

Dreamliner

by Rizwan Majeed Khan

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It was a cold winter night. As I touched the chilled glass of the glass window I saw dark clouds far beneath with lightening appearing as sparks in the sky beneath. I had piles of files to study in the day after's work. My life as a trader had been full of stress. Since the very moment I joined the secondary market insurance (SMI) desk at an investment bank I had been confronted with issues almost every day. With no restrictions on short selling of insurance contracts insurance policies market had grown into one of the largest markets second to the foreign exchange market. With every skymobile requiring insurance and space shuttles covered, insurance had grown into a huge market surpassing other areas in financial services.

I remember the first few days at the desk when the desk was net short catastrophic insurance with a hurricane warning on the east coast. Although, there were short positions in insurance shares and the desk was long on life policies in the region there was panic short covering. The hurricane didn't materialize and there were transaction costs to the bank.

I started my career as a trainee actuary in a property and casualty insurance company. I had read financial mathematics at school but I wanted to start my career where the first pure application of mathematics to business took place. My training went through reserving, valuation, and pricing. What I found most interesting was how insurance companies drove the entire insurance policies secondary market. Just like IPOs where new issuance drives future prices. In pricing there was more markets-oriented analysis rather than experience analysis as I was told was the core of pricing in the past. As a pricing trainee I analyzed secondary market trends, factors affecting the secondary market, and the macroeconomy. Having qualified as a Fellow of the Society of Actuaries in the Financial Markets and General Insurance track, I was ready to take on the challenge of the ever changing secondary insurance market of the solar system. Many insurance companies and banks had opened their offices at Mars. I had been offered a job by a conglomerate at their Mars office. I had declined as I wanted to be at the place where it all began where the first equation was written and where the first number was printed.

Four years at the secondary market insurance desk, though stressful, had been a tremendous experience. I had gone through a complete economic cycle. I had seen rate plummet with rallying life insurance secondary market. I had seen rates rise with selling pressure life secondary market hitting the bottom.

I was distracted by the glowing clouds beneath. I moved away from the window onto the desk. My wife had been paging for me. She said hello as I sat down in front of the work station. "Where have you been", she said. "In thoughts", I replied. "I have been driving around in a classic gasoline car in the old downtown getting wet in the rain. I dinned at an Indian cuisine. I wish you were here." "When will you be back", I asked. "Late", she said "What", "I will take the next skycab from SOA Avenue and will be with you in 15 minutes" "I have got something for you" "Whats that" "A mechanical watch. An authentic twentieth century antique", she said. "Thank you but please hurry up" "I am on my way honey!"

As I browsed through live pictures of the old Manhattan I couldn't resist staring at the Wall Street where it all began.

I sat down reading notes about a possible transaction with the Insurance and Pensions Solutions (IPS) desk. A pension fund client was in talks with the desk to hedge its defined benefit liabilities by buying life insurance contracts in the secondary market. IPS desk had asked us to arrange for the transaction. As the

SMI desk was already long life insurance policies in view of decreasing rates the desk was looking to hedge the exposure. One way was to alter the portfolio of our annuities holdings.

It was a busy start to the next day. IPS had been contacted by another client and they wanted a quote right away.

Tim had been the head of SMI desk for the past ten years. He was the one who had hired me at the desk and had taught me the trick of the trade.

“10.16/10.19 auto 3 years Millennium insurance”, said the broker on phone. I glanced at the Bloomberg terminal quoting 10.17 as the bid. Broker’s voice died in the background noise and cheers. “Dow Jones has crossed 50,000, there are girls dancing at the New York Stock Exchange”, said Tim. Equity markets had seen their troughs but there had been a steady incline. Once emerging markets had developed into many times their values.

There was a vacancy at our desk. Tim was of the opinion that a non-finance person be hired. He said, “We want to program the person our way to train to fit to our environment.” The first person I interviewed was Michele. She had recently completed a Masters in English Literature.

