$$Logit(p_f(z, heta)) = eta_{0,p_f,i} + eta_{z,p_f} * z + \ f_s( heta_{t,mean,i}) + f_s( heta_{p,total,i}) + \ eta_{p_f, heta_t,seas} * heta_{t,seas,i} + \ eta_{p_f, heta_t,seas} * heta_{p,seas} * heta_{p,seas,i} + \ eta_{p_f, heta_{s2},mean} * heta_{s2,mean,i} + eta_{p_f, heta_{s2},seas} * heta_{s2,seas,i} + \ eta_{p_f, heta_t imes z,seas} * heta_{t,seas,i} * z + eta_{p_f, heta_p imes z,seas} * heta_{p,seas,i} * z + \ eta_{p_f, heta_{s2} imes z,mean,i} * z + eta_{p_f, heta_{s2} imes z,seas} * heta_{s2,seas,i} * z.$$

(4.1.8)