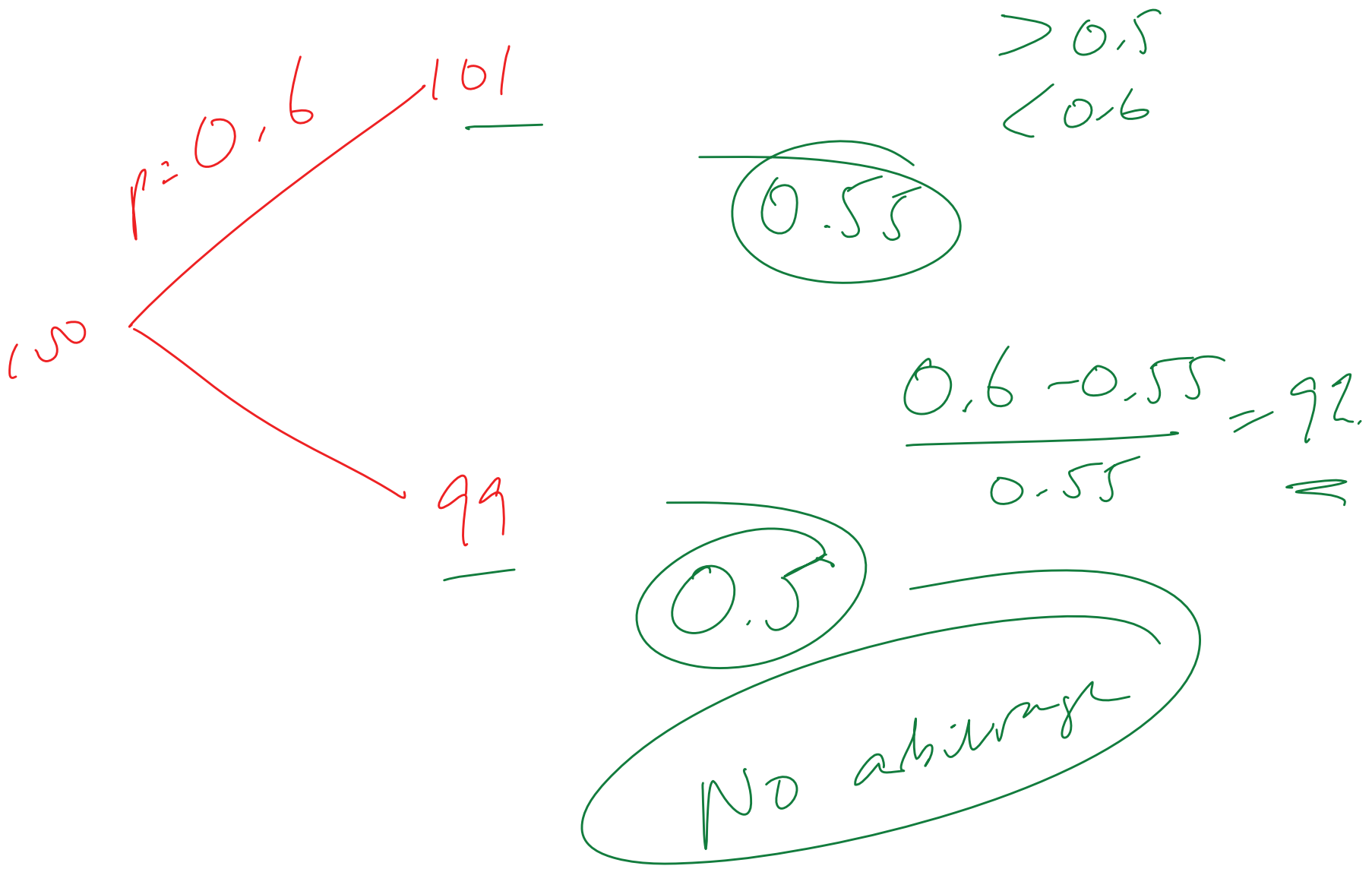
