

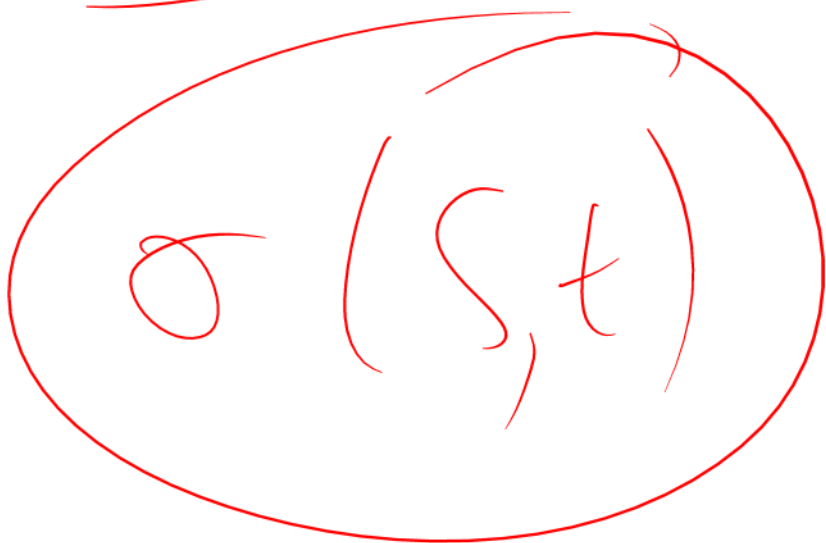
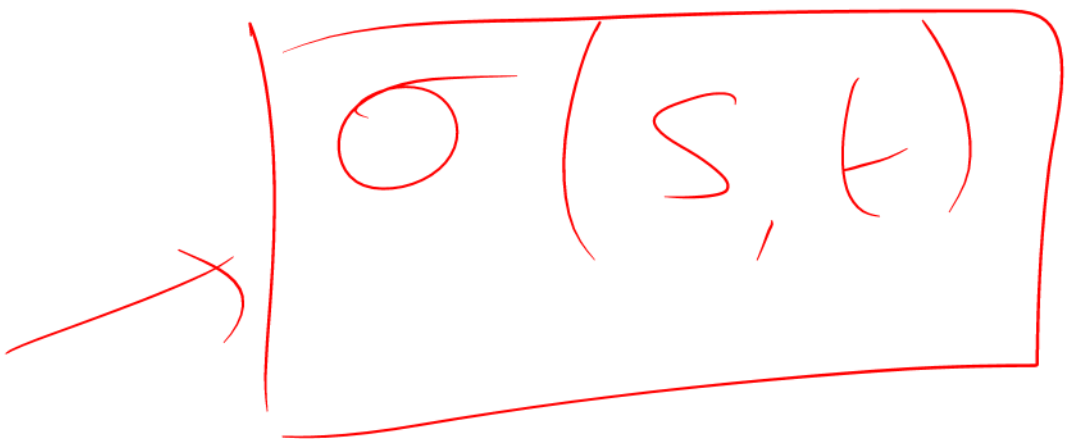
Derman

