Pricing and Hedging of Mortgage Option
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Abstract

The research question of the thesis is: What is the risk is of the mortgage options described above and how can the bank best manage this risk? In order to say something about this all mortgage options are quantified and different pricing models are developed. These models can then be used to simulate outcomes or sometimes even provide an entire hedging strategy. Common techniques are Monte Carlo, trinomial trees and Lévy theory. Real data is used to calibrate the models to guarantee the most relevant results. These turn out to be in line with the result of the currently used behaviour models in case of European options. American options are differently priced and the bank should be aware of the possible consequences.