Semi-Static Hedging Strategies for Exotic Options

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The aim of hedging is to replicate the payoff of a non traded option. This allows to specify and to eliminate the inherent risk. When talking of hedging an exotic option mainly dynamic hedging strategies as the famous Black-Scholes delta-hedge are considered. However, recently static and semi-static hedging strategies became more popular, since they only involve a discrete number of trading times. Thus in the presence of transaction costs they might be superior to dynamic hedging. A short comparison of both approaches is drawn first. Classic semi-static hedging strategies for so called barrier options are presented next. Among those are the Derman-Egener-Kani algorithm and a method developed by Carr et al. for particular market models. Finally path-independent options are regarded. They can be replicated arbitrarily well by a portfolio of standard European options. This can also be used to hedge discretely monitored options as for example an Asian option.