

$$h = X_1 X_2 \sum_{i=0}^{\infty} a_i (X_2 - X_1)^i$$

$$X_1 X_2 = X_1 (1 - X_1) = X_1 - X_1^2$$

$$h_2 = h + X_1 \frac{dh}{dX_2}$$

$$h_2 = (X_1 - X_1^2) \sum_{i=0}^{\infty} a_i (X_2 - X_1)^i + X_1 (1 - 2X_1) \sum_{i=0}^{\infty} a_i (X_2 - X_1)^i + X_1^2 X_2 \sum_{i=0}^{\infty} 2(i) a_i (X_2 - X_1)^{i-1}$$

$$= X_1^2 \left[\sum_{i=0}^{\infty} a_i (X_2 - X_1)^i + \sum_{i=0}^{\infty} a_i (2i) X_2 (X_2 - X_1)^{i-1} \right]$$

$$h_2 = X_1^2 \sum_{i=0}^{\infty} \left[a_i (X_2 - X_1)^i + 2i X_2 (X_2 - X_1)^{i-1} \right]$$