Rubinstein

1993

Dynkin

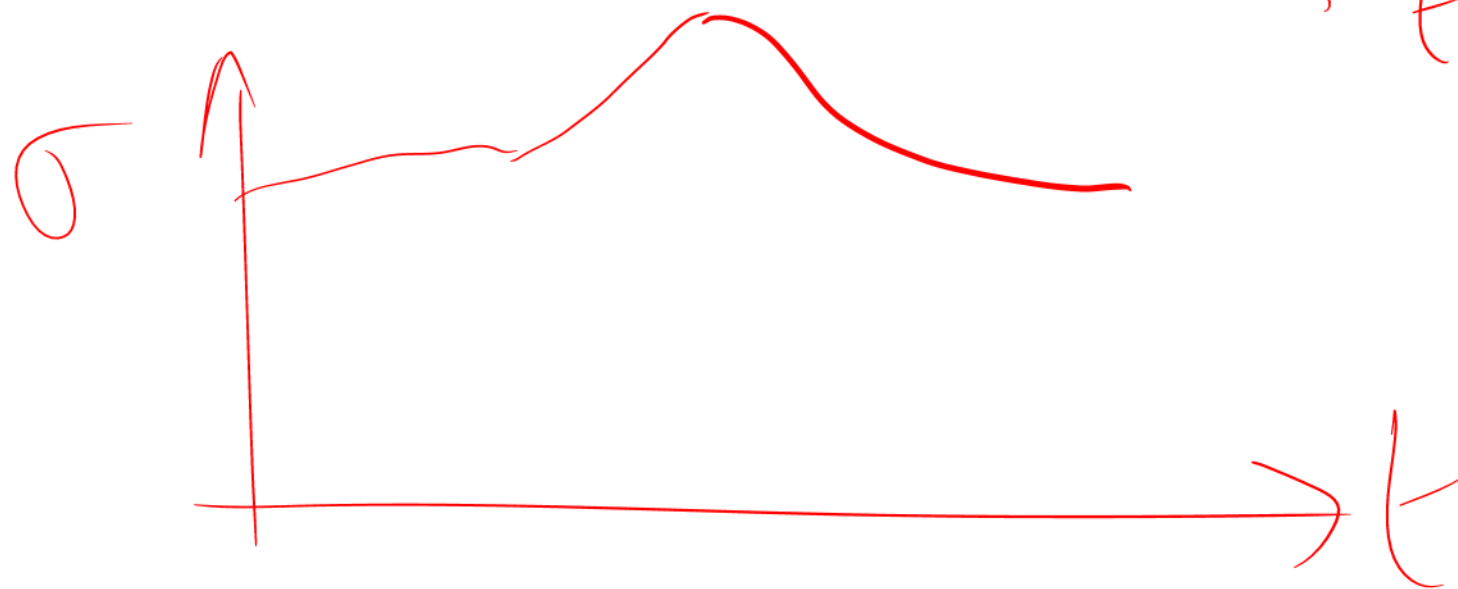
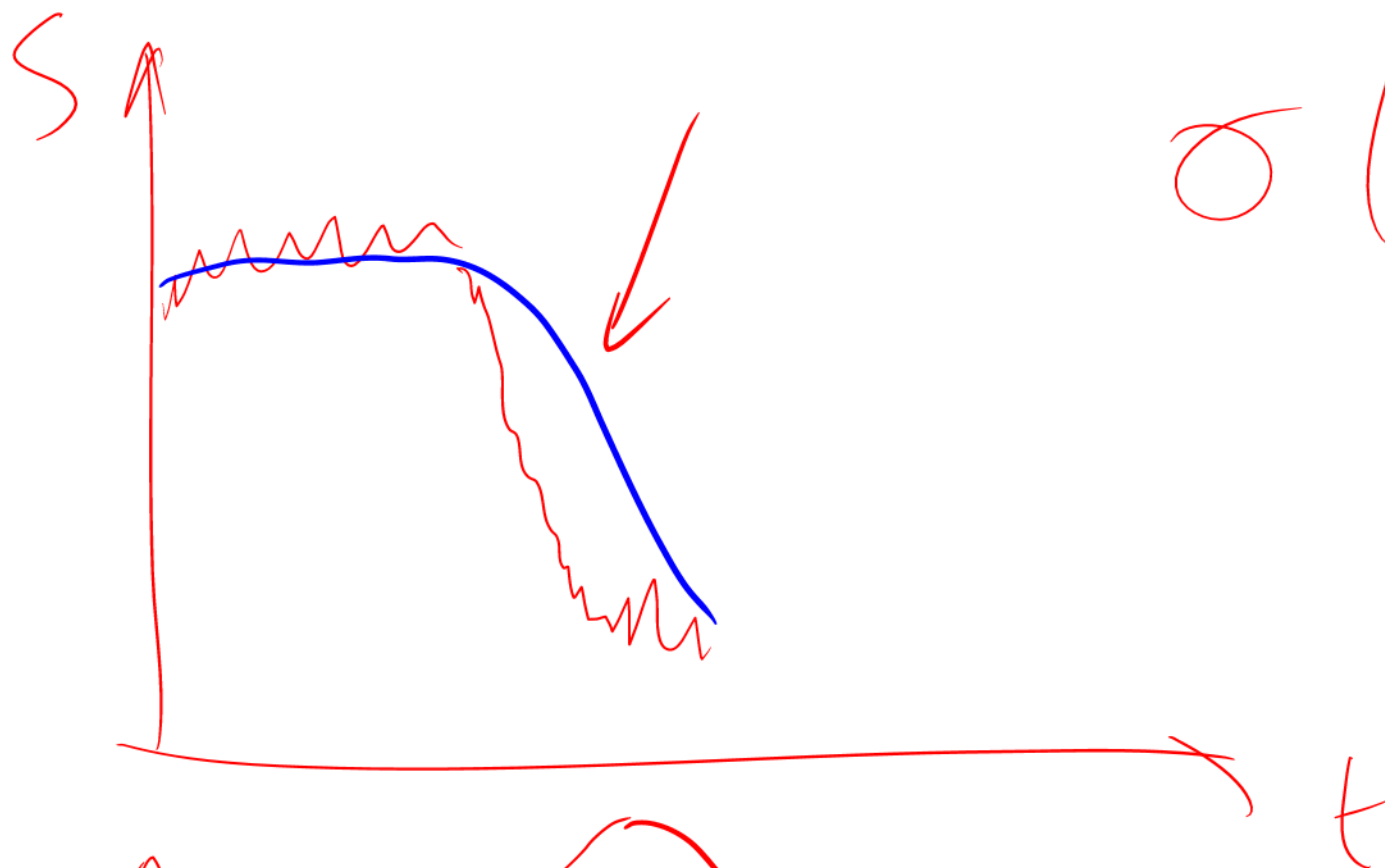
$O(S, t) \leftarrow$