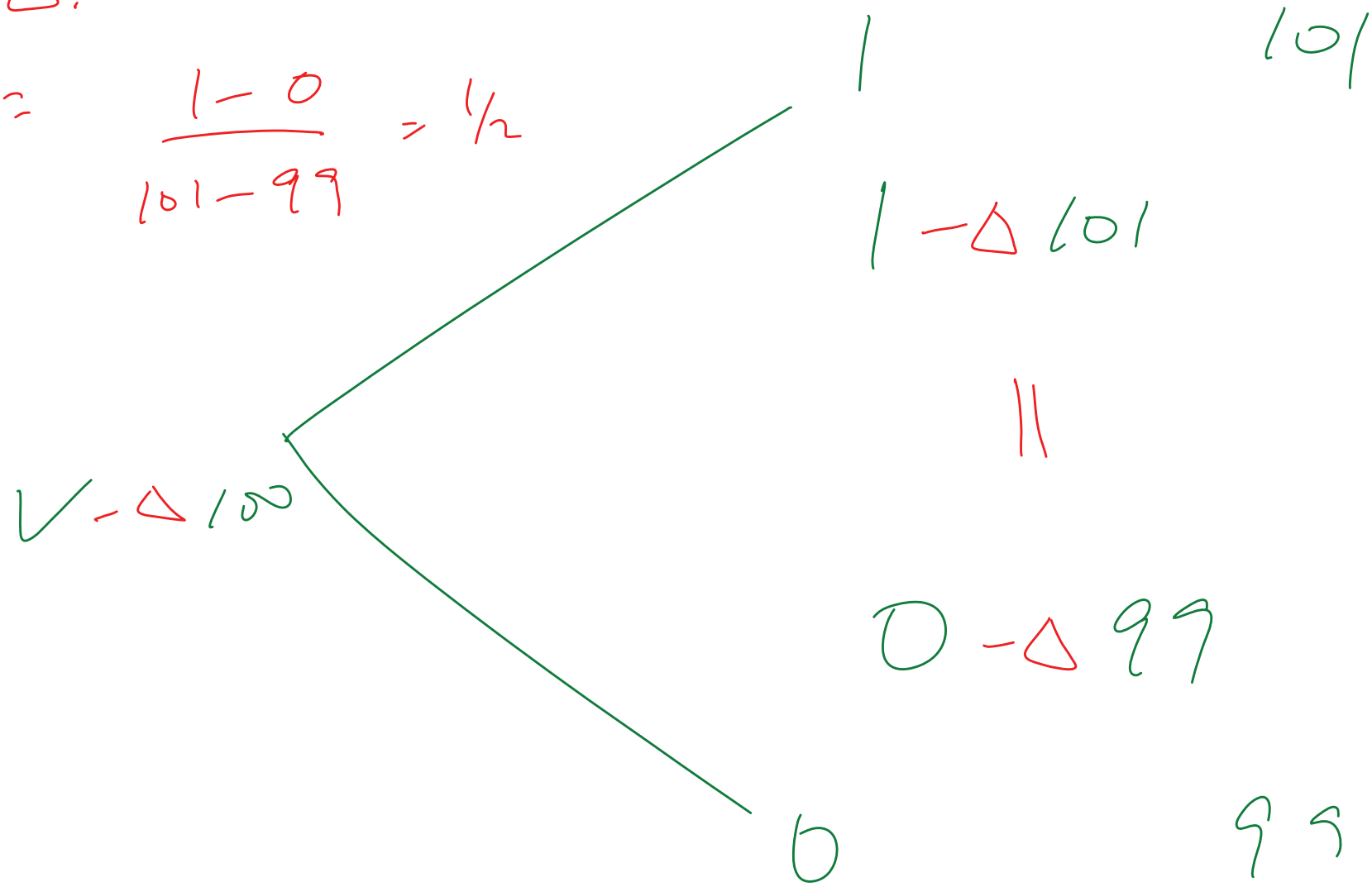
