NÚMEROS ÍNDICES: PRECIO, CANTIDAD Y VALOR

NÚMEROS ÍNDICES DE PRECIOS

INDICE DE PRECIOS DE LASPEYRES

$$ {}^{p}L_0^j = \frac{\sum_{i=1}^{n} {}_{i}I_o^j \times \omega_i}{\sum_{i=1}^{n} \omega_i} $$

Donde:

$$ {}_{i}I_o^j = = \frac{p_{ij}}{p_{io}} \qquad \omega_i = \ \omega_{i0} = p_{i0} \times q_{i0} $$

$$ \boldsymbol{{}^{p}L_0^j = \frac{\sum_{i=1}^{n} p_{ij} \times q_{i0}}{\sum_{i=1}^{n} p_{i0} \times q_{i0}}} $$

INDICE DE PRECIOS DE PAASCHE

$$ {}^{p}P_0^j = \frac{\sum_{i=1}^{n} {}_iI_o^j \times \omega_i}{\sum_{i=1}^{n} \omega_i} $$

Donde:

$$ {}_iI_o^j = = \frac{p_{ij}}{p_{io}} \qquad \omega_i = \ \omega_{ij} = p_{i0} \times q_{ij} $$

$$ \boldsymbol{{}^{p}P_0^j = \frac{\sum_{i=1}^{n} p_{ij} \times q_{ij}}{\sum_{i=1}^{n} p_{i0} \times q_{ij}}} $$

INDICE DE CANTIDADES DE LASPEYRES

$$ {}^{q}L_0^j = \frac{\sum_{i=1}^{n} {}_iI_o^j \times \omega_i}{\sum_{i=1}^{n} \omega_i} $$

Donde:

$$ {}_iI_o^j = = \frac{q_{ij}}{q_{io}} \qquad \omega_i = \ \omega_{i0} = p_{i0} \times q_{i0} $$

$$ \boldsymbol{{}^{q}L_0^j = \frac{\sum_{i=1}^{n} q_{ij} \times p_{i0}}{\sum_{i=1}^{n} q_{i0} \times p_{i0}}} $$

INDICE DE CANTIDADES DE PAASCHE

$$ {}_{Q}P_0^j = \frac{\sum_{i=1}^{n} {}_{i}I_o^j \times \omega_i}{\sum_{i=1}^{n} \omega_i} $$

Donde:

$$ {}_{i}I_o^j = = \frac{q_{ij}}{q_{io}} \qquad \omega_i = \ \omega_{ij} = q_{i0} \times p_{ij} $$

$$ \boldsymbol{{}_{Q}P_0^j = \frac{\sum_{i=1}^{n} q_{ij} \times p_{ij}}{\sum_{i=1}^{n} q_{i0} \times p_{ij}}} $$

INDICES DE VALOR

VALOR (V_i)

$$V_i = p_i \times q_i$$

Si se considera el tiempo, j=0,1,2,…j, se va a distinguir entre:

VALOR NOMINAL (VN_{ij})

$$VN_{ij} = p_{ij} \times q_{ij}$$

VALOR REAL (VR_{ij})

$$VR_{ij} = p_{i0} \times q_{ij}$$

INDICES DE VALOR

ÍNDICE de VALOR NOMINAL (${}^{VN}_{i}I$)

$$ {}^{VN}_{i}I = \frac{VN_{ij}}{VN_{i0}} = \frac{p_{ij} \times q_{ij}}{p_{i0} \times q_{i0}} $$

ÍNDICE de VALOR REAL (${}^{VR}_{i}I$)

$$ {}^{VR}_{i}I = \frac{VR_{ij}}{VR_{i0}} = \frac{p_{i0} \times q_{ij}}{p_{i0} \times q_{i0}} $$

DEFLACTOR

$$\frac{\text{VALOR NOMINAL}}{\text{ÍNDICE DEPRECIOS } (DEFLACTOR)} = \text{VALOR REAL}$$

$$\frac{VN_{ij}}{precios_{i}I} = \frac{p_{ij} \times q_{ij}}{\frac{p_{ij}}{p_{i0}}} = p_{i0} \times q_{ij} = VR_{ij}$$

ÍNDICES DE VALOR

Si la variable es agregada,

$VN_j = \sum_{i=1}^{n} p_{ij} * q_{ij} \rightarrow {}^{VN}I_0^j = \frac{\sum_{i=1}^{n} p_{ij} * q_{ij}}{\sum_{i=1}^{n} p_{i0} * q_{ij}}$ $VR_j = \sum_{i=1}^{n} p_{i0} * q_{ij} \rightarrow {}^{VR}I_0^j = \frac{\sum_{i=1}^{n} p_{i0} * q_{ij}}{\sum_{i=1}^{n} p_{i0} * q_{i0}}$

Verificándose que

$${}^{VN}I_0^j =$$

$${}^{precios}Paasche_0^j * {}^{cantidades}Laspeyres_0^j = {}^{precios}Laspeyres_0^j * {}^{cantidades}Paasche_0^j$$

$${}^{VR}I_0^j = {}^{cantidades}Laspeyres_0^j$$

$$\frac{{}^{VN}I_0^j}{{}^{precios}Paasche_0^j} = {}^{VR}I_0^j = {}^{cantidades}Laspeyres_0^j$$