Supplementary File

The table number of births ($b_x^{i,C}$) in cohort (C) by age of the mother (x) and birth order (i) are derived using unconditional age-specific fertility rates ($f_x^{i,C}$).

If i=1, then the formula is expressed as follows:

$$f_x^{1,C} = \frac{B_{x,t}^{1,C} + B_{x,t+1}^{1,C}}{P_x^C}$$

$$b_x^{1,C} = f_x^{1,C} \cdot l_x^{i=0,C}$$

If i=2, it is expressed as follows:

$$f_x^{2,C} = \frac{B_{x,t}^{2,C} + B_{x,t+1}^{2,C}}{P_x^C}$$

$$b_x^{2,C} = f_x^{2,C} \cdot l_x^{i=1,C}$$

P_x^C female population, age (x), and cohort (C),

$B_{x,t}^{1,C}$ number of live births by age (x), birth order (1), cohort (C), and calendar year (t),

$B_{x,t+1}^{1,C}$ number of live births by age (x), birth order (1), cohort (C), and calendar year (t+1),

$B_{x,t}^{2,C}$ number of live births by age (x), birth order (2), cohort (C), and calendar year (t),

$B_{x,t+1}^{2,C}$ number of live births by age (x), birth order (2), cohort (C), and calendar year (t+1).

The cumulative number of table births by birth order (i=1,2) and age of mother (x) was derived for each analysed cohort:

$$Sb_x^{i,C} = \sum_{x=12}^{x-1} b_x^{i,C}$$

The construction of period fertility tables is based on conditional age and parity-specific fertility rates (f_x^i), which are further converted into age- and parity-specific probabilities (q_x^i).

For parity i=1, the following formula can be used:

$$f_x^1 = \frac{B_{x,t}^1}{P_{x,t}^0}$$

$$q_x^1 = \frac{f_x^1}{1 + 0.5 \cdot f_x^1}$$

The table number of births of order (i=1) in age (x) are derived using the following formula:

$b_x^1 = q_x^1 \cdot l_x^{i=0}$, for i=1

$B_{x,t}^1$ number of live births by age (x), birth order (i=1), and calendar year (t),

$P_{x,t}^0$ female population by age (x) and parity (i=0, childless),

$l_x^{i=0}$table population of parity (i=0) and age (x).

The calculation of second-birth rates by duration from the first birth is based on ratio between the second births at duration (d) and the initial number of first live births:

$$f_d^{2,Y} = \frac{B_d^{2,Y}}{\mathrm{B}^{1,\mathrm{Y}}}$$

$B_d^{2,\mathrm{Y}}$ indicates second live births; first children were born In a year (Y),

$\mathrm{B}^{1,\mathrm{Y}}$denotes the total number of first live births in a year (Y),

(d) represents the time period since the first birth.

Duration-specific second-birth progression ratios is constructed by following formula:

$$\mathrm{PPRd}^{2,\mathrm{C}} = \sum_{d=0}^{d_{\max}} f_d^{2,C}$$