

$$R_t = 100 \frac{P_t - P_{t-1}}{P_{t-1}} \% \approx (\ln P_t - \ln P_{t-1}) \cdot 100$$

$$R_t = 100 \frac{P_t + D_t - P_{t-1}}{P_{t-1}} \% \approx (\ln(P_t + D_t) - \ln P_{t-1}) \cdot 100$$

↑  
GROSS RETURN

$$r_t = R_t - R_{t-1}^S$$

↑ SAFE RATE OF RETURN

EXCESS RETURN (ΥΠΕΡΒΑΛΟΥΣΑ ΑΠΟΔΟΣΗ)

$R_A \rightarrow R_m$  (MONTHLY)

$$\cancel{X}(1+R_A) = \cancel{X}(1+R_m)^{12} \Rightarrow$$

$$1+R_A = (1+R_m)^{12} \Rightarrow$$

$$1+R_m = \sqrt[12]{1+R_A} \Rightarrow R_m = \sqrt[12]{1+R_A} - 1$$

П.х.  $R_A = 12\%$

$$R_m = \sqrt[12]{1+0.12} - 1 = \sqrt[12]{1.12} - 1 = 0.109 = 1.09\%$$

$R_A \rightarrow R_w$  (ΕΒΔΟΜΑΔ.)

$$R_w = \sqrt[SE]{1 + R_A} - 1$$