

MSTW Parametrization

$$\left\{ \begin{array}{lcl} u_v & = & u - \bar{u} \\ d_v & = & d - \bar{d} \\ \Delta & = & \bar{u} - \bar{d} \\ sea & = & 2(\bar{u} + \bar{d}) + s + \bar{s} \\ p & = & s + \bar{s} \\ s_v & = & s - \bar{s} \end{array} \right\} \quad \left. \begin{array}{l} p = 0.5 \times (s + s_v) \\ \bar{s} = 0.5 \times (s - s_v) \end{array} \right\}$$

$$\bar{u} + \bar{d} = 0.5 (sea - p)$$

$$2 \bar{u} = \Delta + \frac{1}{2} (sea - p)$$

$$\bar{u} = 0.5 \times \Delta + 0.25 \times (sea - p)$$

$$2 \bar{d} = 0.5 (sea - p) - \Delta$$

$$= 0.25 \times (sea - p) - 0.5 \Delta$$

$$Q_3 : U - D = (u + \bar{u}) - (d + \bar{d})$$

$$\begin{aligned} Q_3^* : u_v - d_v - 2\Delta \\ = u_v - d_v - 2(\bar{u} - \bar{d}) \\ = u + \end{aligned}$$

$$\begin{aligned} Q_0 &= U + D + \underline{S} \\ &= u_v + d_v + s_{eq} \end{aligned}$$

$$\begin{aligned} Q_3 &= U - D \\ &= u_v - d_v - 2(\bar{u} - \bar{d}) \\ &= (u - \bar{u}) - (d - \bar{d}) - \end{aligned}$$

$$G_3^m : (u - \bar{u}) - (d - \bar{d}) = u_v - d_v$$

$$G_8^m : (\cancel{u} - \bar{u}) + (d - \bar{d}) - 2(s - \bar{s}) \\ = u_v + d_v - 2s_v$$

$$G_3 : U - D \qquad u_v = u - \bar{u} \\ = (u + \bar{u}) - (d + \bar{d}) \qquad u = u_v + \bar{u} \\ = (u_v + 2\bar{u}) - (d_v + 2\bar{d}) \\ = u_v - d_v + 2(\bar{u} - \bar{d}) = u_v - d_v + 2\Delta.$$

$$G_8 : U + D - 2S \\ = (u + \bar{u}) + (d + \bar{d}) - 2 \underbrace{S}_{\text{ok}} \\ = u_v + d_v + 2(\bar{u} + \bar{d}) - 2 \underbrace{S}_{\text{sea} - S'} \\ = u_v + d_v + \text{sea} - 3S'$$
