$$\text{hm}_{i\_,j\_\to k\_} := \mathbb{E}_{\{\pi_i, \xi_i, \pi_j, \xi_j\} \to \{p_k, x_k\}} \left[1, \; -\xi_i \pi_j + (\pi_i + \pi_j) \, p_k + (\xi_i + \xi_j) \, x_k \right]$$