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Introduction

Should a surrogate mother be allowed to keep the fetus? Should the hospital, the donor, the Red Cross, or the patient be liable for the harm if a patient contracts hepatitis from a blood transfusion? Should there be regulations against smoking in airplanes? Should plea-bargaining be allowed? Should hostile corporate takeovers be encouraged? Should a bystander be found liable for not rescuing a drowning person if the rescue could have been accomplished with little risk to the potential rescuer? Should homeowners be allowed to force a cattle feedlot to move without compensation by the homeowners if the cattle feedlot was there before the homes were built? Why are nuclear power plants subject to strict liability? Why are there few consumer cooperatives? When should a firm vertically integrate? How should congressional committees be structured? What should be the creditor priority in bankruptcy?

A. ECONOMICS PROVIDES THE ANALYTIC FRAMEWORK

The answers to these questions are found in economic theory. In this book, we use economic analysis to explain various areas of the law, including criminal, corporate, contract, accident, bankruptcy, and environmental law. Along the way, we explain why relationships are organized in a certain way. For example, why McDonald's is a franchise, while Ace Hardware Stores are independently owned and Safeway stores are a single corporation. As another example, we explain why stockholders have limited liability. Hence, the title of this book – *Economic Foundations of Law and Organization.*

The connection between law, organization, and economics is very close. Economics is the study of what, how, and for whom. Standard textbooks in economics define the field as the study of resource allocation in the presence of scarcity. Laws affect resource allocation and help to determine what, how, and for whom. For example, a law that finds trucking companies liable for accidental harm will create incentives for more careful driving by truckers. A well-ordered society will tend to choose laws that promote economic efficiency. Laws create a public ordering; that is, they organize society in a certain way. Private entities are also organized in a certain way. For example, in corporations, stockholders supply capital and managers of the firm make day-to-day decisions. Economics provides the key to understanding why firms and society are organized in particular ways.

Economics also provides insight into many ethical issues. Why is theft wrong? If there are three starving men are in a lifeboat, is it ethical to kill one of them for food, and if so, how should this be decided? And returning to some of the questions posed at the beginning of this chapter (because legal and ethical issues are often entwined), when does being first deserve extra consideration and what duties are owed to strangers? Thus the title of the book could also have been *Economic Foundations of Law, Organization, and Ethics.*

B. ORGANIZATION OF THIS BOOK

This book is organized into sections. The sections need not be read in order, the major exception being Part II on the Coase theorem, which should be read first if the reader is not well acquainted with Coasean analysis.

Part I explains the concepts of rationality and efficiency and provides the underlying rationale for cost-benefit analysis. Part II introduces the concept of transaction costs

and argues that this concept is critical to understanding law and organization. Part III develops the underlying intuition needed to grasp the economic implications of the law. Part IV discusses when and why property rights, liability rules, communal rights, restitution, or regulation is chosen instead of the other methods of protecting entitlements. Along the way, blackmail, patents, and the takings clause are considered. Part V derives optimal liability rules (including the optimal level of punishment for criminals). Among other things, why liability rules differ for falling trees, automobile accidents, and dangerous pets is explained. Part VI considers how sequential inputs changes the analysis provided in Part V. Topics such as coming to the nuisance, the Good Samaritan rule, and mitigation of damages are covered. Part VII considers the role of the courts in contract law, including marriage contracts. Part VIII focuses on explicit and implied warranties for exploding soda bottles, lawnmower accidents, and air conditioner failures. Part IX is concerned with the allocation of risk and the role of insurance in the law. This topic goes far beyond the narrow confines of what people ordinarily think of as insurance. For example, royalties for artists can be viewed as insurance for investors. Problems arising from over-regulating the insurance industry and under-regulating insured savings deposits are discussed. Part X, the longest section, is devoted to governance and organization and answers such questions as, why are investor-owned firms common, but worker-owned firms rare? Why do we have franchises? And how is Congress organized? Part XI is devoted to bargaining in the shadow of the law.

SUGGESTIONS FOR FURTHER READING

Three useful reference texts are the *New Palgrave Dictionary of Economics and the Law,* the *Encyclopedia of Law and Economics*, and the *Handbook of Law and Economics.*

REVIEW QUESTIONS

1. What does economics have to do with the law? Is it about how much we pay for lawyers and prisons? (3) Note that points in parentheses refer to the number of points the answer is worth and suggest approximately how many sentences should be used in answering the question.

