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30, Male, Malaysian.

Khoo Yee Yang

Education

2012–2013 **M. Sc. (Hons) Physics (Theoretical)**, *University of Malaya.*

2008–2011 **B. Sc. (Hons) Physics**, *National University of Malaysia.*

3.97/4.00 (First Class Honours)

Core Skills

1. Interest Rate & Foreign Exchange derivative modelling in C#.
2. Structured product (product launch & booking in MX).
3. Pasaran Kewangan Malaysia Certificate (PKMC) license holder.

Experience

Oct 2016 – Present **Manager, Valuation Control (Quants)**, *Hong Leong Bank Bhd, Malaysia.*

- Attached to Middle Office. Point of contact for valuation of treasury products.
- Driving the ongoing Murex Validation project.
  - Developed a swaption calibrated Hull White 1-Factor trinomial tree to validate Murex's Callable Range Accrual pricing. Tree is written in C# with Excel as user interface. It may be used for pricing IR exotics.
  - Developed Vanna-Volga model for validating pricing of double no-touch options.
  - Validated yield curves & volatility surfaces. Suggested setting changes for more accurate pricing (e.g. interpolation method).
- Worked closely with structurer on structuring new products.
  - Focuses on valuing structured products, and presenting results to Group ALCO & Managing Director for approval.
  - Closely involved in structuring and valuing a 30 years principal protected structured investment, with estimated sales of MYR120m a year. Also involved in launching a 20 year deferred coupon structure with a one-off sales of MYR100m.
  - Involved in designing booking methods for structured products in Murex. Coordinated the testing of these proposed designs.
  - Implemented spreadsheet model for valuing structured products, e.g. Monte Carlo simulation for FX knock-in on knock-out, target redemption notes.
- Developed a spreadsheet to estimate Credit Valuation Adjustment of the bank.
- Performed Independent Price Verification (IPV) on bonds & derivatives.
  - Improved the present valuation policy.
  - Automated the IPV process using C# with Language Integrated Query (LINQ).
  - Estimated credit spread of illiquid bonds based on available informations (e.g. CDS curve, credit spread).

July 2013 – Oct 2016 **Quantitative Analyst**, *AmBank Bhd, Malaysia.*

- Attached to Front Office, experienced in foreign exchange and interest rate derivatives.
- Developed custom models for pricing and mark to market purposes.
  - Implemented a Black-Derman-Toy interest rate tree to price and mark to market bonds with exotic features, e.g. callable and perpetual. Model tracks Bloomberg's callable bond pricer.
  - Implemented an efficient yield curve module which mirrors Murex for our in-house library. This module is used by traders to price FX products (e.g. par forward).
  - Involved in implementing a PDE option pricing model with Crank-Nicolson discretization using C++ STL.
- Tested Murex's (MX's) pricing engine by independently reproducing results & provided quantitative support to ensure effective delivery of agreed Murex projects.
  - Constructed an IRO cap volatility surface. Tested various interpolation methods and suggested the best configuration based on detailed analysis.
  - Tested MX FX Option's pricing/adapted greeks. Recommended configurations to traders based on market practice and analysis.
  - Validated Murex's price/sensitivities for IRS/CCS/Basis Swap.
- Worked closely with structurers to implement spreadsheet models used for mark-to-model structured products.
  - Used Monte Carlo to mark-to-model accumulator & correlation based structures, e.g. target range accrual swap, commodity worst-of basket.

2011–2012 **Product Engineer**, *Freescale Semiconductor (M) Sdn. Bhd, Malaysia.*

- Performed failure analysis on microchips.
- Coordinated a yield enhancement project across teams in the United States, India, Israel and Malaysia. This project resulted in an estimated saving of USD0.8M per quarter.

Publications

- Y.Y. Khoo & C.H.R Ooi. 2013. Casimir force control with optical Kerr effect. Sains Malaysiana **42**(12): 1799.
- C.H.R. Ooi & Y.Y. Khoo. 2012. Controlling the repulsive Casimir force with the optical Kerr effect. Phys. Rev. A **86**, 062509.
- G. Gopir, Y.Y. Khoo, C.Y. Woon & A.P. Othman. 2012. Self-consistent calculation with adaptive boundary condition of electron states in silicon n-MOS nanostructure. Solid State Sci. and Technol. **20**:88-95.

Languages

English **Advanced**

Chinese **Intermediate**

Malay **Intermediate**

Computer Skills

Programming Languages: C# (OOP, Parallel Programming), C++ STL, VBA, Matlab, Python.

Treasury System: Murex, Bloomberg.

Computer Algebra: Maple, Mathematica.

Others: Microsoft Excel, Excel-DNA (Excel C# Add-In).