

# Financial Derivatives Part I

## *Comments from past participants*

*“The seminar clearly provides for an in-depth and multifaceted view of options, swaps etc. This seminar, if attended by treasurers and bankers, is able to significantly improve risk awareness and risk hedging in Singapore.”*

– Mr. Hans-Juergen Schnell, DaimlerChrysler Treasury Center Asia Pte Ltd, Singapore.  
[Class of February 2001]

*“Most people think that dealing with derivatives is synonymous to complex mathematical formulas and equations but Dr. Jeffrey C. K. Lim was able to present the derivatives concept in a simple way by always going back to basics.”*

– Mr. Bambang Eko K. Joewono, Bank Niaga, Indonesia.  
[Class of February 2004]

*“Dr. Jeffrey Lim conducted the Financial Derivatives seminar with lots of brainstorming exercises and excitement. It has been my best experience in attending it. I would highly recommend any financial personnel who has no knowledge of the basic fundamentals of financial derivative products to experience the path and challenges that Dr. Jeffrey Lim has set to mould and guide attendees through the subject!!”*

– Ms. Pauline Low Mui Ping, United Overseas Bank, Singapore.  
[Class of February 2004]

*“Jeff has been a good facilitator. From my personal point of view, this seminar was a very good refresher course. He has put across the issues in such a way that we are able to view them from different perspectives. This is in addition to his interesting presentation delivery technique.”*

– Ms. Tan Chye Yuan, Natexis Banques Populaires, Singapore.  
[Class of July 2004]

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**SEMINAR CODE: PFD01**

*“Good course. Interesting and beneficial!”*

– Mr. Jeffrey Sim Heng Lai, O.C.B.C. Bank, Singapore.  
[Class of July 2004]

*“I would recommend this seminar! It’s useful, interesting and combines both theoretical and practical aspects. Really enjoyed the seminar! Very good facilitator! Didn’t fall asleep! I feel very positive towards this seminar!”*

– Ms. Christine Lim Ai Lian, O.C.B.C. Bank, Singapore.  
[Class of July 2004]

*“Dr. Jeffrey Lim offers good and useful advice through the seminar. I would recommend such seminars to others as we do not have much of such seminars in Jakarta.”*

– Mr. Suriyanto Chang, Permata Bank, Indonesia.  
[Class of July 2004]

*“The Financial Derivatives Seminar was enjoyable and very enlightening as we learnt how the formulae were derived. Also, the presentation was a real brain-teaser.”*

– Mr. Irwan Hendroyono, Bank Panin, Indonesia.  
[Class of February 2005]

*“Interesting seminar! Dr. Jeffrey has an amazing way of presenting complex financial theory in a simple and practical way.”*

– Mr. Eddy Kusnadi, O.C.B.C Bank, Singapore.  
[Class of February 2005]

*“Jeff shows us the real world of finance and the banking system from an angle that I’ve never seen before. I got a deep understanding on financial derivatives explained in the simplest way.”*

– Ms. Ester Chandra, Bank Panin, Indonesia.  
[Class of February 2005]

*“Dr. Jeffrey has shown me a new approach and perspective in dealing with derivative instruments. His methods are powerful as they involve a very detailed analysis approach whereby he covers the intrinsic details of each of the specific instruments, not just skimming the surface.”*

– Mr. Izz Al-din Maslan, Capital Investment Bank (L) Ltd, Malaysia.  
[Class of July 2005]

*“The seminar is interesting and Jeff explains the subject in a most simplified manner!”*

– Ms. Deslina Siagian, PT Bank Sumitomo Mitsui, Indonesia.  
[Class of July 2005]

*“It’s a great seminar for auditors and dealers!”*

– Ms. Leeanne Leong, United Overseas Bank Group, Singapore.  
[Class of July 2005]

*“A wonderful, exciting, and insightful seminar delivered by a lively and humorous facilitator, Dr. Jeff Lim.”*

– Mr. Tan Kheng Feung, O.C.B.C. Bank, Singapore.  
[Class of January 2006]

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## SEMINAR CODE: PFD01

*"The PFD01 seminar is certainly beneficial to anyone who is involved in the financial markets. Dr. Jeffrey Lim combined interesting theoretical aspects with hands on exercises during the 3 days seminar. His presentation is unique with practical examples drawn from his vast experience. One of the best facilitators I have ever com across."*

– Mr. Steed Koh Wei Teck, O.C.B.C. Bank, Singapore.  
[Class of January 2006]

*"Jeff provided different perspectives to viewing and understanding derivatives."*

– Ms. Fabian Siew Mun Fei, The Bank Of Tokyo-Mitsubishi UFJ Ltd, Singapore.  
[Class of July 2006]

*"This is a great seminar. I would recommend such seminars to others!"*

– Mr. Priyo Basuki, PT. Bank Ekspor Indonesia, Indonesia.  
[Class of July 2007]

*"Excellent teaching, practical, interesting and challenging. Provides refreshing perspectives of derivatives and beyond!"*

– Ms. Phua Tan Hong, United Overseas Bank, Singapore.  
[Class of July 2008]