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I ECONOMIC FUNDAMENTALS – RATIONALITY AND EFFICIENCY

In Part 1, we consider two fundamental building blocks of economics – rationality and efficiency.[1]

Almost all of economics assumes rational behavior by individuals in their roles as consumers, workers, or business owners. Rationality typically focuses on how individuals respond to prices. Rational consumers have downward-sloping demand curves and rational business owners have upward-sloping supply curves. Much of the legal system also assumes that individuals respond rationally to prices. If individuals are rational, then, other things being equal, larger fines for speeding will reduce the number of speeders. Suppose that individuals were irrational in this regard. Then the legal system would reduce fines for speeding to reduce the number of speeders, unless the legal system, itself, was irrational, in which case it would do the opposite. As this last thought experiment suggests, assuming irrationality leads to some unrealistic predictions about human behavior and legal rules.

Chapter 2 is devoted to a deeper discussion of rationality. We first show that the economist notion of rationality is nowhere near the cartoon caricature of rationality presented by the critics of rational behavior. Next, we show that when people are rational, the price reflects the benefit of the last item purchased. That is, if a person is rational, then paying $10 for an item means that the person valued the item for at least $10. This rather trivial insight allows us to undertake cost-benefit analysis, the subject of Chapter 4.

The theme of this book is that laws can be evaluated according to whether they are economically efficient and that many laws (particularly, judge-made laws) do, indeed, promote economic efficiency. But what does it mean to be economically efficient and why is that criterion chosen instead of another? This is the subject of Chapter 3. Economic efficiency (Pareto optimality) is a noncontroversial method of assessing welfare. It does not mean that individuals work without taking lunch or that pollution is ignored. Instead it just means that no one individual's welfare can be increased without reducing another individual's welfare. In Chapter 3, the concept of economic efficiency will be discussed in-depth because it is hard to understand from a mere definition. We also discuss why other approaches such as the utilitarian approach and various distributive approaches are not very helpful in evaluating legal rules.

In Chapter 4, we consider cost-benefit analysis. Cost-benefit analysis uses prices to measure welfare. As previously indicated, this is justified by the argument presented in Chapter 2 that rational individuals are willing to pay $X for an item only if the item is worth $X to them. We show how cost-benefit analysis is related to economic efficiency and why as a practical matter it is used rather than the Pareto criterion. Thus the theme of the book can be restated as follows: legal rules and organizational structure are often chosen on the basis of their costs and benefits.

Part I can be seen as the underlying argument for the use of cost-benefit analysis (to the exclusion of other criteria) in evaluating the law. For those who are already comfortable with the concept and don't desire a deeper understanding of cost-benefit analysis and don't need to be convinced that rationality is a plausible starting place for analyzing human behavior, Part I (and in particular chapters 2 and4) can be skipped. For the rest, Part I provides the justification for the economic approach to law and organization.

[1] In Chapter 15, we will consider the notion of equilibrium, another fundamental concept in economics.

2 Rational Behavior, Preferences, and Prices

The basic premise of this book is that individuals generally act rationally. Because there is often confusion regarding what is meant by rationality and a great deal flows from assuming rationality, it is useful to start with a definition.

A. RATIONAL BEHAVIOR

The following is how economists define rationality. If a person can rank order her preferences (e.g., Tom prefers (A) to travel around the world and eat caviar every night over (B) working forty hours a week and eating burritos every night over (C) playing video games all day, living with his parents, and eating steak and potatoes) and the person chooses his most preferred *feasible* alternative, then the person is rational.[1] Rationality is a plausible assumption regarding human behavior. Isn't it a better theory of human behavior that people do what they prefer to do rather than that people behave randomly (they are arational) or that they consistently act against their own preferences (they are irrational)?[2]

For the most part, this book is devoted to explaining *aggregate* or market behavior rather than a particular individual's behavior. While one might argue that a particular person is either irrational or uninformed, it is much harder to claim this to be the case for the market.[3] Thus, for example, one might argue that a manager of a particular firm is paid more money than she is worth, but it is much harder to argue that managers in general tend to be paid more than they are worth. Because we are interested in aggregates, our predictions are not undermined if some people do not act rationally.

Note that there is no need to assume that individuals are perfectly informed. Rational people can be misinformed and make mistakes. For example, they may carry a raincoat on a day when it does not rain. However, people will not persist in their mistakes if the evidence is to the contrary. They will not carry a raincoat in Santa Cruz in July once they learn that it does not rain there in the summer. Of course, carrying a raincoat when it is does not rain is not very costly. If mistakes were very costly, rational individuals would gain more information ahead of time. For example, first-time strawberry farmers in Santa Cruz County will install irrigation systems to grow their crops in the summer rather than rely on rainfall.

