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Demand for Insurance

Comprehension Questions

Indicate whether the statement is true or false, and justify your answer. Be sure to state any additional assumptions you may need.

1. In the model of insurance and uncertainty discussed in the chapter, an individual exhibits declining marginal utility of income if and only if she is risk averse.

TRUE. Under this simple model, the shape of the income-utility curve determines one's taste for risk. If the individual exhibits declining marginal utility of income, her income-utility curve will be concave and she will be risk averse.

2. A consumer with declining marginal utility of income will never prefer actuarially fair partial insurance to actuarially unfair full insurance.

FALSE. Even someone risk averse might forgo full insurance if it is too expensive.

3. Risk-averse consumers always prefer insurance that is actuarially fair but not full to full insurance that is actuarially unfair - but the opposite is true for risk-loving consumers.

FALSE. Consider uninsurance, which is technically actuarially fair but definitely not full. Sometimes, risk-averse consumers will prefer full insurance to uninsurance, even if it is actuarially unfair.

4. There are no possible utility functions in which a person is indifferent between actuarially fair full insurance and actuarially fair partial insurance.

FALSE. A completely risk-neutral person with a linear income-utility curve would be indifferent between these contracts.

5. A risk averse individual prefers a certain outcome to an uncertain outcome with the same expected income.

TRUE. Alternatively, we can say that $U(E[I]) > E[U(I)]$. That is, the individual prefers the utility she would get from her expected income to the expected utility she will get from her actual (uncertain) income.

6. Insurance represents a transfer of wealth from healthy states to sick states.

TRUE. The nature of the insurance contract is that the individual loses income in the healthy state and gains income in the sick state relative to the state of no insurance. The risk-averse individual willingly sacrifices some good times in the healthy state to ease the bad times in the sick state.

7. When insurance is fair, in a sense, it is also free.

TRUE. The customer's expected income does not change from buying the contract, so she effectively pays nothing for it. Despite the fact that the premium r is positive in an actuarially fair contract, the price is actually zero. Thus, we reach the counter-intuitive conclusion that the premium associated with an insurance contract is not its price.

8. Under partial insurance, income in the sick state with insurance is higher than income in the healthy state.

FALSE. Under partial insurance, income in the sick state, even with insurance is still lower than income in the healthy state, but some income is still transferred from the healthy to the sick.

9. In an actuarially fair insurance contract, the insurance premium equals the probability of sickness times the payout amount.

TRUE. Such an insurance contract yields zero profit in expectation.