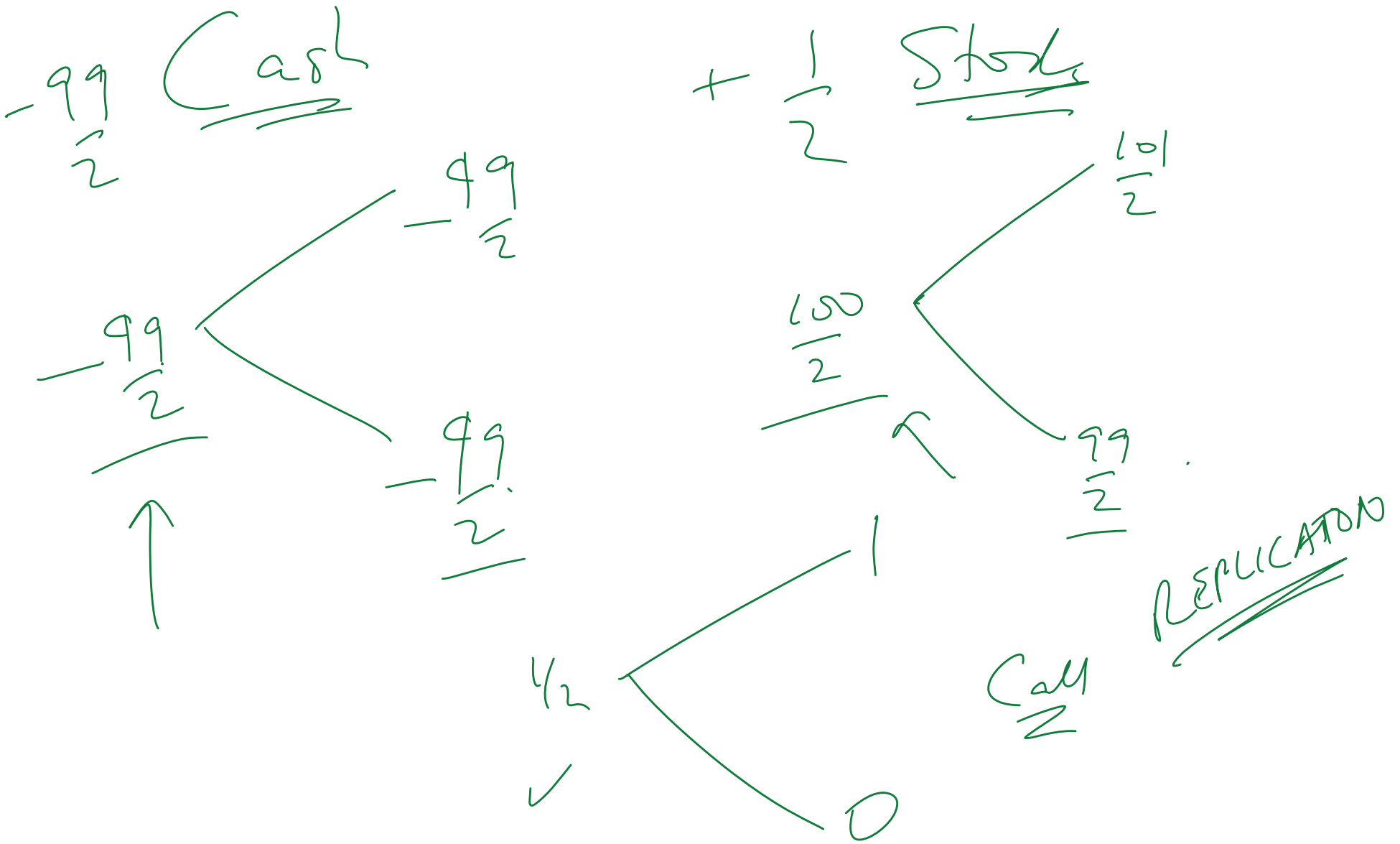