*"Jeff has made the Financial Derivatives topics very interesting. He has made the topics very easy to understand by demonstrating with practical examples. I will encourage my team members to attend the seminar."*

– Ms. Serene Ong, SG Asset Management (Singapore) Ltd, Singapore.  
[Class of February 2010]

*"Dr. Jeffrey conducted the seminar in a very interesting way. He gave me a very much clearer picture of the derivatives market and I would recommend this seminar to dealers and even fund managers. I really enjoyed the 3-day seminar."*

– Mr. Solomon Poh, SG Asset Management (Singapore) Ltd, Singapore.  
[Class of February 2010]

*"This seminar is great! I can understand it, even though I have no math background. I've always had the feeling that math is fun, and now I know I'm right!"*

– Ms. Fita Anggraini, The Bank of Tokyo-Mitsubishi UFJ Ltd, Indonesia.  
[Class of June 2010]

*"The Financial Derivatives Part I seminar is exceptionally insightful to the world of trading and the global markets. Internalising technical aspects of the course was so easy!"*

– Mr. JJ Poh Jin Kiat, Australia & New Zealand Banking Group Limited, Singapore.  
[Class of December 2010]

*"By attending this seminar, I believe you can see Yield Curves so clearly and options so interesting."*

– Mrs. Raden Widawati, Bank of Tokyo Mitsubishi UFJ Jakarta, Indonesia.  
[Class of January 2011]

*"This seminar is excellent. Facilitator is very good and high quality and furthermore, I understand financial derivatives much better!"*

– Ms. Elisabeth Artrisia Herani, PT Bank Chinatrust Indonesia.  
[Class of July 2011]

*"Really enjoyed the seminar and discussion with Jeff. Can understand the concepts in a simple real-life way which is really enjoyable and interesting. Opened my mind to the mystery behind treasury products."*

– Ms. Herdianti Wisesaputri, PT Bank DBS Indonesia.  
[Class of January 2014]

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*“The program is very insightful and exciting! We not only get to learn about derivative products, but also the logic behind it. Most importantly, Dr. Jeff is an engaging facilitator. We will definitely recommend this training to our colleagues.”*

– Ms. Mariska Habni, PT Bank DBS Indonesia.  
[Class of January 2014]

*“This four day seminar has improved my mathematical sense.”*

– Mr. Syed Zeeshan Haider Taqvi, Pakistan National Shipping Corporation, Pakistan.  
[Class of July 2014]

## ***Highlights***

- In living life, the secret of the How's is actually in the Why's!
- History is actually an important subject. Knowing history well tells us why we are here today. Knowing history really well can sometimes even tell us where we are heading into the future!
- Have a good understanding of the **Foreign Exchange** and **Interest Rate markets**, and the main Treasury products available in these markets, including Derivative instruments.
- Acquire a clear understanding of Financial Derivatives through focusing on the essential Mathematical Concepts that form the building blocks of these instruments.
- Master the dynamics of Financial Derivatives as part of an extended toolbox of Financial Risk Management, which will in turn increase optimality in hedging strategies.
- Have an understanding of how knowledge in Derivatives in the Foreign Exchange markets can also be extended to include **Equity and Commodity market derivative instruments**.
- Have a hands-on opportunity to **build Yield Curves** – the backbone of most financial derivative products using Spreadsheets.
- Usage of The **PERMIT**<sup>®1</sup> Treasury & Financial Risk Management System and practical experience on structuring and pricing Financial Derivatives.

**Seminar Facilitator**

**Dr. Jeffrey C. K. Lim, Ph.D., C.Sci., C.Math., FIMA, FRM, PRM, B.Fel.**

**Seminar Duration**

**4 Days, 9:00am to 5:00pm**

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<sup>1</sup> **PERMIT**<sup>®</sup>, which is an acronym for **PI ETA Risk Management Information Technology**, is a registered trademark of PI ETA Consulting Company.

## Seminar Background

The recent Global economic upheavals have given rise to enhanced emphasis on financial risk management by both financial institutions and corporations. One of the essential tools in financial risk management is the application of financial derivative(s) to hedge against interest rate fluctuations and foreign currency exchange exposures to minimize losses. With the recent liberalization of the financial markets and the availability of more exotic financial derivatives in the market, it is critical that management concerned fully understands the dynamics of financial derivatives and has the expertise to apply them in practice to minimize market risk.

Also, as financial derivatives volumes have increased to multiple times the underlying spot market, and since derivative traders use the spot market to hedge their risk exposures; hence, even if one is only involved in the spot and vanilla market, one also needs to understand derivatives in order to know how derivative traders are now moving the underlying spot and vanilla markets in order to have a proper understanding of the deal flows.

