

Professor Thomas Hubbard
Econ 174
Spring 1997

Final Examination

The total number of points on this examination is 200. There are eight questions. The first six count 20 points apiece; the last two count 40 points. *Please answer questions 1-6 in one blue book and questions 7-8 in another.*

You have 180 minutes. You are allowed to work overtime at a price of two points per minute. This will be strictly enforced. Allocate your time efficiently. An average of 15 minutes on the first six questions and 30 minutes on numbers seven and eight will leave you plenty of time.

Answer each question clearly, but you need not write long answers. About one paragraph per bullet point is generally sufficient. *Think before you write.* How you articulate your answer indicates how well you understand the economic concepts.

I will be available for questions periodically during the exam.

Good luck!

Question 1. (20 pts.)

In many small firms, the individual who is the residual claimant is also responsible for monitoring the workers engaged in productive activities. This individual also has other rights, including the right to hire and fire workers, and the right to assign workers to jobs.

- What explains this clustering of rights and responsibilities, according to Alchian and Demsetz?

Question 2. (20 pts.)

Contractual arrangements between different firms are sometimes used to mitigate free rider problems.

- Describe a situation where a “vertical” free rider problem may arise. (Be sure to explain who are the relevant economic agents and why a free rider problem may exist.)
- Describe a contractual arrangement which would counteract this free rider problem.

Question 3. (20 pts.)

According to Chandler, what organizational feature began to appear within firms in the mid-1800s?

- Why did this feature not appear earlier?
- How was this organizational development related to other things that were being introduced into the economy at roughly the same time?

Question 4. (20 pts.)

Prices coordinate an extremely large amount of economic activity. The First Welfare Theorem describes the conditions under which price-based coordination leads to an efficient outcome. However, prices are generally not used within firms to coordinate economic activity.

- Why might the First Welfare Theorem not hold?
- On a practical level, what problems would arise if firms attempted to use internal prices to match workers to jobs, to attract the firms' resources into different uses, etc.? For example, suppose managers at North Campus set a price for each job, allowed their workers to choose whatever job they wished, and adjusted prices so that markets cleared -- one worker per job. Suppose also that the only instruments they used were prices. Why might this be inefficient?

Question 5. (20 pts.)

Define cospecialized assets.

- Provide an example of cospecialized assets.
- What inefficiencies arise when cospecialized assets are owned by different individuals or firms?
- Why are organizational solutions more limited when the cospecialized assets are individuals' human capital?

Question 6. (20 pts.)

Nelson and Winter's theory of the firm is based around the notion of routines.

- What is a routine?
- What functions do routines cover within firms?
- What motivates individuals to not deviate from routine behavior?
- Chandler notes the long run success of firms such as Wrigley's, Coca Cola, and American Tobacco. Applying Nelson and Winter's theory, what characterizes firms that are successful over many years?

Question 7. (40 pts.)

The fraction of a firm's stock held by its largest shareholders varies widely, even when considering large businesses which have many shareholders.. In some firms, the top five shareholders own less than 5% of the stock. In others, the top five own more than 80%. The average for large corporations is about 20-25%.

One way in which shareholders can voice their approval or disapproval of managerial decisions by voting whether to replace incumbent management. Voting is generally one vote per share. Individual shareholders can obtain information regarding managers' performance (whether their decisions were in shareholders' interest) at a cost by monitoring them more intensively.

- Discuss the tradeoff faced by individual shareholders in deciding how much to monitor management. Would there be a relationship between the fraction of stock they own and the amount they monitor? Why or why not?
- Would you expect the incentives of firms' top managers to differ according to the fraction of its stock held by large shareholders? Why or why not?

Some industries such as public utilities have been heavily regulated. It may be the case that managers in such industries are more constrained with respect to how they run the firm. (For example, managers of electric utilities generally have to seek approval from regulators before they can begin building a new plant.) All else equal, stock ownership tends to be less concentrated in such industries. That is, the top five stockholders tend to have a smaller share of the total stockholdings.

- Using agency theory, develop an efficiency explanation for this difference.

Question 8. (40 pts.)

Ever since the development of computers and communication technologies made it technologically feasible for white-collar workers to work at home rather than the office, some observers have forecast that vast numbers of these workers would “telecommute.” Today, long after telecommuting became technologically feasible, a small fraction of white collar workers telecommute.

In some cases, it is obvious why telecommuting has not taken off. For example, when it is efficient for individuals to work in teams or collaborate, telecommuting would physically separate them and may inhibit communication or the exchange of ideas. Similarly, when it is economical for individuals to share the use of certain pieces of capital, and they cannot do so if they are not located at the same place, telecommuting may be inefficient. This may be the case, for example, at research-oriented enterprises which have libraries with titles which are used occasionally by many individuals.

Many jobs, however, do not have these characteristics. Individuals do not work in teams, and being physically distant does not preclude them from sharing capital when it is efficient to do so. For example, when the shared capital is a mainframe computer or database, distant individuals can log on from home. This is one reason that telemarketers and reservation agents (for hotels or airlines, for example) may be good candidates for telecommuting. Some of these individuals do, in fact, telecommute.

- Suppose a single hotel chain uses two different sets of individuals to book reservations: some who are located at the hotels themselves and others who work out of their homes. Those who are located at the hotel also have other duties, such as serving guests (taking messages, setting wake-up calls, etc.). Those who work out of their homes provide only services related to booking rooms. *Applying concepts that you have learned in this class*, how would you expect the contractual relationship between firms and these differently-located workers to differ? For example, would you expect them to be compensated differently? If so, why? If not, why not?

Hotels and hotel chains vary considerably. Some (such as Motel 6 and Super 8) are large, low price, low-end chains. Because the characteristics of individual outlets are well known by potential customers, these chains’ reservation agents have little opportunity to influence customers’ choice of hotels. When someone calls these chain’s reservation lines, they have essentially already made their choice.

Others hotels are part of smaller chains and/or are high quality hotels. Possibly because the characteristics of individual outlets are less well known, a lower fraction of calls result in reservations. Calls also tend to be longer because consumers ask the agents questions about the characteristics of individual outlets, whether there are discounts, etc. Reservation agents hence have more opportunity to influence consumers’ choice.

Assume that for each class of hotels, given the number of calls their reservation desks receive, their profits are increasing in the fraction of callers who book rooms and decreasing in the amount of time reservation agents spend per caller.

- Is the performance measure one would use to evaluate *telecommuting* reservation agents at these different types of chains likely to vary? If so, how? If not, why not?
- Applying the concepts learned in class, is it likely that one would see some types of types of hotel chains relying more on telecommuting reservation agents than others? Why or why not?