

Executive Summary

Project: Swaptions

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This project explores the pricing of interest rate derivatives, swaptions in particular.

Lenders and borrowers are exposed to changes in interest rates. For a borrower paying a variable interest rate there is a risk of interest rates rising suddenly. If they pay a fixed interest rate and the reference interest rate decreases they may be interested in opportunities to take advantage of more favorable rate. There are similar considerations from the lending side.

The type of derivative we will focus on is a swaption, which is an option contract with swaps as the underlying asset. A swap is a contract between 2 entities, A and B, where A pays B a floating rate at regular time intervals, and B pays A a fixed interest rate,, called the **swap rate**, at the same time intervals.

We also explore several directions in which this project can be expanded.