

▼ **M112***ANNEX XII***Rules for implementing Article 83a of the Staff Regulations**

CHAPTER 1

GENERAL PRINCIPLES*Article 1*

1. In order to determine the contribution of officials to the pension scheme referred to in Article 83(2) of the Staff Regulations, the Commission shall, every five years starting in 2004, carry out the actuarial assessment of the balance of the pension scheme referred to in Article 83a(3) of the Staff Regulations. This assessment shall indicate whether the contribution of the officials is sufficient to finance one third of the cost under the pension scheme.

2. In preparation for the examination referred to in Article 83a(4) of the Staff Regulations, the Commission shall every year update this actuarial assessment, having regard to changes in the population as defined in Article 9 of this Annex, in the interest rate as defined in Article 10 of this Annex ►**C18** and in the rate of annual change in the salary scales of officials as defined in Article 11 of this Annex. ◀

3. The assessment and updates shall be carried out in each year *n*, on the basis of the population of active members of the pension scheme at 31 December of the previous year (*n*-1).

▼ **M131***Article 2*

1. Any update of the contribution rate shall take effect on 1 July at the same time as the annual update of remuneration under Article 65 of the Staff Regulations. Any update shall not lead to a contribution being more than one percentage point above or below the valid rate of the previous year.

2. The difference established between the update of the contribution rate which would have resulted from the actuarial calculation and the update resulting from the variation referred to in the last sentence of paragraph 1 shall not be recovered at any time, or, consequently, taken into account in subsequent actuarial calculations. The contribution rate which would have resulted from the actuarial calculation shall be mentioned in the assessment report provided for in Article 1 of this Annex.

▼ **M112**

CHAPTER 2

ASSESSMENT OF THE ACTUARIAL BALANCE*Article 3*

The five-yearly actuarial assessments shall lay down the conditions for balance by taking into account, as charges on the scheme, the retirement pension as defined in Article 77 of the Staff Regulations, the invalidity allowance as defined in Article 78 of the Staff Regulations, survivors' pensions as defined in Articles 79 and 80 of the Staff Regulations.

▼ **M112***Article 4*

1. The actuarial balance shall be assessed on the basis of the method for calculation set out in this chapter.
2. Under the method, the actuarial value of the pension rights earned before the calculation date represents a past service liability, while the actuarial value of the pension rights that will be earned in the year of service beginning on the calculation date represents the 'service cost'.
3. It is assumed that all retirements (except for invalidity) will occur at a fixed average age (*r*). The average retirement age shall be updated only on the occasion of the five-yearly actuarial assessment referred to in Article 1 of this Annex and may be different for different groups of staff.
4. In determining the actuarial values:
 - (a) the future changes in each official's basic salary between the calculation date and the assumed retirement age shall be taken into account;
 - (b) the pension rights earned before the calculation date (the past service liability) shall not be taken into account.
5. All the relevant provisions provided for in these Staff Regulations (particularly in Annexes VIII and XIII) shall be taken into account in the actuarial evaluation of the service cost.
6. A smoothing process shall be applied to determine the real discount rate and the rate of annual change in the salary scales of officials of the ► **M128** Union ◄. The smoothing shall be obtained through a ► **M131** 30-year ◄ moving average for the interest rate and for the increase in the salary scales.

Article 5

1. The contribution formula is based on the equation:

$$\text{year } n \text{ contribution rate} = \text{year } n \text{ service cost} / \text{total annual basic salaries}$$
2. The contribution of officials to the cost of financing the pension scheme shall be calculated as one third of the ratio between the service cost of the current year (*n*) for all officials who are active members of the pension scheme and the total annual basic salaries for the same population of active members of the pension scheme at 31 December of the previous year (*n-1*).
3. The service cost shall be the sum of:
 - (a) the retirement service cost (detailed in Article 6 of this Annex), i.e. the actuarial value of the pension rights that will be earned during year *n*, including the value of the portion of that pension that will become payable to the surviving spouse and/or dependent children upon the death of the official after retirement (reversion);
 - (b) the invalidity service cost (detailed in Article 7 of this Annex), i.e. the actuarial value of the pension rights that will become payable to the active officials who are expected to become invalids during year *n*; and

▼M112

- (c) the survivor's service cost (detailed in Article 8 of this Annex), i.e. the actuarial value of the pension rights that will become payable on behalf of active officials who are expected to die during year n.

4. The evaluation of the service cost shall be based on the pension rights and on the appropriate annuities, as detailed in Articles 6 to 8 of this Annex.

These annuities shall give the actuarial present value of EUR 1 per year, taking into account the interest rate, the rate of annual change in the salary scales and the probability to be still alive at the age of retirement.

