



ON THE FORMULATION OF A CONSTRAINED OPTIMIZATION FRAMEWORK FOR PRICING AMERICAN-STYLE OPTIONS

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Fundamental to many complex derivative financial products is the valuation and optimal exercise of options with American-style exercise features. In this talk, we review some fundamental notions regarding option contract specifications. We then examine the PDE approach to modeling American-style option contracts. We discuss the variational inequality formulation of the problem, the resulting linear complementarity problem (LCP), and a typical technique for approximating numerical solutions. A more general constrained optimization framework will be posited and discussed from the perspective of incorporating additional economic constraints into the pricing model.