Life Insurance - practicals 2018/2019

Homework 2

Plot the net single premiums for the following capital life insurances and life annuities for different ages (x from 25 to 65 per 1y) and recent life tables (male, female, unisex):

1. Pure endowment for $n = 65 - x$ years.
2. Term insurance until 65 years, i.e. for $n = 65 - x$ years.
3. Life annuity due for $n = 65 - x$ years
4. $m = 65 - x$ year deferred life annuity due (payment starts at age 65)

Use the sum insured $SI = 10\ 000$. Please add a short (one or two sentences) to each graph to explain/interpret the behaviour of the net single premiums.

Homework 3

Realize how much you are willing to pay per month (then aggregate that to annual payments[1]) for

1. Term insurance until age 65.
2. Life annuity starting from age 65 (deferred until age 65).

Let the net annual premium be paid until 65. Using your age and all life tables, compute the sum insured for both cases.

Then focus on an inverse approach and imagine the amount of the pension you would like to receive starting from 65 (= SI for the life annuity). Derive the net annual premium for the case when you start the insurance today, after 10 and 20 years.

Please send ONE PDF FILE with the results in the format *surname_name_hw23.pdf* to my e-mail.

DEADLINE: January 7, 2019

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[1] Please use positive numbers :)