5. The minimum subsistence figures mentioned in Chapter 2 of Title V of the Staff Regulations and in Annex VIII shall be taken into account.

Article 6

1. In order to calculate the value of retirement pensions, the pension rights earned during year n shall be calculated for each active official by multiplying his projected basic salary at retirement by his applicable accrual factor.

If the cumulated pension rights (rights from the recruitment, including transfers) credited to the official at 31 December of year n-1 are at least 70 % he will be deemed not to have acquired any right to pension during year n.

2. The projected basic salary (PS) at retirement shall be calculated starting from the basic salary at 31 December of the previous year and taking into account the rate of annual increase in the salary scales and the estimated annual rate of increase due to seniority and promotions as follows:

$$PS = SAL \times (1 + GSG + ISP)^m$$

where:

SAL = present salary

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales)

ISP = estimated annual rate of Increase due to Seniority and Promotions

m = difference between the assumed age of retirement (r) and the official's present age (x)

Since the calculations shall be made in real terms, net of inflation, the rate of annual change in the salary scales and the annual rate of increase due to seniority and promotions shall be rates of increases net of inflation.

3. On the basis of the calculation of the pension rights earned by a given official, the actuarial value of those pension rights (and of the reversionary pensions linked to them) shall be calculated by multiplying the annual pension rights as defined above by the sum of:

▼ M112

- (a) an immediate deferred annuity at age x , deferred m years:

$${}_m| \alpha_x = \sum_{k=m+1}^{\omega-x+1} \left(\frac{1}{1+\tau} \right)^{k-0.5} \times {}_k p_x \times (1 + \text{GSG})^{k-m-0.5}$$

where:

x = official's age at 31 December of year $n-1$

τ = interest rate

${}_k p_x$ = probability of a person of age x still being alive in k years

m = difference between the assumed age of retirement (r) and the official's present age (x)

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales)

ω = ceiling of the mortality table;

and

- (b) an immediate deferred reversionary annuity at ages x and y , where y is the assumed age of the spouse. This latter annuity shall be multiplied by the probability of the official of being married and by the applicable reversion rate established in accordance with Annex VIII:

$${}_m| \alpha_{xy} = \sum_{k=m+1}^{\omega-x+1} \left(\frac{1}{1+\tau} \right)^{k-0.5} \times {}_k p_y \times (1 - {}_k p_x) \times (1 + \text{GSG})^{k-m-0.5}$$

where:

x = official's age at 31 December of year $n-1$

y = age of the official's spouse at 31 December of year $n-1$

τ = interest rate

${}_k p_x$ = probability of an official of age x still being alive in k years

${}_k p_y$ = probability of a person of age y (spouse of the official of age x) still being alive in k years

m = difference between the assumed age of retirement (r) and the official's present age (x)

▼M112

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales)

ω = ceiling of the mortality table.

4. The calculation of the service cost for retirement shall take into account:

- (a) the accrual incentive for officials remaining in service after the pensionable age;
- (b) the reduction coefficient for officials leaving the service before the pensionable age.

Article 7

1. In order to calculate the value of invalidity allowances, the number of such allowances expected to become payable during year n shall be measured by applying to each active official the probability that he could become an invalid during the year. That probability shall then be multiplied by the annual amount of the invalidity allowances to which the official should become entitled.

2. In calculating the actuarial value of the invalidity allowances first becoming payable in year n , the following annuities shall be used:

- (a) an immediate temporary annuity at age x :

$$\alpha_x = \sum_{k=1}^m \left(\frac{1}{1 + \tau} \right)^{k-0.5} \times {}_k p_x \times (1 + \text{GSG})^{k-0.5}$$

where:

x = official's age at 31 December of year $n-1$

τ = interest rate

${}_k p_x$ = probability of a person of age x still being alive in k years

m = difference between the assumed age of retirement (r) and the official's present age (x)

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales),

and

- (b) an immediate reversionary annuity. This latter annuity shall be multiplied by the probability of the official of being married and by the applicable reversion rate:

▼ **M112**

$$a_{xy} = \sum_{k=1}^m \left(\frac{1}{1 + \tau} \right)^{k-0.5} \times {}_k p_y \times (1 - {}_k p_x) \times (1 + \text{GSG})^{k-0.5}$$

where:

x = official's age at 31 December of year $n-1$

y = age of the official's spouse at 31 December of year $n-1$

τ = interest rate

${}_k p_x$ = probability of a person of age x still being alive in k years

m = difference between the assumed age of retirement (r) and the official's present age (x)

${}_k p_y$ = probability of a person of age y (spouse of the person of age x) still being alive in k year

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales).