## Seminar Content

- **Historical Background**
- **Essential Mathematical Concepts**
  - Understanding Probability Theory and Its Applications to Financial Markets
  - Understanding Mathematical Expectation and Its Applications to Financial Instrument Pricing
  - Time Value of Money
  - Understanding The Actuarial Pricing Methodology Applied to Pricing Financial Instruments
  - Concept of Fair Value & Option Premium
  - Introduction To The Concept of Arbitrage, and The Arbitrage-Free Pricing Methodology Applied to Pricing Financial Instruments
  - Introduction to Term Structure of Interest Rates
  - Hands-on Building of Yield Curves
- **Interest Rate Derivatives Instruments and their Application**
  - Types of Interest Rate Derivatives
  - Usage of Interest Rate Derivatives
  - Valuation of Interest Rate Derivatives
  - Sensitivity Analysis
- **Currency Derivatives Instruments and their Applications**
  - Types of Currency Derivatives
  - Usage of Currency Derivatives
  - Pricing of Options
    - Black-Scholes Option Pricing Model
    - Binomial Option Pricing Model
    - Put-Call Parity
    - Volatility Determination
    - The Volatility Smile Curve

- Time Value of Option
- Sensitivity Analysis
  
- **Extensions of the above notions to Equity and Commodity Derivatives**
  
- **Hands On Session**
  - Hands-on pricing and structuring using Spreadsheets and The **PERMIT**<sup>®1</sup> Treasury & Financial Risk Management System

## Benefits of Attendance

Participants will gain a better understanding of financial derivative products through the **hands-on building of Yield Curves** – the backbone of financial derivative products using Excel Spreadsheets. With this knowledge, they will then be in a better position to apply the relevant financial derivative products in managing interest rate/foreign exchange/equity/commodity risk exposures for their respective organizations.

Participants will also be given the hands-on opportunity to “arbitrage” mispriced financial instruments during the program, and also to develop “hands-on” an options pricing model using Excel Spreadsheets.

## Who should attend?

Senior Management, Risk Management Personnel, Treasury Personnel, Operations and Settlements Personnel, Accounting and Finance Personnel, Internal and External Auditors.

## Seminar Facilitator

**Dr. Jeffrey C. K. Lim**, certified Financial Risk Manager (FRM<sup>2</sup>) and certified Professional Risk Manager (PRM<sup>3</sup>), is currently the Managing Director of PI ETA Consulting Company, a Treasury & Financial Risk Management Consulting Company.

A Chartered Scientist (C.Sci.<sup>4</sup>), a Chartered Mathematician (C.Math.<sup>5</sup>) and an elected Fellow of the Institute of Mathematics and Its Applications (IMA), U.K. (FIMA), Jeff earned his Ph.D. in Stochastic Financial Modeling from the University of Cambridge in England. Jeff’s research interest at Cambridge was in the area of Arbitrage Opportunities occurring in the Mispricing of Financial Options, and his original research culminated in the publication of his doctoral dissertation entitled: “Multi-period Mean-Variance Option Portfolio Strategies”.

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<sup>2</sup> The *Financial Risk Manager* (FRM) designation is awarded by The Global Association of Risk Professionals (GARP), U.S.A.

<sup>3</sup> The *Professional Risk Manager* (PRM) designation is awarded by The Professional Risk Managers International Association (PRMIA), U.S.A.

<sup>4</sup> The *Chartered Scientist* (C.Sci.) designation is awarded by The Science Council, U.K.

<sup>5</sup> The *Chartered Mathematician* (C.Math.) designation is awarded by The Institute of Mathematics and Its Applications (IMA), U.K.

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Jeff was an authorized Securities & Financial Derivatives Representative in London, having been certified by The Securities and Futures Authority (SFA) in England, where he started his career as a Derivatives Analyst with Nomura International in London, England. He subsequently joined NatWest Markets from London, England to become its Head of Currency Structured Products for South and South-East Asia. Jeff then moved to American Express Bank to become its Director of Structured Products, prior to assuming his current position.

Jeff has also contributed to the development and enhancement of talent and infrastructure for Singapore's financial center as a guest Professor at the National University of Singapore's Center for Financial Engineering, where he was responsible for the curriculum of its Master of Science degree program's core modules in Financial Derivatives and Treasury Management. In addition, Jeff has also been invited by the Nanyang Technological University and the Singapore Management University to share his expertise in a similar capacity. In recognition of Jeff's expertise and experience in the field of Treasury and Financial Risk Management, the University of New South Wales Asia appointed Jeff to be its first Adjunct Professor with the university's Division of Business and Humanities.

At PI ETA Consulting Company, Jeff was Principal Inventor in two of the Patents that the company currently holds – one in Treasury & Financial Risk Management Systems, and the other in Knowledge Management Systems.

Professionally, Jeff is a Fellow of both The Global Association of Risk Professionals (GARP), U.S.A. and The Professional Risk Managers International Association (PRMIA), U.S.A. He is also a Fellow of the Cambridge Philosophical Society, U.K. and a Life-time Member of The Cambridge Society, U.K. Jeff is also honoured to be a Fellow of The Cambridge Commonwealth Society, U.K., having been previously awarded the Cambridge Commonwealth Trust and the Shell Group of Companies Doctoral Research Scholarship.

As a special recognition of Jeff's professional achievements, on 9 April 1999, Barons Who's Who conferred Jeff with the Barons Fellowship status, making him a Barons Fellow (B.Fel.). This award by their Charter, is limited to only the top 10% of those selected for publication in Barons Who's Who International.

**For more information, please contact PI ETA Engagement Resource (PEER) Group at**  
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