Quants at work: testing prototypes via Monte Carlo simulations

Mauricio Labadie*[1]

[1]Credit Suisse – United Kingdom

Abstract

In Quantitative Finance, the trading strategies (e.g. investment and execution) are mostly automatized. Before going live with a trading strategy, quants normally build prototypes to test the feasibility of the strategy. On the one hand, they want to be sure that the algorithm behaves as expected e.g. it buys when it has to buy, it sells when it has to sell, and it does not mix Limit Orders and Market Orders. On the other hand, they want to have a first glimpse on the risk-reward profile of the strategy e.g. the distribution of returns.
For these two tests, Monte Carlo simulations are very handy: quants can easily generate prices to (1) check that the algorithm respects the trading rules and (2) study the distribution of returns under different conditions of volatility and market trends. We will try to explain how this testing of prototypes via Monte Carlo simulations is done by some practitioners. In particular, we will illustrate this process with (at least) one example: pairs trading.

*Speaker