# Method of constructing Nuptiality Life Tables

### Nuptiality life tables indicators

One decrement nuptiality life tables are based on the numbers of single people $(P^{s}) $by age and sex ($s$– single) as at 1 January of the reference year and the numbers of marriages $(S^{s})$, deaths $(D^{s})$ and migrants $(E^{s}, I^{s})$ by age, sex and year of birth ($z$) of the single population during the reference year. The age ($x$) means the age at the beginning of the year. The nuptiality life tables are calculated from the second main group of demographic events, separately for single men and women. Only events for ages 15 to 49 are considered.

The input table function is the **first-marriage probability** $(q\_{x}^{m})$by sex and age which measures the risk of entering into a first marriage during a year:

$$q\_{x}^{m}=\frac{^{s}}{P\_{x}^{s}-0,5∙^{s}-0,5∙^{s}+0,5∙^{s}}$$

#### Table number of single persons $(l\_{x}^{m})$ – the hypothetical number of single individuals at a given age and sex; the table radix $l\_{15}$ is 100,000.

$l\_{x+1}^{m}=l\_{x}^{m}-d\_{x}^{m}$ $l\_{50'}^{m}=l\_{49}^{m}-0,5∙d\_{49}^{m}$

#### Table number of marriages $(d\_{x}^{m})$ – the hypothetical number of marriages of single people at a given age and sex during a year.

$$d\_{x}^{m}=l\_{x}^{m}∙q\_{x}^{m}$$

#### The overall result of the nuptiality life tables calculation is the table number of single persons at the exact age of 50 $(l\_{50´})$, or the share of people (from the table radix) who would enter the first marriage before the day of their 50th birthday provided that the first-marriage probabilities of a reference year remained unchanged.

**Total first marriage rate:**$TFMR^{s}=1-\frac{l\_{50´}}{l\_{15}}$

**Mean age at first marriage** is based on the distribution of the table number of marriages by age $(d\_{x}^{m})$:

$$\overbar{x^{s}}=\frac{\sum\_{15}^{49}\left(x+1\right)∙d\_{x}^{m}}{\sum\_{15}^{49}d\_{x}^{m}}$$