How is the future value of the pension calculated?

1) If nothing is selected or changed on the Future value tab, the future value of the user's pension is calculated according to the choices made on the previous tabs. It is assumed that the person works for 40 years and that the ratio of his/her gross wage to the average national gross wage remains the same over the years.

2) Future value tab considers the fact that the average salary is different every year, both in the future and in the past. The average salary in the past is taken from the data of Statistics Estonia. The average salary in the future is taken from the long-term prognosis of the Ministry of Finance. Life expectancy in calculations varies according to the year and age of retirement.

3) Unlike blue tabs, the Future value tab takes into account the yield of pension funds. As the exact pension fund of the user is not known, by default the ten-year average yield of pillar II or III funds is used in the calculations.

4) The increase and decrease of the first pillar pension dependent on the number of months worked more or less than the official retirement age will be taken into account by the rules of year 2020.

5) The user can enter his/her exact data for all pension pillars as of the end of the previous year. Then the future value of pension can be displayed more accurately because the exact data are used in the calculations. In this case the user can check his/her pension in the future if s/he continues to work with the entered salary and his/her gross wage increases at the same pace as the national average gross wage. In addition, he can enter his personal yield of pillar II and III pension funds into the calculator.

6) Changing the workload in the future helps the user to understand how a temporary increase or decrease in salary will affect the amount of pension. This allows the model to consider, for example, the period of maternity leave or unemployment or a relatively lower wage at the end of working life before retirement.

7) It is not taken into account that users who have not worked for a sufficiently high salary for 15 years are only entitled to a national pension.

8) For the figure it is calculated how many euros the pension increases with each year of employment assuming that life expectancy remains constant (equal to life expectancy at the retirement year). Only the period starting from the current year is shown on the figure. If according to the model the person starts working later than the current year, the period in the figure starts later.

9) Equation for calculating the value of the second and third pillar each year, considering the yield of pension funds:

$$V_{\tau,i} = V_{\tau-1,i} \times \left(1 + Y_{\tau,\rho}\right) + C_{\tau,i} \times \left(1 + \frac{Y_{\tau,\rho}}{2}\right)$$

where

$V_{\tau,i}$ - value of the pillar in year τ;

$Y_{\tau,\rho}$ - yield of ρ-risk fund in year τ;

$C_{\tau,i}$ - individual annual contribution to the pillar.

10) Equation to calculate the second and third pillar part in pensions from the accumulated amount.

$$Annuity_{\tau,i} = \frac{Accumulated\ amount\ _{i,ry}}{\frac{1}{\frac{i}{m}} \times \left[1 - \frac{1}{(1+\frac{i}{m})^{m \times LE}}\right]}$$

where

$Annuity_{\tau,i}$ - annuity at year τ;

ry - retirement year;

i - yield of annuity (nominally 2% in the model);

m - number of payments per year (every month, 12);

LE - life expectancy at retirement age;