

Chain index

Values in current prices:

$$x_t^l = p_t^x x_t$$

Values in last year's prices:

$$x_t^{m1} = p_{t-1}^x x_t$$

Relative price increase (inflation) from $t - 1$ to t :

$$\frac{p_t^x}{p_{t-1}^x} = \frac{p_t^x x_t}{p_{t-1}^x x_t} = \frac{x_t^l}{x_t^{m1}}$$

Growth of real volume from $t - 1$ to t :

$$\frac{x_t}{x_{t-1}} = \frac{p_{t-1}^x x_t}{p_{t-1}^x x_{t-1}} = \frac{x_t^{m1}}{x_{t-1}^l}$$

Price index $p_{r,t}^x$ at time t for reference year r :

$$p_{r,r}^x = 1$$

$$p_{r,t}^x = \frac{p_t^x}{p_{t-1}^x} p_{r,t-1}^x$$

$$p_{r,t}^x = \frac{p_t^x}{p_{t+1}^x} p_{r,t+1}^x$$

Volume index $x_{r,t}$ at time t for reference year r :

$$x_{r,r} = x_r$$

$$x_{r,t} = \frac{x_t}{x_{t-1}} x_{r,t-1}$$

$$x_{r,t} = \frac{x_t}{x_{t+1}} x_{r,t+1}$$