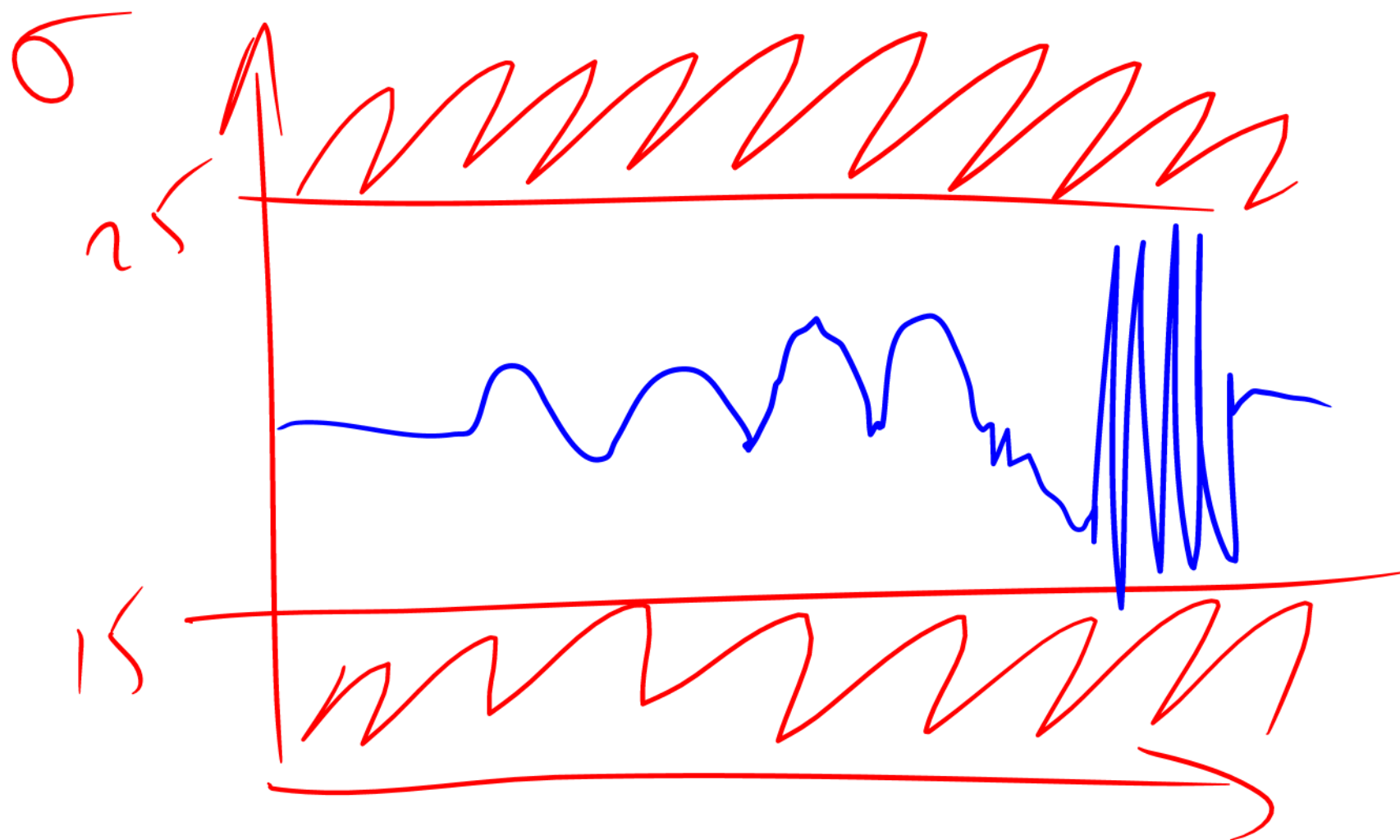
t^*

$t^* + 1 \text{ week}$

$$\sigma \left(\frac{S}{A} \right)$$

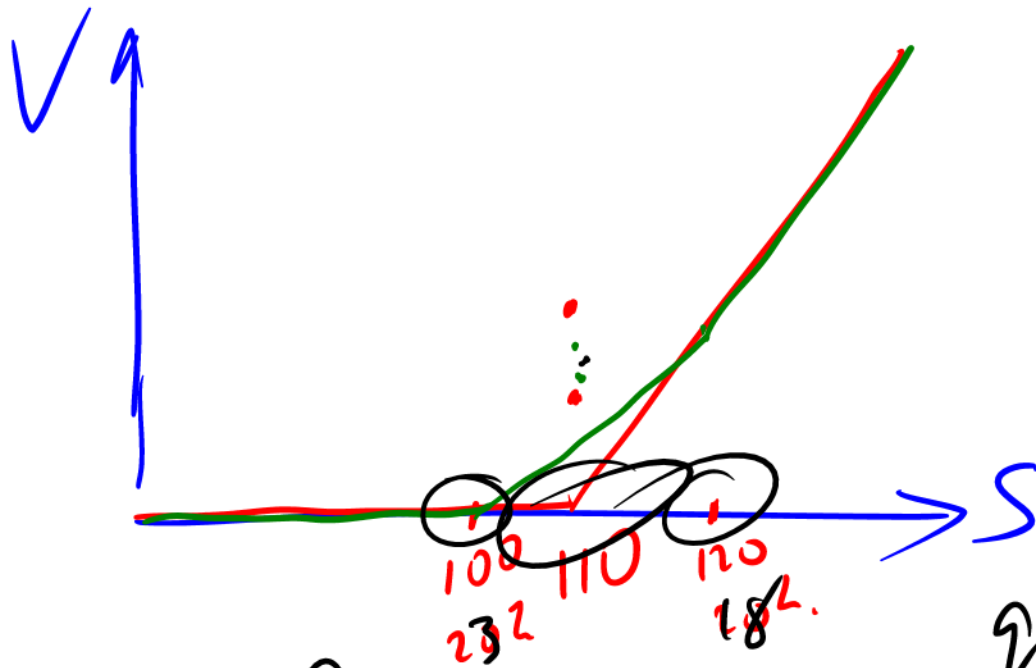


$$\frac{dS}{S} = \mu dt + \sigma \left(\frac{S}{A} \right) dx$$



$$Vol = Vol_{min}$$

If $\Gamma < 0$ then $Vol = Vol_{max}$

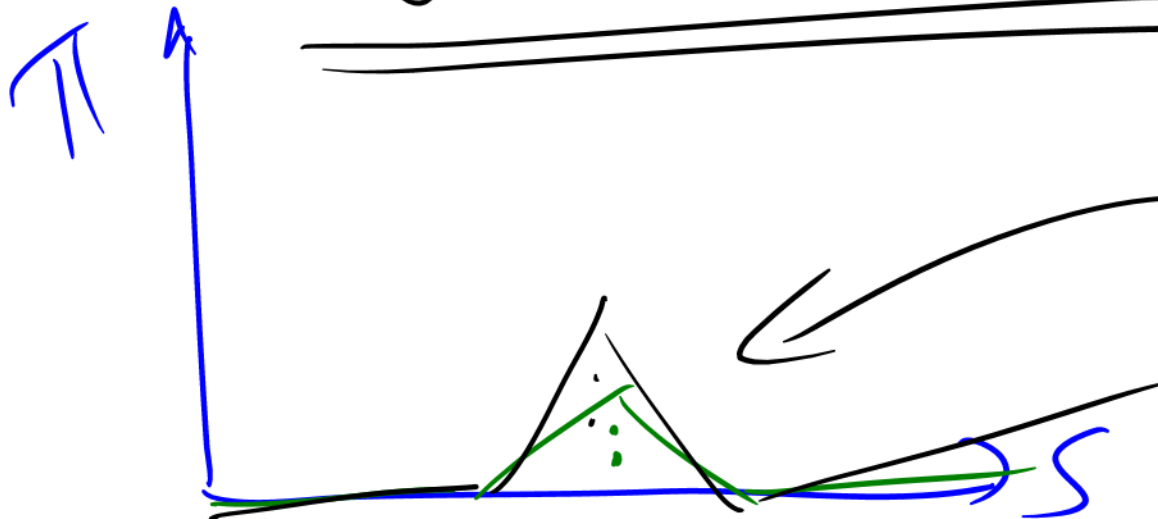


$$15 < \sigma < 25$$

Cost =

$$\frac{1}{2} \text{Cost}_{100\text{Call}} + \frac{1}{2} \text{Cost}_{120\text{Call}}$$

Static Hedge



$$Value(\text{Exotic}) =$$

$$+ \text{Vanilla}_{11}$$

$$NLPDE(\text{Exotic} - \sum_{i=1}^n q_i \text{Vanilla}_i)$$

S.H.

2520
9w2)

$$\max_{q_i's} \left(NLPDE(\text{Exotic} - \sum_{i=1}^n q_i \text{Vanilla}_i) + \sum q_i (\text{cost Vanilla}_i) \right)$$

$$(\text{cost Vanilla}_{11})$$

