Actuarial calculation of your life annuity

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1 Executive Summary

This report presents an **exhaustive actuarial analysis of the viability and benefits of a life annuity contract**, considering factors such as mortality tables, the interest rate and projected growth of income, in order to calculate the actuarial value of the flow of income.

This study and valuation **are based on technical, actuarial and financial calculations**, as well as on up-to-date actuarial assumptions to support informed financial decision-making.

2 Definition of the Transaction and Objective

The transaction assessed consists of calculating the present actuarial value of a life annuity, defined as a series of regular payments as long as the beneficiary lives. The life annuity can be monthly incoming or outgoing payments, either level or escalating. The objective is to apply generally accepted methodology to actuarial valuations.

Considering a monthly amount for the life annuity, calculations will be made to determine the capital necessary to finance it for the whole expected lifetime.

3 Definition of Concepts

3.1 Life annuity obtained

A life annuity is an insurance product designed to provided regular income, generally as monthly payments for the rest of one's life.

3.2 Interest rate

The rate applied to deduct the future payments from the current value. It refers to the interest on the insurance product of a life annuity; at present, percentages are between 2% and 3%, but this depends on the insurance company. The interest is the return on your savings.

3.3 Growth of Income

The annual percentage of projected growth of the regular payments. This value refers to the percentage of annual adjustment of the pension from the life annuity income aimed at mitigating the effect of inflation.

3.4 Capital

The capital indicated or necessary to receive the life annuity.

3.5 Mortality Tables

Actuarial instruments that estimate the probability of survival depending on age and sex.

3.6 Life Expectancy

Average number of years that a person is expected to live, according to mortality tables.

4 Data Provided

- **Date of birth**: 01/01/1960
- **Sex**: Male
- **Interest rate**: 3.00%
- **Date of valuation**: 01/02/2025
- **Growth of income**: 1.00%
- **Desired monthly income:** 1.000,00 €

4.1 Parameters used

- **Mortality tables**: PER2020

4.2 Additional information

- **Life expectancy**: 25.21 anys

5 Results of Actuarial Calculations

5.1 Capital needed to receive the life annuity

231.367,36 €

6 Survival Probability Table

For each year after the valuation date indicated, 01/02/2025, the table shows the probability of survival and the expected annual life annuity income.

Each row represents an additional year, beginning with the first year and continuing up to 2080, thereby providing a clear overview of how these variables evolve over time.

7 Appendix

Table of Results

Years	Survival Probability	Rent Sum
1	99.35%	12,000.00
2	98.69%	24,120.00
3	98.02%	36,361.20
4	97.34%	48,724.81
5	96.65%	61,212.06
6	95.92%	73,824.18
7	95.15%	86,562.42
8	94.31%	99,428.05
9	93.38%	112,422.33
10	92.35%	125,546.55
11	91.20%	138,802.02
12	89.91%	152,190.04
13	88.48%	165,711.94
14	86.88%	179,369.06
15	85.09%	193,162.75
16	83.08%	207,094.37
17	80.85%	221,165.32
18	78.37%	235,376.97
19	75.63%	249,730.74
20	72.64%	264,228.05
21	69.39%	278,870.33
22	65.92%	293,659.03
23	62.25%	308,595.62
24	58.41%	323,681.58
25	54.46%	338,918.39
26	50.44%	354,307.58
27	46.37%	369,850.65
28	42.24%	385,549.16
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Years	Survival Probability	Rent Sum
29	38.07%	401,404.65
30	33.85%	417,418.70
31	29.68%	433,592.89
32	25.62%	449,928.81
33	21.76%	466,428.10
34	18.13%	483,092.38
35	14.79%	499,923.31
36	11.77%	516,922.54
37	9.13%	534,091.77
38	6.88%	551,432.68
39	5.00%	568,947.01
40	3.49%	586,636.48
41	2.33%	604,502.85
42	1.46%	622,547.87
43	0.86%	640,773.35
44	0.47%	659,181.09
45	0.24%	677,772.90
46	0.11%	696,550.63
47	0.05%	715,516.13
48	0.02%	734,671.29
49	0.01%	754,018.01
50	0.00%	773,558.19
51	0.00%	793,293.77
52	0.00%	813,226.71
53	0.00%	833,358.97
54	0.00%	853,692.56