

(7)

□ Breeding values for complex populations

parents: s, d

offspring: i, j

$$\text{cov}(u_s, u_i)$$

use decomposition:

$$u_i = \frac{1}{2}u_s + \frac{1}{2}u_d + m_i$$

$$\begin{aligned}\text{cov}(u_s, u_i) &= \text{cov}(u_s, \frac{1}{2}u_s + \frac{1}{2}u_d + m_i) \\ &= \text{cov}(u_s, \frac{1}{2}u_s) + \text{cov}(u_s, \frac{1}{2}u_d) \\ &\quad + \text{cov}(u_s, m_i)\end{aligned}$$

$$\text{cov}(u_i, u_j)$$

