

fungsi densitas kanonik

(2)
 $d^2 \Gamma$

$$\begin{aligned} \Gamma_{it}(u_0 + \epsilon, N_0 - N, V_0 - V, X_0 - X) &= \Gamma_{it}(u_0, N_0, V_0, X_0) + \left[\left(\frac{\partial \Gamma_{it}}{\partial u_{it}} \right)_{u_{it}=u_0, N_{it}=N_0, V_{it}=V_0, X_{it}=X_0} \Delta u_{it} + \left(\frac{\partial \Gamma_{it}}{\partial N_{it}} \right)_{N_{it}=N_0, V_{it}=V_0, X_{it}=X_0} \Delta N_{it} + \left(\frac{\partial \Gamma_{it}}{\partial V_{it}} \right)_{V_{it}=V_0, N_{it}=N_0, X_{it}=X_0} \Delta V_{it} + \left(\frac{\partial \Gamma_{it}}{\partial X_{it}} \right)_{X_{it}=X_0, N_{it}=N_0, V_{it}=V_0} \Delta X_{it} \right] + \dots \\ &= \Gamma_{it}(u_0, N_0, V_0, X_0) + \frac{1}{T} \left(-\epsilon + \mu N - p V + Y \cdot X \right) \end{aligned}$$

$$\Delta \Gamma \equiv \Gamma(u_0 - \epsilon_1, N_0 - N_1, V_0 - V_1, X_0 - X_1) - \Gamma(u_0 - \epsilon_2, N_0 - N_2, V_0 - V_2, X_0 - X_2) = \Gamma_{it}(u_0, N_0, V_0, X_0) + \frac{1}{T} (-\epsilon_1 + \mu N_1 - p V_1 - Y X_1) - \Gamma_{it}(u_0, N_0, V_0, X_0) + \frac{1}{T} (-\epsilon_2 + \mu N_2 - p V_2 - Y X_2)$$

$$\Delta \Gamma = \frac{1}{T} \left(-(\epsilon_1 - \epsilon_2) + \mu(N_1 - N_2) - p(V_1 - V_2) + Y(X_1 - X_2) \right)$$

$$\frac{P(N_1, V_1, \epsilon_1, X_1)}{P(N_2, V_2, \epsilon_2, X_2)} = \frac{e^{-\frac{1}{T}(-\epsilon_1 + \mu N_1 - p V_1 + Y X_1)}}{e^{-\frac{1}{T}(-\epsilon_2 + \mu N_2 - p V_2 + Y X_2)}} \Rightarrow$$

$$P(N, V, \epsilon, X) = \frac{1}{\sum_X \sum_V \sum_N \sum_\epsilon e^{-\frac{1}{T}(-\epsilon + \mu N - p V + Y X)}} \cdot e^{-\frac{1}{T}(-\epsilon + \mu N - p V + Y X)}$$

partisi-fungsi osokofus densa linear densan !!

bapukanak, densa independenitak diir