Chapter 20

1. a. Why do risk-averse individuals want to smooth consumption over good and bad states of nature?

b. How does insurance perform that function.?

2. a. What is actuarially fair, full insurance?

b. Why is it pareto optimal from the individual's point of view?

c. Why does actuarially fair, partial insurance yield the same expected income as actuarially fair, full insurance?

d. Why is partial insurance not as desirable for the insured as full insurance even though it yields the same expected income?

3. a. What is the risk premium and how is it calculated?

b. How does it help private insurance markets to form?

4. Show that the value of actuarially fair, full insurance to an individual depends on the individual's coefficient of absolute risk aversion and the amount of consumption (income) smoothing resulting from the insurance.

5. In Pauly's model of moral hazard in which the insured can take a preventive action Z against ill health

a. How is the equilibrium determined in the model?

b. How does the individual determine how much Z to take?

c. Under what conditions would the first-best outcome arise and what are the first-best properties?

d. In the second-best outcome, how is the insurance company forced to price the insurance and how does this differ from the way that it would like to price the insurance?

e. Why will the second-best (marginal) pricing schedule likely not arise in a competitive market?

f. What would the insurance company (or the government if publicly provided) need to know to implement the second-best (marginal) pricing schedule?

6. a. What is ex post moral hazard under medical insurance and what problem does it cause?

b. What methods do private or government insurers use to try to offset ex post moral hazard and to what extent are these methods successful?

7. What are Nyman's two criticisms of the standard models of ex post moral hazard that lead him to conclude it might not be as harmful as is commonly represented?

8. a. In the diagram with income if healthy and income if ill on the axes what is the fair-odds line and why is it named that?

b. What do the indifference curves represent in that diagram?

c. Why is the equilibrium on the 450 –line from the origin under actuarially fair, full insurance?

9. Suppose two classes of individuals with identical utility functions over incomes if healthy or ill have different probabilities of becoming ill.

a. What is true about their the premiums they pay if both receive actuarially fair, full insurance?

b. In this case, which condition is satisfied, ex post or ex ante efficiency?

c. What insurance policy would solve the problem of the inefficiency that exists and what prevents it from being offered in the private insurance market?

10. In the Einav/Finkelstein model of insurance with adverse selection:

a Why is the marginal cost to the insurer part of the demand curve for insurance?

b. Why is the demand curve above the marginal cost curve?

c. What is the efficient outcome and why does it not arise in a competitive insurance market?

d. Under what conditions is the demand curve upward sloping? Downward sloping?

e. What difference does the slope of the demand curve make for the outcome?

10. In the Einav/Finkelstein model of insurance with adverse selection:

a. Under what conditions would the provision of insurance be efficient?

b. If the inefficient case arises, under what conditions would the insurance market complete unravel so that no one is insured?

11. Cutler's model of insurance under adverse selection is similar to the Einav/Finkelstein model in the sense that there are a continuum of individuals that vary by their risk of becoming ill, but differs because the insurers can offer two kinds of insurance policies, a generous policy and a moderate, less generous policy.

a. Why does the Cutler model not generate an efficient outcome?

b. What is the nature of the inefficiency in his model?

c. Compare what happens to the less risky individuals in this model and in the single-policy Einav/Finkelstein model.

12. In the Rothschild/Stiglitz model of adverse selection, insurances can offer policies that vary by price and coverage. There are two classes of individuals, high-risk and low-risk, rather than a continuum of individuals who vary by risk. In this model

a. What is the distinction between a pooling and a separating equilibrium?

b. Why is a pooling equilibrium necessarily unstable?

c. What is the pareto-optimal separating equilibrium?

d. What property must a separating equilibrium have to be a stable equilibrium?

e. Why might the separating equilibrium described in (d) not be stable?

f. What are the conditions in the Einav/Finkelstein model that make it likely that everyone will be insured? Are these condition conducive to a stable equilibrium in the Rothschild/Stiglitz model?

13. What general conclusions do the Einav/Finkelstein, Cutler, and Rothschild/Stiglitz models suggest about the costs of adverse selection?

14. a. How does Medicare avoid the adverse selection problem?

b. What reaction by some households to the existence of Medicaid reduces the overall benefit of Medicaid?

15. What motivations besides private information have led the industrialized nations to provide health insurance for the elderly?