

Case Studies in Financial Modelling: Jim Gatheral Homework 4

Internal Politics

Pretend that you are a quantitative analyst at an investment bank (Banque Prix Bas) and your boss passes you the following E-mail asking you to draft a (careful) reply quickly:

From: The Head of Marketing
To: Your Boss and the Head of Trading
Subject: We are Uncompetitive in Digital Cliquets

Over the last two weeks, we have lost no fewer than four digital cliquet deals by substantial margins. Our pricing of these transactions is so uncompetitive that we are embarrassing ourselves in front of clients. We are in serious danger of losing clients.

I have spoken with contacts at two of our most sophisticated competitors (Banca Sbagliata and Deutsche FehlerBank). They insist that they are pricing digital cliquets completely consistently with the volatility skew using the latest financial modeling techniques. Our illustrious traders tell me that these banks are incorrectly projecting the volatility skew. Why is it always the competition that is getting it wrong? Could it be that we are being stupid?

I need to see some pretty convincing arguments right now or I will be forced to take this issue to the next level.

Regards,

Very Unhappy Head of Marketing

When drafting your reply, remember that the Head of Marketing is not a mathematician – so no math! Also, if it really is the case that your bank is losing deals by a huge margin, consider how you might be able to make money out of the situation.