives similar to central bank reserves management; like stabilization funds, for example. Others may be similar to and in fact are national pension funds. But pension funds have the same objectives except in a different order of importance. For example, their primary objective may be to have sufficient liquidity to make their liability payments while investing safely. Yet they need to or want to make a good return. As for stability, they will want the funding ratio to be relatively stable over time so that there are no or very few jumps in contribution requirements. Endowment funds and development funds will have similar objectives; just in different orders of importance.

All sovereign wealth funds will want to manage their portfolios with the four mentioned objectives in mind. Each of these objectives will have volatility associated with them and the risk manager of these portfolios will want to manage them so that their future deviations, usually their downside deviations, are as small as possible.

Along with these four objectives, each fund will be concerned with its own differing liability profile, different factors and instruments, and different investment horizons. The portfolio manager will have to account for macro- and micro-economic factors; like commodity prices, resource depletion, import and export levels, fiscal issues, GDP, population growth/decrease, benchmarks, asset universe, etc.

Lastly, how does one formulate and manage the risks for the country as a whole.

The tools for the optimal strategic control of risks with these portfolios, objectives, liabilities, and factors are not generally available in commercial risk management systems. Sovereign risk management requires several features including:

1. The ability to assess internal and external shocks;
2. Assessing self-insurance schemes;
3. Assessing policy sustainability;
4. Assess volatility in light of objectives not simply returns: large return volatility need not imply poor policies or unmet objectives;
5. Handle varied optimal objectives such as debt to GDP ratio, other IMF indicators, country wide indicators, social welfare; policy sustainability, etc.;
6. Possibly handle public and private macro-economic and financial issues;
7. Handle varied instruments useful for sovereigns such as World Bank instruments linked to commodity prices;
8. Assess extreme events such as weather related issues, natural disasters, contingent liabilities, etc.;
9. Be flexible and changeable in their model structure as issues and concerns change over time; and
10. Be able to assess regime changes and problems associated with changes over time such as correlation convergence.

The question then and the topic of this course is how to approach sovereign risk.

We use the above categorization of objectives, factors, liability profiles, and horizon to review current risk management methods for sovereign risk, discuss ways to patch existing methods to handle multiple risks", and propose frameworks for the risk management of various types of sovereign wealth funds and sovereigns as a whole. these portfolios, objectives, and factors are not generally available in commercial risk management systems.

The question then and the topic of this course is "what to do about it".

**\*\* Suitable intervals will be taken for breaks and lunch throughout the day, and each day will finish by about 1700 hours.**

## Participants Will Receive:

Course notes, papers, and a copy of the Ziemba book. Plus in order to optimize the learning experience, participants will receive a set of readings prior to the class.

## References:

Claessens, Stijn and Jerome Kreuser.  
2007. "Strategic Foreign Reserves Risk Management: Analytical Framework," in *Annals of Operations Research*, Springer Netherlands, Vol. 152, No. 1, July, Pages 79-113.

Claessens, Stijn and Jerome Kreuser.  
2004. "A Framework for Strategic Foreign Reserves Risk Management," in *Risk Management for Central Bank Foreign Reserves*, European Central Bank Publication, Frankfurt am Main, May.

Claessens, Stijn.  
2005. *Taking Stock of Risk Management Techniques for Sovereigns*, World Bank Policy Research Working Paper WPS 3570.

IMF.  
2003. "Guidelines for Foreign Exchange Reserves Management: Accompanying Document", March 26, International Monetary Fund, Washington, D.C. See <http://www.imf.org/external/pubs/>.

Johnson-Calari, Jennifer Ed.  
2007. *Sovereign Wealth Management*, Central Banking Publications, London, UK.

Ziemba, William T.  
2003. *The Stochastic Programming Approach to Asset, Liability, and Wealth Management*, The Research Foundation of the Association for Investment Management and Research, USA.

