KEY

ECO 411 Midterm Exam Spring 2009

Multiple Choice: 4 pts. each, circle correct answer.

1. It may be cheaper/more efficient to produce an input internally rather than to procure it in the market if
   a) There are economies of scope associated with producing this input alongside other products, and the firm doesn't use any of the other products.
   b) There are economies of scale in producing this product, and the firm's needs for it are relatively small.
   c) Production of this input requires significant up-front irreversible investments.
   d) The firm is but one of many users of this type of input, and the firm's needs are sporadic and unpredictable.

C

2. Vertical integration is the preferred strategy when
   a) Assets are specific and transactions are frequent.
   b) Assets are specific and transactions are infrequent.
   c) Assets are general and transactions are frequent.
   d) Assets are general and transactions are infrequent.

A

3. Agency costs include all of the following except:
   a) Resources spent by employers trying to monitor employees' behavior.
   b) Resources spent by employees trying to convince firms that they are pursuing the firm's goals.
   c) Costs associated with hiring outside agents to monitor the principal's goals.
   d) Costs associated with reductions in output because agents pursue their own goals.

C

4. All of the following are examples of asset specificity except:
   a) An employee spends time learning to use software that is only used by this firm.
   b) An asphalt paving company buys dump trucks so that it can haul its own asphalt from the plant to various paving sites around its plant.
   c) A manufacturer of automotive glass windshields builds a plant in Georgetown so that it can be next door to the Toyota plant.
   d) A Long John Silver's franchisee buys a machine that applies breading to fish filets according to the recipe specified by the parent company Yum Brands.

B

5. An upstream manufacturer can exert vertical control over a downstream retailer using a variety of devices. Which of the following is not a commonly used vertical control device?
   a) Granting exclusive dealerships.
   b) Imposing vertical price restrictions.
   c) Establishing territorial restrictions on retailers.
   d) Using a production process that doesn't require any sunk irreversible investments.

D

6. We call franchising an agent-agent relationship because:
   a) The franchisor is the principal and the franchisees are the agents.
   b) The franchisees are the principals and the franchisor is the agent.
   c) Principal-agent issues run both directions between franchisor and franchisees.
   d) There are no principal-agent problems inherent in franchising relationships.

C

7. In the context of this course, hold-up refers to
   a) The expropriation of quasi-rents by an opportunistic party.
   b) The fleecing of unsuspecting investors by unscrupulous investment bankers.
   c) When one party to an exchange has more information than the other party.
   d) The function served by a belt when your pants are too big.

A

Discussion questions and problems: answer in the space provided.

8. (12 pts.) You take $5,000 of your own money and borrow $495,000 by selling bonds to outsiders, giving you $500,000 to bankroll your business. You can choose between two alternative investment opportunities. The first will yield a return of $495,000 with probability 0.5 and $605,000 with probability 0.5. The second will yield a return of $0 with probability 0.5 and $1,100,000 with probability 0.5.
   a) What is the expected return to bondholders if you pursue the first option? The second option? Show how you get your answer and briefly explain.
   b) What is the expected return to you if you pursue the first option? The second option? Show how you get your answer and briefly explain.

(a) Option #1: $\frac{1}{2}(\$495K) + \frac{1}{2}(\$495K) = \$495{,}000$

Option #2: $\frac{1}{2}(0) + \frac{1}{2}(\$495K) = \$247{,}500$

Since bondholders will be repaid either way if you choose option #1, but will only be repaid if the investment is successful if you choose option #2, they prefer #1.

(b) Option #1: $\frac{1}{2}(0) + \frac{1}{2}(\$605K - \$495K) = \$55{,}000$

Option #2: $\frac{1}{2}(0) + \frac{1}{2}(\$1{,}100K - \$495K) = \$302{,}500$

So you, who is the residual claimant, would prefer the riskier venture, option #2, because the expected return is higher.

9. (12 pts.) Toyota uses a team production system whereby employees work in small teams to accomplish a set of related tasks at various stages along the production assembly line. Levi's decided to adopt Toyota's team approach in its garment factories. How did this change work out for Levi's? Compare productivity under its previous system with what happened when it put its employees in teams and explain why.

Levi's initially used a piece-rate system in their factories whereby workers performed individual tasks and were paid according to their own productivity. When they switched to a team system, workers were paid according to the productivity of the team. Slower workers and faster workers ~~[illegible]~~ were paid the same team average rate. This approach had bad incentive effects and productivity fell.

10. (12 pts.) A good friend from high school owns and operates her own business (currently a proprietorship) in California. She plans to convert it to a corporation and offers you the chance to buy 50 percent of the stock of the company. You would be an inactive partner and she would continue running the company herself. Your shares would thus entitle you to one-half of the profits of this company. Based on the profits the company is currently earning, an independent assessor determines that the company has a market value of $100,000. How much would you be willing to pay for half of the company's stock under this arrangement? Briefly explain why.

You can anticipate that your friend will change her behavior when her share of the firm's profits declines from 100% to 50%. Buying an expensive "company" car will cost her 50¢ of profit for each $1 she spends, whereas before when she was the 100% owner she gave up $1 in profit for each $1 she spent on such things. So the reconfigured firm will not likely be as profitable, and you should pay something less than $50,000 for your half.

11. (12 pts.) A well-known fast-food franchisor requires its franchisees to spend almost a million dollars to construct a restaurant building which sits atop land owned by parent franchisor and leased to the franchisee for 20 years. Write a short essay in which you explain this seemingly peculiar arrangement. Your answer should include explanations of the concepts of irreversible (sunk) investments, quasi-rents, and hostages.

If monitoring is costly, then the franchisor will want to grant franchises to people who don't chisel on quality. If a franchisee offers a hostage, then it will create for itself an incentive not to shirk. By making a sunk or irreversible investment that it stands to lose if the franchise is terminated, the franchisee is thus able to reassure the franchisor that it will not shirk or chisel on quality. The costly building is thus a hostage. Any return earned by the franchisee above and beyond its variable costs is a quasi-rent.

12. (12 pts.) Recall the example of your professor's back-yard neighbor who sold mortgage insurance for a company located in Columbus, Ohio. What sort of compensation scheme did this company use for its field agents? Explain why this approach had good self-enforcing properties.

This company offered its agents a compensation package that exceeded by a non-trivial amount what they could have earned elsewhere. Since monitoring its field agents was costly, the company checked up on them infrequently. So the agents had to weigh the short-run gains from shirking against the present value of the lost wage premiums if they were caught shirking. If the wage premium is large enough, then the agents will choose not to shirk. This employment contract enforces itself, because it is in the agent's interest to live up to it.

13. (12 pts.) Recall our discussion of vertical control devices. Suppose you manufacture high-end audio equipment that requires a costly showroom and informed sales representatives in order for customers to fully appreciate the superior quality of your product. What problem might arise if you simply set a wholesale price for your audio equipment and sell it to any retailer who is willing to pay that price? What vertical control device(s) might you want to employ?

If you simply set a wholesale price and sell to any retailer willing to pay that price, then retailers who provide a costly showroom and informed sales representatives will have higher costs than retailers who don't. This creates a potential information externality, wherein consumers acquire information about the product at a full-service retailer and actually purchase the product at a discount retailer. To correct this problem you could set a minimum retail price that all retailers would be required to charge. Or you could grant ~~such~~ exclusive territories and choose one retailer to serve each territory.