“I can write. I can write well”, she said. Trying not to think what its got to do with trading insurance contracts I asked her about her thesis. “My thesis covered science fiction classics of the twentieth century and the comparison of what was predicted and the life today”, she replied with confidence. “So how did you find the comparison”, I asked. “Very accurate. Fascinating. Humans’ ability to predict fascinates me and this has made me interested in financial markets. I have done a lot of reading and I am as ready for a trading desk job as a financial markets graduate from a top university. I know how insurance works. I have read about classic insurance actuarial pricing and how the secondary market was developed. How events beyond our control are traded in the market and hedged. I know you want someone to take a fresh start at your desk who you can train and develop into your style of working. I haven’t been in touch with finance professionals and all my learning has been through reading books. I am new enough for you to give me a fresh start and to shape my career within your bank. I am looking for long-term career prospects with you and if hired I will probably retire from this bank.” Impressed by the speech the questions I had prepared were not relevant anymore. “How good are you at talking and negotiating”, I asked. “I am sharp enough to tell when a person is lying and to know whats in my, my employer’s, and my client’s best interest.

“Do you have an actuarial training program”, she asked. “There isn’t an actuarial training program but professional studying is encouraged and you will have to apply for our study support program. The training you will get here will focus on modern insurance trading rather than classic actuarial topics. You can opt for the SOA Financial Markets track with either general or life insurance“, I said. “Exactly”, she said. “I want to be like you. I saw your name on the actuarial directory”, she said smiling. Michele had a slim figure with a pretty face. “She will attract attention”, I thought to myself. The interview ended with a discussion on the role of insurance companies. Can the insurance market operate like the exchange-traded options market with no institution underwriting and buyers and sellers offsetting each other.

“Is there any need to call other candidates? There is a history graduate lined up”, said Tim. “Have you read my notes”, I asked. “Yes I am impressed”. “Then I think you should call her to see you and finalize”

From day one I developed a liking for Michele. She fitted into the team well. She was committed to her job and to the firm. Being loyal to the firm I felt it my duty to help shape her career within the firm. I wanted her to pass her exams, qualify as an actuary, and become a successful trader.

“I find it fascinating”, she said at the coffee table. “How do the insurance companies know how much claims there will be and how much to reserve? Why aren’t the claims more volatile than expected? Why can’t there be many times more claims in one year compared to the previous. Why are there patterns in the universe? I am studying for the probability exam and I am finding it very interesting.” “This is how God created the universe. It is for us to explore and find patterns”, I remarked.

“What do you think of a coin tossed”, I asked. “What? It’s a 50% probability either a head or a tail”, she said. “What if you toss it ten times and you get heads what are the chances of a tail then”, I asked. “50%”, she said without a pause, “because of the memoryless property. “This is where my intuition disagrees with my actuarial self. Its common sense you can’t just keep getting heads there is a tail due and the probability of a tail should be higher”, I said. “You tell this to the SOA and your membership will be withdrawn”, she said. “Ha ha perhaps I should write a paper and prove my intuition”, I said.

Michele whizzed past the first four exams. Her next challenge was the Derivatives exam.

Michele’s daily tasks were to watch interest rate movements and analyze the impact on our insurance contracts portfolios. Her analysis of the yield curve and macroeconomics was helpful and was increasingly relied upon by the desk.

Michele and I had grown close as we met often over lunch.

“Who is this guy”, I asked her during lunch at the office cafeteria. “He is a photographer with the New York Times. We have been seeing each other for a year now. He is handsome, loves photography, and more importantly loves me. His shots have incredible power of imagination. He manages to capture expressions on the faces as coming out and expressing themselves in the pictures. He has a bright career ahead of him. He likes my job and wants me to qualify”, she said.

“How about you? What does your wife do”, she asked. “My wife is an arts dealer with an arts auctioneering firm. She specialized in impressionist era paintings”, I replied. “Oh great! I am a big fan of the impressionist movement. I wrote an essay at college” she said. “Does she own any”, she asked. “She would have if I were a hedge fund manager. She has a lot of replicas painted by modern artists. There is one Water Lilies hanging at the entrance of our apartment.

The Derivatives exam had grown into a monster of an exam. The derivatives market had grown into zillions of dollars with all sorts of exotics being traded.

