**Assignment 8.1 Risk**

The willingness to take risks is the determining factor for many decisions in the economy. In order to gain more insight into risk behaviour, Carlijn is conducting an experiment in a class. In this class there are thirty pupils who all have mobile phones. The average replacement value of these telephones is €200. The theft data is known: every year one in ten mobile telephones is stolen. Carlijn proposes to reduce the theft risk by evenly spreading the amount of the claim over the whole class.

a. Calculate the expected amount of the claim.

b. Calculate the minimum insurance premium which Carlijn must ask per pupil per year.

Carlijn’s insurance proposal gives rise to a discussion in the class.

Fatma: “But then you will have to make sure that every pupil from the class joins in, otherwise you will only get pupils taking part who are careless about their stuff.”

Kader: “By insuring this you are actually encouraging some pupils to be more careless with their mobile telephones.”

Julia: “That’s right, Kader: those classmates form the bad risks and we shall have to solve that.”

Fatma and Kader each refer to one of the following economic concepts:

− adverse selection

− deductible

− risk aversion

− moral hazard

− premium differentiation

c. Which economic concept fits best with which statement? Write down as follows:

Fatma: …………………………

Kader: …………………………

d. How can Julia best solve the problem of the bad risks? In the answer you must use at least one of the above concepts.

**8.2 Buying after all?**

Klaartje and Noah have rented a house for many years. Meanwhile they have saved up an amount of €80,000. Also, Noah has inherited €20,000 from his deceased grandfather; they have invested this money in shares. His grandfather was a widower and has two daughters. Both are still alive. The elder daughter is Noah’s mother.

a. Did Noah´s grandfather leave a will? Motivate the answer.

Now that they have a considerable amount of money at their disposal the time is ripe to look for a house they can buy. This idea is reinforced by a statement made by the chairman of the Vereniging Ons Eigen Huis (VOEH) in February 2018: ‘The purchase of one’s own house is still a better piggybank than saving with the bank. In 2017 the Dutch house prices were among the highest in Europe. Not enough new houses are built. The government should stimulate this more. At the same time, more and more people want to buy houses of their own. So I expect that the prices for houses will keep rising in 2018.’

b. Name two advantages of an owner-occupied house over a rented house.

c. Quote two sentences from the above text on which the chairman bases his expectation.

Between August 2017 and February 2018 the mortgage loan interest charged by many banks fell.

d. Explain that a fall in the mortgage loan interest rate can lead to a further rise of the house prices.

e. Explain that the interest rate for mortgage loans is lower than for other loans.

Klaartje and Noah considered buying a house in August 2017. The local estate agent came up with a proposal: purchase price €400,000. Klaartje and Noah wanted to use their savings to finance part of the purchase. For the mortgage loan they decided on the bank with the lowest interest rate (see the table below). Klaartje and Noah were thinking about first making a big trip and in that case to purchase a house only half a year later, in February 2018.

*table overview mortgage loan interest rates at different banks*

|  |  |  |  |
| --- | --- | --- | --- |
|  | name bank | interest rates  August 2017 | interest rates  February 2018 |
| 1 | Postenbank | 2.30 | 2.10 |
| 2 | AKXA bank | 2.40 | 2.15 |
| 3 | INGO | 2.45 | 2.20 |
| 4 | Florus | 2.50 | 2.30 |
| 5 | Obvious | 2.55 | 2.45 |

− All interest rates apply for a period of 30 years.

− The mortgage loan is repaid fully at the end of the term.

f. Calculate the annual mortgage interest relief which Klaartje and Noah would enjoy, if they had decided in August 2017 to postpone the purchase and financing of this house until February 2018.

g. Describe two risks which Klaartje and Noah would run, if they had decided in August 2017 to postpone the purchase and financing of this house until February 2018.

**Computations**

**Assignment 8.1**

a. The expected cost of claims is 1/10 × 30 × 200 = €600.

b. The premium per pupil per year is 600/30 = €20.

c. Fatma: adverse selection.

Kader: moral hazard.

d. Julia can best solve the problem of the bad risks by agreeing on a deductible. If pupils have to pay part of the damage themselves, they will be more careful with their stuff than if they are insured for the whole amount of the damage.

**Assignment 8.2**

a. Yes. According to the law of succession, both daughters are the legal heirs. Grandfather is deviating from this by means of a will.

b. When you have a house of your own, you build up capital (pension for later).

You can alter it according to your own ideas.

c. − Too few new houses are built.

− At the same time more and more people want to buy houses of their own.

d. If the mortgage financing becomes cheaper, house buyers can borrow more with the same income and can thus pay more for a house. This stimulates the demand for (more expensive) houses, so that the average prices will rise.

e. A mortgage loan is a loan with security and thereby offers more certainty for the money lender. He will settle for a lower interest rate, because he can sell the property if the borrower can no longer pay the interest and make repayments.

f. − amount of the loan: €400,000 − €80,000 = €320,000.

− interest benefit in case of postponement: (0.023 – 0.021) × €320,000 = €640.

g. − An answer which shows that this specific house turns out to be sold already half a year later.

− An answer which shows that the trend of rising house prices half a year later has also affected the asking price for this house (so that it has been raised by the estate agent).

− An answer which shows that the trip around the world has turned out to be more expensive than they had expected and that they have had to use part of their savings for this, so that the amount they need to borrow has increased.