$$X_0 = \alpha S_0 + \beta V_0 \quad - \quad (\alpha S_0 + \beta V_0)$$

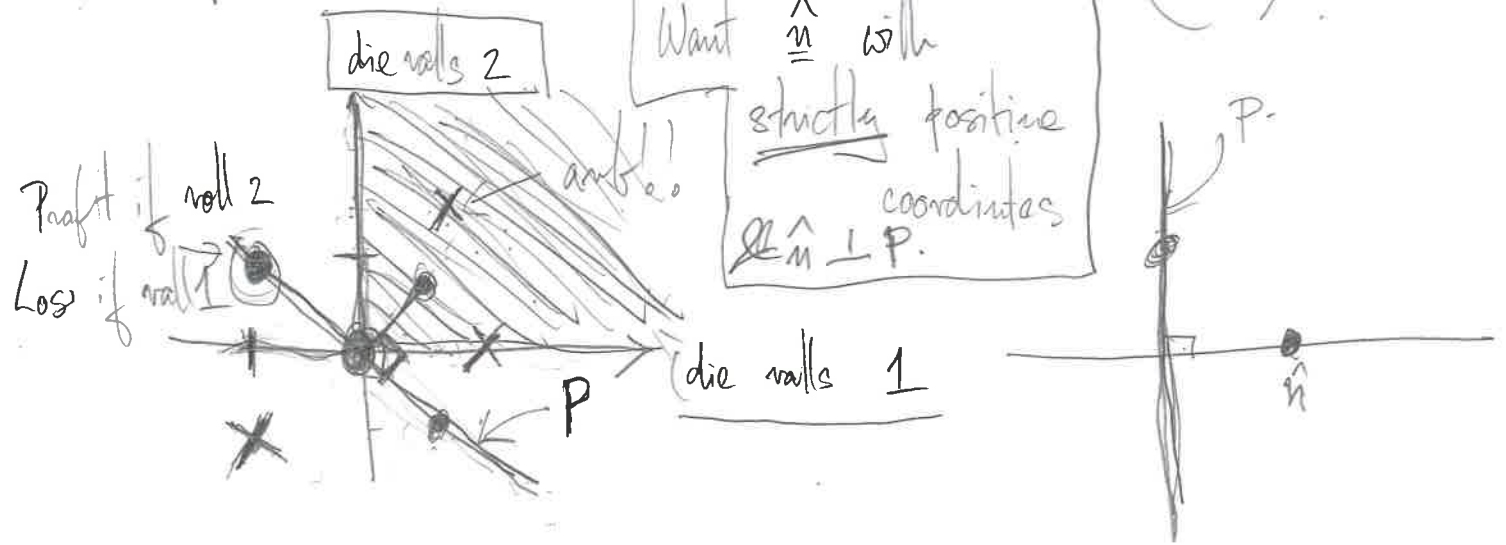
$$X_1 = \begin{pmatrix} X_1(1) \\ X_1(2) \\ X_1(3) \end{pmatrix} = \alpha \begin{pmatrix} 1/2 \\ 1 \\ 2 \end{pmatrix} + \beta \begin{pmatrix} a \\ a \\ 1 \end{pmatrix} - (1+r)(\alpha S_0 + \beta V_0) \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}$$

$$\boxed{X_1 = \alpha u_1 + \beta u_2}$$

$$u_1 = \begin{pmatrix} \cdot \\ \cdot \\ \cdot \end{pmatrix}$$

$$P = \{ \alpha u_1 + \beta u_2 \mid \alpha, \beta \in \mathbb{R} \}$$

$$u_2 = \begin{pmatrix} \cdot \\ \cdot \\ \cdot \end{pmatrix}$$



$$P(X=0, Y=0) = P(X=0)\,P(Y=0)$$

$$P(X=0, Y=1) = P(X=0)\,P(Y=1)$$

0
p
1

$V_1(H, *) = \_\_\_\_$ (anything)

$V_1(T, *) = \_\_\_\_$