“Can you help me out with studies, Mark”, asked Michele. “Yes let’s go to the library after work someday”, I replied. “Are you free today”, she asked. “Let me check. The conference call of universal desks will be over by 4. I will be free by 5”

“One basic question”, she said, “Swaps prices depend on future random rates right? Then why aren’t swaps priced in a stochastic setup”, she asked. “Financial instruments are priced based on arbitrage principles. There should be no alternative investment returning more than the financial instrument starting with the same value under the risk neutral setup. I hope you know the risk neutral measure theory”, I said. “Yes I got it”, she said. “Swaps can be replicated by forwards and priced with replication”

I had developed a greater ambition to help develop Michele into a successful professional and I believed would I be successful I would have returned the favour to my employer by giving a bright, matured, trained talent.

Michele was given more responsibilities as time passed. She was trading and hedging a portfolio of auto insurance contracts. Sales had grown an admiration for her as her response had been quick with competitive prices. Michele qualified as an actuary five years into the job. "Mark, I am getting married", she exclaimed on the chat window. "Paul proposed me last Saturday. Wedding is planned on the 6th of the next month. I want you to be there"

Michele's wedding was an extravagant affair. I had never realized Michele's was a wealthy family as was evident from the arrangement. My wife had bought a replica of Impression Sunrise wrapped in silver.

My wife had always insisted both of us belonged to the same profession. We were both dealers. I always disagreed as arts dealing is far from the stresses of the trading floor. At our wedding anniversary Katherine gave me a paper copy of the first secondary market insurance contract traded in the market. I gave her a diamond ring. "Darling what are your plans for retirement", she asked. "I think I have a lot of work left in me. I wouldn't like to retire. If allowed to continue employment full-time or as a consultant I will continue" "There is an ambition of mine", I said. "What's that", she asked. "I remember interviewing Michele and she saying she wanted to be like me. I want her to replace me as I take the responsibility of the desk head", I said. "I am sure she will not disappoint you", she said. "What about the kids", I asked. "Kids are windsurfing in skymobiles. "The eldest wants to be like daddy", she said. "None of them want to be an arts dealer", I asked. "The rest haven't decided"

"The yield curve has inverted. New raw material orders have slowed. All indicators pointing to a recession", said Michele in a desk meeting. "We are net short on life insurance in the medium term. There needs to be an aggressive hedging program. All new contracts sold should be hedged and the portfolio should be altered", she said. "I agree with you but we will wait for the global financial markets rates policy before we take action", I said.

There were three consecutive quarters of negative growth. There were layoffs. There were defaults. Our credit desk registered a loss for the year. SMI desk managed to weather the storm with a profit for the year.

Michele had visited our place a few times. Kids had grown fond of her. "Are you like my daddy", the eldest asked her. "Not yet darling", said Michele. "She is, son", I said. "I want to be like you", my son said to Michele. "You will be one day. Your dad has been a great mentor of mine and I am sure he will be the same for you"

"One year to retirement Mark, what can we do for you", said the chairman. "You have served us well. We are indebted to you. Would you like to stay or retire", he asked. "I would like to stay", I said. "Well then you will be a consultant at the SMI desk and you will work for us as long as you wish for. Michele will be the desk head", he said. "Thank you, sir. I am honoured", I replied.

It was one of the happiest days of my life. I had achieved my ambition. Michele was an actuary trained as a trader replacing me as the desk head.

The bank had made a policy decision to merge the SMI and the credit derivatives desk. I was given the task as a consultant to structure the merger. Credit derivatives are essentially insurance contracts but are more sensitive to the health of the economy. I recommended Michele as the head of the combined desk. Michele being an actuary had a good understanding of survival models and intensity models underlying credit derivatives pricing and hedging.

Having got my retirement savings and having sold company stock options I had some wealth at hand. I had always said to Katherine I would like to live on the ground in a house just like our grandparents. It always appeared expensive but the time had come to fulfil my wish. I bought a house in New York suburb and have been living there with my wife and kids. My kids have grown. The eldest is working as an equity options trader at a universal investment bank. The youngest wants to be a photographer, has an expensive camera, and is doing a bachelor's in Journalism. Katherine is the director of impressionist dealing. Michele is running the desk profitably while I am continuing to work as a consultant enjoying work and time with my family.