$$\ln\left(\frac{p_{ik}}{\widetilde{p}_{ik}}-1\right) = \ln\left(\underbrace{\tau_i \times \tau_k}_{\tau_{ik}^{nlI}} -1\right) + \epsilon_{ik}^{nlI} \quad (1)$$

$$\ln\left(\frac{p_{ik}}{\widetilde{p}_{ik}}-1\right) = \ln\left(\underbrace{\tau_i \times \tau_k}_{\tau_{ik}^{ice}} -1 + \underbrace{\frac{t_i + t_k}{\widetilde{p}_{ik}}}_{t_{ik}^{add}}\right) + \epsilon_{ik} \quad (2)$$