

$$N_{t+1} = r_{max}N_t \left[ \left( 1 - \frac{N_t}{K AIG_t} \right) + aAR_t + bAT_t + cIT_t + dAIG_{t-1} \right] + N_t - eN_t \quad (1)$$

Re-arranges as

$$N_{t+1} = r_{max}N_t \left( 1 - \frac{N_t}{K AIG_t} \right) + r_{max}N_t(aAR_t) + r_{max}N_t(bAT_t) + r_{max}N_t(cIT_t) + r_{max}N_t(dAIG_{t-1}) + N_t - eN_t \quad (2)$$