Although people make mistakes, it is unlikely that people are consistently prone to misjudgments in a particular direction. I am skeptical of arguments that assume that people tend to underestimate or overestimate the dangers of some activity (for

[1] More formally: To act rationally an individual must have a complete set of ordered preferences over the set of outcomes and these preference rankings must be both transitive and reflexive. Transitivity implies that if you prefer chocolate to vanilla and vanilla to strawberry ice cream, then you prefer chocolate to strawberry ice cream. Reflexive means that a person does not strictly prefer something to itself. Hence, a person is indifferent when choosing between a bowl of chocolate ice cream and a bowl of identical chocolate ice cream.

[2] Presumably, individuals at different times are characterized by one of the three (rationality, irrationality, and arationality). The problem is that unless we can predict which characterization is operative (which would be the case if we could detect which part of the brain is being used or how much alcohol was consumed, for example), we can only determine ex post which one holds. Under such circumstances, to predict rather than merely define behavior, we need to go with the characterization that works the best. The argument here is that rationality works best.

[3] This holds when the information is available contemporaneously. Obviously, in the nineteenth century doctors did not know that penicillin killed bacteria.

example, underestimating the dangers of taking prescription drugs) when such information is public. Here, the basic premise is that some people may overestimate and others may underestimate the probability of a bad outcome, but over all issues, the average person's beliefs do not systematically differ from the experts' beliefs in a certain direction.

Note that being rational does not mean that the person is selfish. Rational people may be altruistic; but being rational, they will try to achieve their ends in the best way possible. A surgeon trying to save someone's life will use sterilized equipment when possible and will not purchase more expensive equipment if it is not better.

When it comes to producers, there is very strong pressure for rational profit maximizing behavior because large deviations from profit maximization are likely to result in the firm going out of business. Consider a farmer in North Dakota where the winters are cold and there is not much rain. If the farmer prays for rain but does not install an irrigation system or plants bananas instead of wheat, he will not survive for very long. Of course, if the farm is otherwise very profitable, there is room for some behavior that modestly deviates from profit maximization (for further discussion, see Chapter 33 on agency costs in corporations).

In this book, we sometimes use mathematics, including calculus, to explain people's behavior and at other times the arguments are counterintuitive. A common criticism is to assert that people do not have the cognitive skills to make such judgments. But we are not assuming that individuals actually use calculus in their decisions. Rather that calculus is a useful way to characterize their behavior. Perhaps, the easiest way to understand the logic behind my argument is to consider maple trees. The leaves on maple trees are not stacked in a row one right behind the other; instead they are arranged in a way to maximize the amount of light falling on all of the leaves. Advanced mathematics is needed to solve this maximization problem, but, as far as I know, no maple tree has ever gone to college. If trees can act rationally, it should not be unreasonable to assume that people act rationally as well.

So for the remainder of the book, we will assume that, on average, producers and consumers are rational and do not have biased expectations.

B. ADVERTISING # [4]

Now it is conceivable that people are manipulated by advertising and therefore they do not make rational choices. One could argue that without television advertising, fewer brand names would be sold. However, it would be much harder to argue that without television advertising, people would drink milk instead of smoke cigarettes, eat raw vegetables instead of fast food, buy bicycles instead of muscle cars, live in teepees instead of houses, and wear clothes until they fell apart instead of until they became unfashionable.

Of course, firms that advertise are not doing it for our pleasure. They are doing it to gain sales. Sales are gained in the following ways: (1) Some advertising is directly informative. When Nissan advertises the Titan truck, not surprisingly, it is advertising that it now provides large trucks. (2) Some advertising is just a reminder that the brand

[4] The pound symbol (#) indicates that the subsection can be skipped.

exists and serves as an implicit statement that the firm stands behind its product. A brand name is likely to be of higher quality than its unadvertised counterpart. Advertising content is irrelevant in such cases.[5]

Now it is possible that advertising tricks people. For example, the beautiful female in the passenger seat of a Corvette advertisement might convince someone to buy the Corvette in hopes of attracting similarly beautiful women. But if manipulation were that easy, then Prius would engage in a similar tactic and possibly sellers of hamburgers, milk, and bicycles would do the same; in which case, this manipulation would no longer determine what the susceptible person would buy.

