$$
\begin{aligned}
log(r_f(z,\theta)) = \beta_{0,r_f,i} + \beta_{z,r_f} * z + \\
\beta_{r_f,theta_t,mean} * \theta_{t,mean,i} + \beta_{r_f,\theta_t,seas} * \theta_{t,seas,i} + \\
\beta_{r_f,\theta_p,total} * \theta_{p,total,i} + \beta_{r_f,\theta_p,seas} * \theta_{p,seas,i} + \\
\beta_{r_f,\theta_{s2},mean} * \theta_{s2,mean,i} + \beta_{r_f,\theta_{s2},seas} * \theta_{s2,seas,i} + \\
\beta_{r_f,\theta_t \times z,mean} * \theta_{t,mean,i} * z + \beta_{r_f,\theta_t \times z,seas} * \theta_{t,seas,i} * z + \\
\beta_{r_f,\theta_p \times z,total} * \theta_{p,total,i} * z + \beta_{r_f,\theta_p \times z,seas} * theta_{p,seas,i} * z + \\
\beta_{r_f,\theta_{s2} \times z,mean} * \theta_{s2,mean,i} * z + \beta_{r_f,\theta_{s2} \times z,seas} * \theta_{s2,seas,i} + \\
\beta_{r_f,native} * g(i) + \beta_{r_f,native \times z} * g(i) * z.
\end{aligned}
\tag{4.1.9}
$$