Farm Business Management: The Fundamentals of Good Practice

Chapter 6: Introduction to Managing Risk and Uncertainty

Questions

1. What is a stochastic problem?

2. Define the variance of a random variable.

3. What options does a farmer have when s/he cannot meet a contract in quantity?

4. Why is the complementarity or competitive relationships between products important when considering diversification?

Tasks

1. Define the expected value of a random variable giving examples.

2. What is meant by the ‘passive’ approach to reducing income variability? Is it useful?

3. Define subjective probability. And comment on the statement ‘the trouble with subjective probabilities is that the best decision is different for each producer’.

4. Are there situations where objective probabilities can be used in decision making? Give your reasoning.

5. Define the components and purpose of a cash flow decision diagram. Do you think they are useful? Give reasons.

6. How can a continuous probability distribution be approximated using discrete events? Give examples.

7. Explain the statement ‘the use of a decision tree and resultant pay-off matrix allows minimizing risk’.

8. What is meant by the cost of non-certainty? Give examples.

9. What is the major effect on profit when using income variability techniques? Give reasons.

10. How does selecting products and production processes with low variability differ from diversification? Is one better than the other?

11. Give three examples, and the reasons why, formal insurance is sometimes not used on a farm.

12. What are the advantages and disadvantages of forward contracts? Can contracts in quantity help? Explain.

13. Using examples, discuss why a landowner's risk is reduced when using a contract in kind?

14. List and discuss at least two reasons for developing and maintaining a liquid asset structure.

15. Give two examples of random variables that are positively correlated. Present any evidence you have to verify your examples.

16. Would a farmer decrease, increase or hold constant the number of products produced when the following conditions prevail (give reasons): (a) constant variance between the products; (b) zero variance (how likely is this?); (c) the farmer is an extreme risk averter.

17. What impact does diversification have on expected profit per hectare in a situation where there are increasing returns to size? Give reasons.

18. Give three examples of cost flexibility explaining your choice.

19. Is it true the important parameters of a random variable are its expected value and the variance of the variable? Give your reasoning.

20. Can you think of two random variables that are negatively correlated? Why do you think they have this relationship, and is it of value to the farmer?

21. Discuss the statement 'farmers may not be able to maintain high returns per hectare for each product where many products are produced'.

22. Discuss what is meant by the maximization of expected profit subject to meeting a range of constraints?

23. Under what conditions might you expect to rank several alternatives in the same order using a risk budget relative to a single valued budget? Give reasons.

24. Is decision making using expected values likely to give the correct answer? Give reasons.