| $q = K\, q_1 \otimes q_2 \qquad q_i = (X_i)_{\#} q$

$E_q(g|Z)\, E_{q_1 \otimes q_2}(K|Z) = E_{q_1 \otimes q_2}(Kg|Z)$

Proof

$E_{q_1 \otimes q_2}(E_q(g|Z) E_{q_1 \otimes q_2}(K|Z) h(Z))$

$= E_{q_1 \otimes q_2}(K E_q(g|Z) h(Z)) = E_q(E_q(g|Z) h(Z))$

$= E_q(g\, h(Z)) = E_{q_1 \otimes q_2}(Kg\, h(Z))$ □

| If $K > 0$ $q_1 \otimes q_2$-a.e. then $E(K|Z) > 0$ $q_1 \otimes q_2$ a.e.

Proof $E_{q_1 \otimes q_2}(E(K|Z) \mathbb{1}(h(Z) > 0)) = E_{q_1 \otimes q_2}(K \mathbb{1}_{(h(Z)>0)})$

| If $q = K\, q_1 \otimes q_2$, $K > 0$

$E_q(g|Z) = E_{q_1 \otimes q_2}(Kg|Z) \,/\, E_{q_1 \otimes q_2}(K)$