

Continuation Value

$$Y(n) = V(n+1) \cdot \exp(-r \cdot dt)$$

Value of option at time  $t_{n+1}$

Zero Payoff  $\longrightarrow V(n) = V(n+1) \cdot \exp(-r \cdot dt)$

Non-Zero Payoff  $\begin{cases} V(n) = V(n+1) \cdot \exp(-r \cdot dt) & \text{if } \hat{Y}(n) > \text{Payoff}(n) \rightarrow \text{Continue} \\ V(n) = \text{Payoff}(n) & \text{if } \hat{Y}(n) < \text{Payoff}(n) \rightarrow \text{exercise} \end{cases}$

Expected  
Continuation  
Value  $\hat{Y}_i(n) = a_1(n) \times [S_i(n)]^2 + a_2(n) \times S_i(n) + a_3(n) \quad i = 1, 2, \dots, N_{sim}$

