

5. Last difference - the major one !

- ▶ Coming back to Hummels's (2007) equation (??), rewritten as:

$$\ln TC_{ikt} \equiv \ln \left(\frac{p_{ikt} - \tilde{p}_{ikt}}{\tilde{p}_{ikt}} \right) = \Delta_{ikt} - \beta \ln \tilde{p}_{ikt} \quad (1)$$

- with $\Delta_{ikt} \equiv \delta + \sum_{i,k} \alpha_{ik} \cdot \mathbb{1}_{ik} + \sum_t \gamma_t \cdot \mathbb{1}_t + \epsilon_{ikt}$

- ▶ Encompasses the two extreme cases of only ad-valorem costs / only additive costs
- ▶ Only multiplicative costs under $\beta = 0$
 - In which case Equation (1) rewrites as:

$$\ln \left(\frac{p_{ikt} - \tilde{p}_{ikt}}{\tilde{p}_{ikt}} \right) = \Delta_{ikt} \quad \leftrightarrow \quad p_{ikt} = \underbrace{[\exp(\Delta_{ikt}) + 1]}_{\tau_{ikt}} \times \tilde{p}_{ikt}$$

- ▶ Only additive costs under $\beta = 1$
 - In which case Equation (1) rewrites as:

$$\ln (p_{ikt} - \tilde{p}_{ikt}) = \Delta_{ikt} \quad \leftrightarrow \quad p_{ikt} = \tilde{p}_{ikt} + \underbrace{[\exp(\Delta_{ikt}) + 1]}_{t_{ikt}}$$