

$$\begin{aligned}
 \Delta X_{\bar{t}} &= [10 + (\bar{t}+1) + rnorm_A] - [10 + \bar{t} + rnorm_B] \\
 &= (rnorm_A - rnorm_B) + 1 \\
 &= \Delta rnorm + 1
 \end{aligned}$$

$$\begin{aligned}
 \Delta Y_{1\bar{t}} &= [20 + r(\bar{t}+1) + rnorm_A] - [20 + r\bar{t} + rnorm_B] \\
 &= r + \Delta rnorm
 \end{aligned}$$

$$\begin{aligned}
 \Delta Y_{2\bar{t}} &= [20 + r(\bar{t}+1) + 5X_{\bar{t}+1} + rnorm] \\
 &\quad - [20 + r\bar{t} + 5X_{\bar{t}} + rnorm] \\
 &= r + 5\Delta X_{\bar{t}} + \Delta rnorm
 \end{aligned}$$