Article 8

1. The value of the pension rights that will become payable to survivors during year n shall be measured by applying to each active official the probability that he might die during the year. That probability shall then be multiplied by the annual amount of spouse's pension that will become payable in the current year. The calculation shall take into account the possible orphans' pensions that might become payable.

2. In calculating the actuarial value of the pension rights that will become payable to survivors during year n , an immediate annuity shall be used. This annuity shall be multiplied by the probability that the official is married:

$$a_y = \sum_{k=1}^{\omega - y + 1} \left(\frac{1}{1 + \tau} \right)^{k-0.5} \times {}_k p_y \times (1 + \text{GSG})^{k-0.5}$$

where:

y = age of the official's spouse at 31 December of year $n-1$

τ = interest rate

${}_k p_y$ = probability of a person of age y (spouse of the person of age x) still being alive in k years

GSG = estimated annual rate of General Salary Growth, (the rate of annual change in the salary scales)

ω = ceiling of the mortality table.

▼ **M112**CHAPTER 3
SYSTEM OF COMPUTATION*Article 9*

1. The demographic parameters to be taken into consideration for the actuarial assessment shall be based on observation of the population of participants in the scheme, comprising staff in active service and pensioners. This information shall be collected annually by the Commission using information received from the different institutions and agencies whose staff are members of the scheme.

From the observation of this population shall be deduced in particular the structure of the population, the average age of retirement and the invalidity table.

2. The mortality table shall relate to a population which has characteristics as close as possible to those of the population of members of the scheme. It shall be updated only on the occasion of the five-yearly actuarial assessment referred to in Article 1 of this Annex.

Article 10

1. The interest rates to be taken into consideration for the actuarial calculations shall be based on the observed average annual interest rates on the long-term public debt of Member States as published by the Commission. An appropriate consumer price index shall be used to calculate the corresponding interest rate net of inflation as needed for the actuarial calculations.

2. The effective annual rate to be taken into consideration for the actuarial calculations shall be the average of the real average interest rates for the ► **M131** 30 years ◀ preceding the current year.

Article 11

1. The annual change in the salary scales of officials to be taken into consideration for the actuarial calculations shall be based on the specific indicators referred to in Article 1(4) of Annex XI.

2. The effective annual rate to be taken into consideration for the actuarial calculations shall be the average of the net specific indicators for the European Union for the ► **M131** 30 years ◀ preceding the current year.

▼ **M131***Article 11a*

Until 2020, for the application of Articles 4(6), 10(2) and 11(2) of this Annex, the moving average shall be calculated on the basis of the following time scale:

In 2014 – 16 years

In 2015 – 18 years

In 2016 – 20 years

In 2017 – 22 years

In 2018 – 24 years

In 2019 – 26 years

In 2020 – 28 years

▼ M131*Article 12*

The rate in Articles 4 and 8 of Annex VIII for the calculation of compound interest shall be the effective rate referred to in Article 10 of this Annex and shall, if necessary, be updated on the occasion of the five-yearly actuarial assessments.

With respect to the update, the rate referred to in Articles 4 and 8 of Annex VIII shall be understood as a reference rate. The Commission shall publish the updated effective rate within two weeks after the update in the C series of the *Official Journal of the European Union* for information purposes.

▼ M112

CHAPTER 4

IMPLEMENTATION*Article 13*

1. Eurostat shall be the authority responsible for the technical implementation of this Annex.
2. Eurostat shall be assisted by one or more qualified independent experts in carrying out the actuarial assessments referred to in Article 1 of this Annex. Eurostat shall provide such experts with, in particular, the parameters referred to in Articles 9 to 11 of this Annex.
3. Each year on 1 September Eurostat shall submit a report on the assessments and updates referred to in Article 1 of this Annex.
4. Any questions of methodology raised by the implementation of this Annex shall be dealt with by Eurostat in cooperation with national experts from the relevant departments of the Member States and the qualified independent expert or experts. Eurostat shall convene a meeting of this group for that purpose at least each year. However, Eurostat may convene more frequent meetings if it feels it necessary.

CHAPTER 5

REVISION CLAUSE**▼ M131***Article 14*

1. In 2022 the Commission shall submit a report to the European Parliament and the Council. That report shall have regard to the budgetary implications of this Annex and shall assess the actuarial balance of the pension system. On the basis of that report the Commission will, if appropriate, submit a proposal to amend this Annex.
2. In 2018 the Commission shall submit an interim report to the European Parliament and the Council on the application of this Annex.