Plus others

## Registration & Enquiries:

For more information please contact:

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## Program Details:

- Abu Dhabi, UAE – 6 May 2008**  
Course Venue: *Millennium Hotel*  
**\*\* Register by 6 March 2008 to enjoy Early Bird Discount of 15% off above fee.**
- Singapore – September 2008**  
Course Venue: *Hotel to be confirmed*  
**\*\* Register early to enjoy Early Bird Discount of 15% off above fee.**

**Course Fee: SGD 2,500**  
**Time: 9.00am to 5.00pm**

**Group Discount:**  
**20% for 2 or more sign-ups from the same company**

- \* Only one of the above discount schemes will apply.
- \* GST is applicable for all Singapore-based firms.
- \* All course materials, F&B costs included
- \* All prices quoted exclude taxes. Terms and conditions apply.

## Payment Methods & Details:

**Please indicate your preferred mode of payment:**

- Bank Transfer
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### Notes:

1. All cheques must be made payable to TPGI Pte Ltd
2. For payment by bank transfer, please quote "Asian M&A Masterclass 2008", Invoice Number and Participant's Name.
3. The Bank Details are as follows:

Account Name: **TPGI Pte. Ltd.**  
SGD Account Number: **101-332-203-7**  
Bank Details: **UOB Bank, 80 Raffles Place, UOB Plaza, Singapore 048624**

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## Registration Form:

Please provide us with the full details of the following:

### Company Details

Company Name:.....  
HR / Training Manager: .....  
Email: .....  
Address: .....  
Postal Code:.....  
Country: .....  
Telephone: .....  
Fax: .....

## Participant's Information:

### Participant 1:

Name: .....  
Job Title: .....  
Email: .....  
Telephone: .....  
Mobile: .....

### Participant 2:

Name: .....  
Job Title: .....  
Email: .....  
Telephone: .....  
Mobile: .....

### Participant 3:

Name: .....  
Job Title: .....  
Email: .....  
Telephone: .....  
Mobile: .....

### Participant 4:

Name: .....  
Job Title: .....  
Email: .....  
Telephone: .....  
Mobile: .....

## Terms & Conditions

### 1. Registration and Payment

All prices do not include taxes. A place will be confirmed ONLY upon the receipt of your payment made two weeks prior to the course date. TPGI Pte. Ltd. reserves the right to refuse admission if payment is not received on time.

### 2. Refund & Substitution Policy

Regrettably, no refunds can be made for notification that is later than 2 weeks before commencement of the Workshop. If you are unable to attend, a substitute is welcome at no extra charge. Alternatively, your registration can be credited to a future training programme. All changes to registration must be notified in writing.

### 3. Cancellation Policy

TPGI reserves the right to cancel or alter the contents and timing of the training programme or the identity of the speaker for reasons beyond its control.

### 4. Administrative Charge

There will be an **additional 4% administrative charge** for payment using American Express Card, and **additional 4.5% administrative charge** for payment using VISA/Mastercard. All bank charges are to be borne by course participants.

### 5. Disclaimer

TPGI reserve the rights to change or cancel any part of its published programme and replacement of trainers due to unforeseen circumstances.

## Related Conference

Please tick if the following conference is of interest to you:

- Sovereign Reserve Management, Pension & Institutional Funds Congress 2008  
**5 May 2008 | Abu Dhabi, United Arab Emirates**

## New Courses & Topics Of Interest

Below are some of the more popular courses offered by Pinnacle Training Academy. Please tick if they are of interest to you:

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 Personal Financial Management for Secretaries  
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 Fundamentals of Performance Measures  
 Performance Measure and Attrition Analysis  
 Risk Adjusted Performance Measurement  
 Global Investment Performance Standards (GIPS) Masterclass  
 Insurance Assets & Liability Management  
 Bank Asset & Liability Management  
 Cash Management Techniques  
 Treasurer's role in M&A  
 Relative Value in Credit Masterclass  
 Structured Credit Trading Masterclass  
 Structured Credit Hybrids Masterclass  
 Auditing & Managing FOREX Activities  
 Risk-Based Capital Management for Financial Institutions  
 Risk-Based Management for International Trade Finance  
 Auditing and Managing Treasury Products with Fraud Detection