

Quantum Optimization for Finance and Beyond

Román Orús

DIPC, Manuel Lardizabal Ibilbidea, 4, 20018
Donostia, Gipuzkoa, Spain.

Multiverse Computing, Paseo de Miramon 170,
20014, Donostia, Gipuzkoa, Spain.

roman.orus@multiversecomputing.com

Abstract

In this talk I will explain what is the current status of quantum optimization algorithms in different platforms, and how this can be applied to problems in finance with real data and in real conditions. In particular, I will focus on portfolio optimization problems, where quantum computers can already optimize the full SP500 index and obtain remarkable results (Fig1). I will also discuss briefly the simulation of economic and financial markets. If time allows, I may discuss further applications of quantum computing in finance as well as in other verticals.

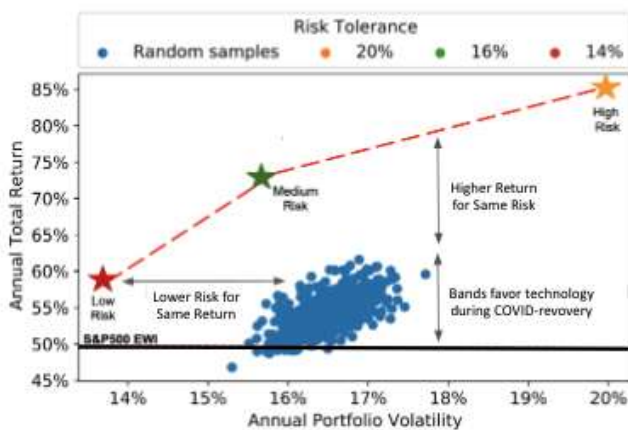


Figure 1: return vs volatility of optimized portfolios with real data from 2020 for the full SP500. Commercial funds are typically not much better than the best points in the random cloud (not shown).