Part of our enjoyment of life is aesthetic. Minimum daily food requirements can be met by spending less than $3.00 a day, but who wants to eat like that if they can afford to spend more? No one argues that it is advertising that drives us to eat more than the minimal cost diet. Yet when a person chooses a muscle car (such as a Corvette), others argue that the person is irrational (it does not maximize fuel economy) or that the person is susceptible to advertising. But advertising is geared to the person's aesthetic sensibilities and brand choice allows others to infer preferences of the purchaser. All of us employ different mental images of the typical Corvette owner in comparison to the typical Prius owner. Advertisers know that our minds are not a empty tablet; Prius does not engage in direct-mail campaigns to Corvette owners.

Of course, at the margin, advertising does have an effect. Advertising tries to capture the otherwise indifferent consumer of a competing brand. But the effect of advertising is limited. Burger King can advertise day and night that the Whopper is better than the Big Mac, but the demand will decrease dramatically if the price of the Whopper is doubled.

C. PREFERENCES AND UTILITY FUNCTIONS

The fundamental building block of rationality is that each individual can rank order their preferences and then choose the highest-feasible alternative. But writing down preference rankings is a time-consuming matter. As a result, *economists tend to formulate their discussion of preferences in terms of utility functions, which are a more concise method of characterizing preference relationships.*

To illustrate, we will consider a very simple preference ranking. Suppose that a person prefers more apples to fewer apples and more bananas to fewer bananas, but the person is indifferent between having two more bananas or one more apple. The person's preference rankings from most desired to least desired are then

{2 apples} or {4 bananas}
{1 apple and 1 banana} or {3 bananas}
{1 apple} or {2 bananas}
{1 banana}
{no fruit at all}

[5] The main effect of banning cigarette advertising on television has been to make it more difficult to create new brands. There has been a secular decrease in cigarette smoking independent of the ban.

This ranking does not include the possibility of half an apple or ten apples. So such lists can be very long.

Fortunately, this preference ordering can be represented by a simple utility function: $U = 2A + B$. We can easily establish that this utility function represents the preference ordering above. For example, one apple and one banana provide the same utility (2 times 1 plus 1 times 1) as three bananas (2 times 0 plus 1 times 3). If individuals are rational, then they maximize their utility given the feasible set. For example, if a person has $2.00 to spend and apples and bananas cost $1 each, then the person will buy two apples.

Notice that the same preferences can also be characterized by the following utility function: $U = 100 + 20A + 10B$, as, once again, one apple is worth two bananas, and more apples or more bananas means more utility. In choosing between apples and bananas, it is not the absolute size of the utility that counts, but the relative size. This means that utility is an *ordinal* concept – we can say that the individual gets *greater* pleasure from eating two bananas than from eating one. We cannot say that the individual gets twice as much pleasure from eating two bananas than from eating one. The latter is known as a *cardinal* measure. Because we cannot measure happiness as we measure weight (a cardinal measure), it important that we treat utility as an ordinal relationship. And of course that is just what a ranking is – ordinal.

D. PRICES

If people are rational, we can translate their preferences at the margin into prices. If you spent $10 to buy a bottle of Kendall-Jackson Zinfandel, this is because you preferred doing that than spending your $10.00 elsewhere (e.g., spending $10 on Charles Krug Zinfandel). And being rational, you would not change your mind and buy Charles Krug if the price of Charles Krug increased from $10.00 to $11.00 or more and everything else remained the same. So we can say that Charles Krug was not worth more than $10 and that Kendall-Jackson was not worth less than $10 to you when you buy Kendall-Jackson but not Charles Krug. Indeed, whenever you make one choice over another, even if money is not involved, we can translate the choice into money by saying that you would have paid more for what was chosen than for what was not.

The advantage of prices is that they are observable and allow for easy comparison. If people are rational (and both goods are being purchased and are infinitely divisible), then the marginal utility from the last dollar spent on one good (say, apples) should equal the marginal utility from the last dollar spent on another item (say, pears). Suppose, to the contrary, that they would have gotten more pleasure from consuming an additional dollar's worth more of apples than from consuming that last dollar's worth of pears. Then they would have reduced their purchases of pears by a dollar and increased their purchases of apples by a dollar. This logic repeats itself until we do have equal marginal utility per dollar. If apples cost $1.00 each, we can say that the last apple you purchased was worth a dollar. In a nutshell, price reflects *marginal* value. Without water, we would die; but the price of water is very low, reflecting, the low value of that *last* gallon of water.