

With arithmetic mean:

$$\bar{V} = \frac{\sum B_j V_j}{\sum B_j} = \frac{50 \cdot 48 + 10 \cdot 30}{60} = 45$$

With harmonic mean:

$$\bar{V} = \frac{\sum A_j}{\sum \frac{A_j}{B_j}} = \frac{2700}{\frac{2400}{48} + \frac{300}{30}} = 45$$

PART 6

STANDARDIZATION

| Gender | A company | | | B company | | |
|--------|--------------------------------|----------------------------|--|--------------------------------|----------------------------|--|
| | Total income (Thousand Fts) | Number of employees (%) | Group intensity ratio (per capita income) | Total income (Thousand Fts) | Number of employees (%) | Group intensity ratio (per capita income) |
| Male | 2400 | 83,3 | 48 | 1000 | 40,0 | 50 |
| Female | 300 | 16,7 | 30 | 1000 | 60,0 | 33,3 |
| Sum | 2700 | 100,0 | 45 | 2000 | 100,0 | 40,0 |

☞ You are looking for a job. You are invited for an interview at companies A and B. Before going for the interview you inquired same information about per capita income at each company. You can see in the table that per capita income of company A is larger than of company B. It is interesting that the group ratio of the company A is smaller than B. What is the reason for these differences?

Solution

The reason is that the ratio of female who has lower per capita income is larger in company B than in company A.

The change of the total intensity ratio (mean intensity ratio) depends on the change of the composition of population and the change of the group intensity ratio.

We can compute the changes with subtraction or with quotient (index)

terben (pl. m²)

$$D = \frac{\sum B_1 V_1}{\sum B_1} - \frac{\sum B_0 V_0}{\sum B_0}$$

$$D' = \frac{\sum B_s V_1}{\sum B_s} - \frac{\sum B_s V_0}{\sum B_s}$$

$$D'' = \frac{\sum B_1 V_s}{\sum B_1} - \frac{\sum B_0 V_s}{\sum B_0}$$

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$$I = \frac{\sum B_1 V_1}{\sum B_1} \div \frac{\sum B_0 V_0}{\sum B_0}$$

$$I' = \frac{\sum B_s V_1}{\sum B_s} \div \frac{\sum B_s V_0}{\sum B_s}$$

$$I'' = \frac{\sum B_1 V_s}{\sum B_1} \div \frac{\sum B_0 V_s}{\sum B_0}$$

a) $B_s = B_0$

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$V_s = V_1$

b) $B_s = B_1$

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$V_s = V_0$