100
p=0.6
101
99
> 0.5
< 0.6
0.55
0.6 - 0.55 / 0.55 = 9%
0.5
No abiurge

$1 - \Delta \cdot 101 = 0 - \Delta \cdot 99$

$\Delta = \frac{1-0}{101-99} = 1/2$




-99/2 Cash
-99/2
-99/2
-99/2
-99/2
+1/2 Stock
101/2
100/2
99/2
1
1/2
0
Call
REPLICATION

r = 0

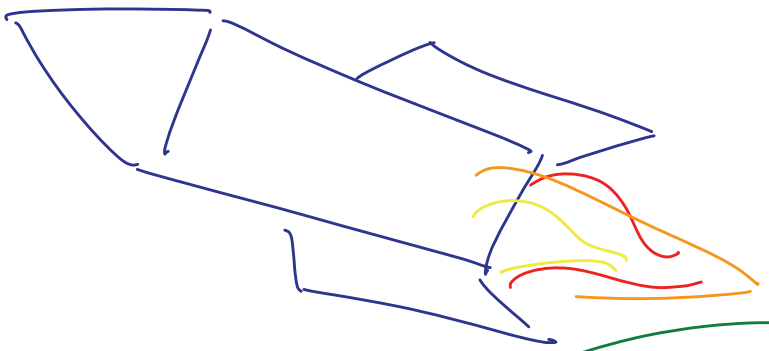
"RISK-NEUTRAL WORLD"

Risk neutral

~~Data~~

Abstract Probability

Risk-neutral probability



$p' \cdot 101 + (1-p')\,99 = 100$

$p' = 0.5$

$p' = 0.5 \cdot 101$

100

99

$p' = 0.5$

0.5

0

0.5

Risk-neutral expectation

"REAL"

