TOPIC 3.1.: PUBLIC EXPENDITURE ON PENSIONS

EXERCISE 1

The government of the *Invernest country* considers modifying the organization of the public retirement pension system, changing the system applied up to now, based on the financing of current pensions through the contributions of active members (*pay-as-you-go system*), for another that functions as a private pension fund (*capitalization*). Bearing in mind that this government intends to fully finance the pensions paid with the contributions collected regardless of the current system and that it handles the following information to make its decisions:

- Contribution rate expected to apply in year t: 28.30%
- Average real salary per worker in year t-1: 20,700 per year.
- Average real salary per worker in year t: 21,500 per year.
- Assets employed in year t-1: 22,975,000.
- Assets employed in year t: 22,050,000.

- Determine as an initial step, what will be the total fund available for the payment of pensions for year t.
- If the market interest rate for risk-free assets in year t is r=4.5%, what must be the return offered by the capitalization system to be considered actuarially fair?
- Can the pay-as-you-go system currently applied in the country be considered actuarially fair?
- Evaluate which system will be preferred by society and if it really compensates for the change proposed by the government.

EXERCISE 2

The government of the *Dependence country* decides to implement a pay-as-you-go system to guarantee the payment of public retirement pensions. For its design it has the following data:

- Current average salary of active workers in the system: 21,500 euros per year.
- Employed active population in the current period: 22,075,000 people.
- Number of retirees currently receiving a pension: 5,050,000.

To advise the government in this task, determine the following issues:

- How much is the average annual pension that can be paid to retirees if the total contribution level provided for in the general budgets amounts to 28.30%?
- If the Administration sets the objective that retirees receive an average benefit of 10,800 euros per year, calculate what type of contribution workers would have to pay.
- In the event that the government chooses to set both the average pension at 10,800 euros and the contribution rate at 28.30%, will the funds raised be sufficient to comply with it? Will Social Security have a deficit or surplus?

EXERCISE 3

Choose the correct answer for each of the following questions. There is only one correct answer:

1) In a public pay-as-you-go pension system, it is the Public Sector (Social Security) that:
   a) It does not guarantee the payment of said pensions to pensioners or their level.
   b) It guarantees the payment of said pensions to pensioners, but not their level.
   c) It guarantees the payment of said pensions to the pensioners, their level and period of perception of said pensions.
   d) None of the above answers is correct.

2) In a public pay-as-you-go pension system, it is established that it is more than actuarially fair and preferable to a funded system if:
   a) The sum of the annual growth rate of employment plus the average amount of the pension is greater than the market interest rate for risk-free assets.
   b) The sum of the annual salary growth rate plus the employment rate and the number of pensioners is greater than the market interest rate for risk-free assets.
   c) The sum of the annual salary growth rate plus the employment rate is greater than the market interest rate for risk-free assets.
   d) None of the above answers is correct.

3) In determining the average level of public pensions in a pay-as-you-go system like the Spanish one, we can say that they are independent variables of the decisions made by the public sector:
   a) Salary and employment level
   b) The salary and level of social contributions.
   c) The level of employment and the number of people retiring
   d) None of the above answers is correct.

4) The final effect on the level of savings of a pension system depends on:
   a) The effects substitution of wealth and anticipation of retirement.
   b) The substitution effects of wealth and inheritance.
   c) The effects substitution of wealth, anticipation of retirement and inheritance.
   d) None of the above answers is correct.

5) The evolution of pension spending over GDP depends on:
   a) Directly, from the occupancy rate.
   b) From the inverse of the dependency ratio
   c) The inverse of the occupancy rate.
   d) None of the above answers is correct.