

1. (20 points) FGS 8.7

Suppose, if ill, that Fred's demand for health services is summarized by the demand curve $Q=50-2P$, where P is the price of services. How many services does he buy at a price of \$20? Suppose that Fred's probability of illness is 0.25. What is the actuarially fair price of health insurance for Fred with a zero coinsurance rate?

2. (20 points) FGS 8.8

In exercise FGS 8.7(continue with Question 1), if the insurance company pays Fred's entire loss, what will Fred's expense be? How much will the company pay? Will it continue to offer him insurance at the actuarially fair rate? Why?

3. (30 points) FGS 11.5

Note error in supply equation in the textbook. It should be $L_s = -200 + 40W$.

Consider the market labor demand L_d and labor supply L_s , where W is the market wage.

$$\text{Demand: } L_d = 1000 - 20W$$

$$\text{Supply: } L_s = -200 + 40W$$

- (a) What is the equilibrium market wage? What is the equilibrium employment level?
- (b) Calculate the equilibrium market wage and employment level if the workers negotiate a benefit worth \$1 that costs the employers \$2.
- (c) Calculate the equilibrium market wage and employment level if the workers negotiate a benefit worth \$2 that costs the employers \$1.

4. (30 points) FGS 11.7

Suppose that Charlie's Pizzeria in Kalamazoo, Michigan, employs 10 employees at a wage level of \$8 per person. All other costs (ovens, rent, advertising, return to capital) total \$40 per hour, and the pizzeria sells 12 pizzas per hour at a cost of \$10 per pizza. Suppose the state of Michigan mandates health coverage that can only be covered at a cost of \$1 per hour, if it is offered at all. Charlie finds that if he offers insurance, he could maintain production by letting one worker go and running his pizza ovens a little hotter, leading to costs of \$45 per hour.

- a) What are Charlie's original profits?
- b) What is Charlie's elasticity of demand for labor? How is this calculated?
- c) What will happen to Charlie's profits in the short run if he chooses to pay for mandated insurance?
- d) What will Charlie's long-run decision be? Why?