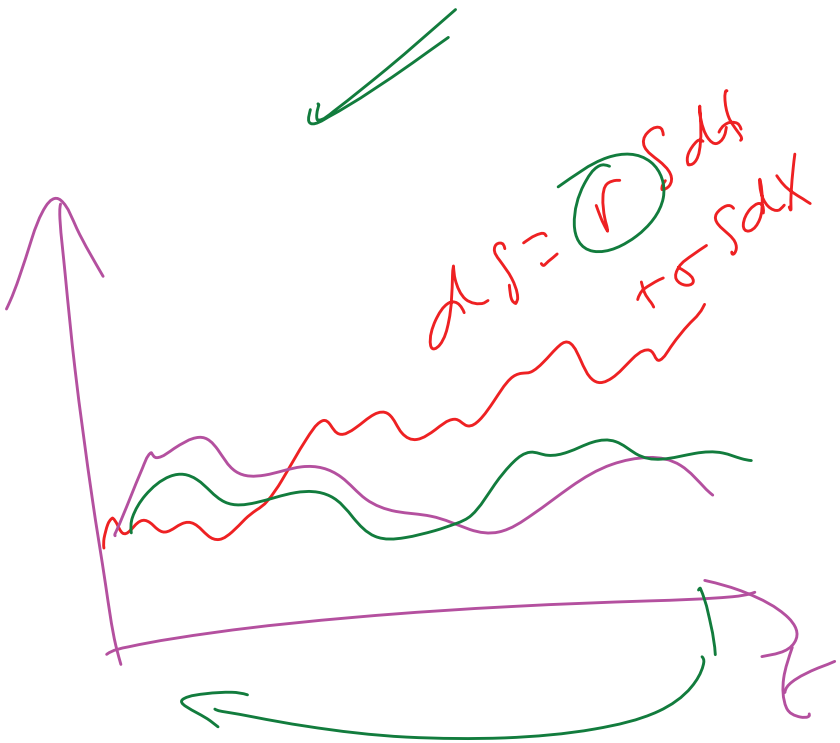
Risk averse

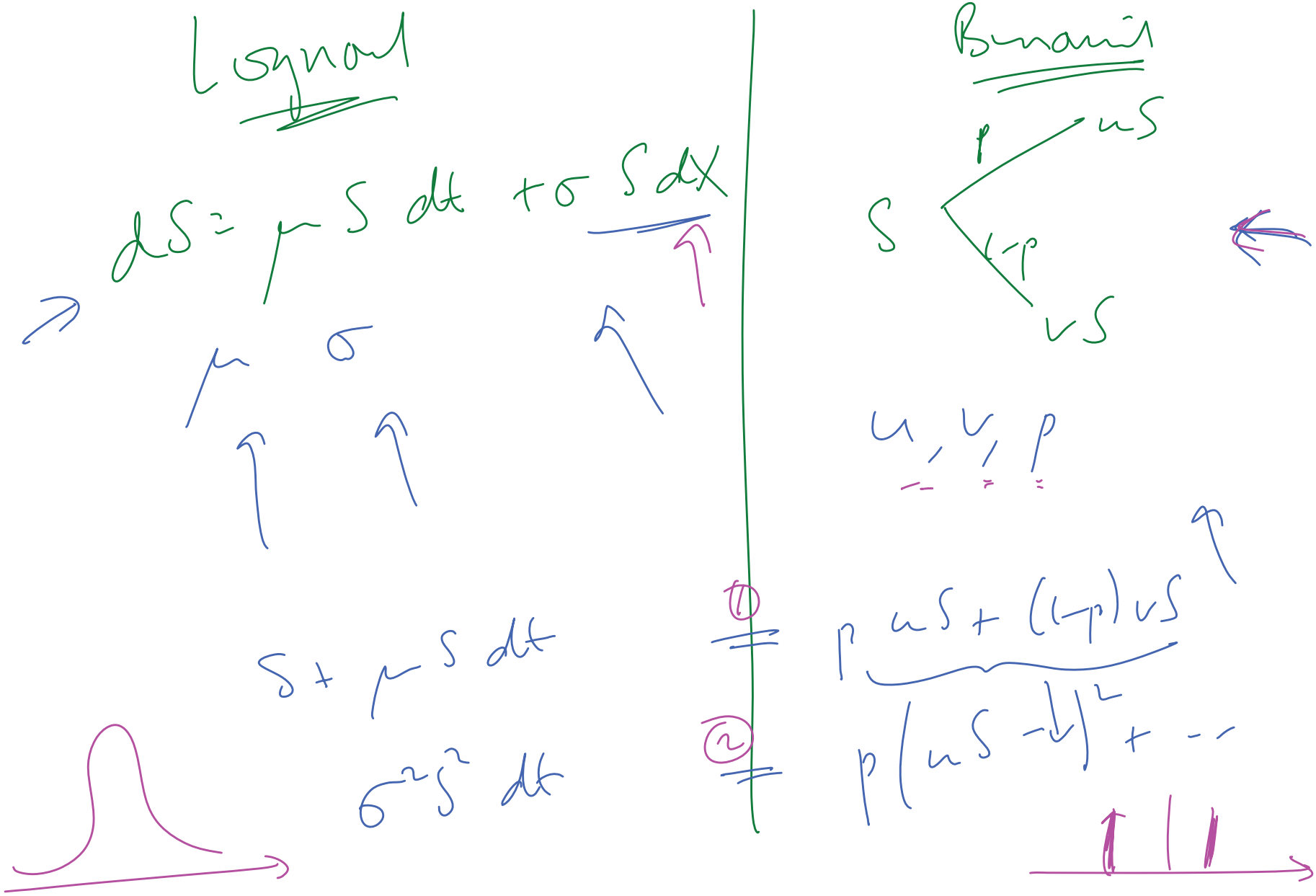
Data

Differential Eqn

$\frac{dV}{dt} + \cdots$

Simulation




Logno
dS = μ S dt + σ S dX
μ
σ
S + μ S dt
σ² S² dt
①
②
Bina
p
uS
S
1-p
vS
u, v, p
p uS + (1-p) vS
p (uS - ...)² + ...

N

r

$\mu \rightarrow r$

TAYLOR SERIES

$V^+ = V(S, t+\delta t)$ $(1+\sigma\sqrt{\delta t})$

$V^- = V(1-\sigma\sqrt{\delta t}, t+\delta t)$