Economic Analysis of the Law
Economic Analysis of the Law

Selected Readings

Edited by
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Blackwell Publishing
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Preface

The guiding principle for this collection of articles is to provide the reader with a solid grounding in the economic analysis of law. I have chosen articles that are both intuitive and interesting to the novice.

Most published articles are written for fellow academics. This means that economic articles are typically filled with formal mathematics, something only a fellow academic economist could love. In this reader, I have generally eschewed such articles. And I have deleted the mathematics in the few exceptions where I included articles that originally contained mathematical formulae. As a substitute for mathematics, the articles in the collection provide considerable economic intuition. In this way, the reader can apply the intuition to other areas not covered in the book. In addition, I have shortened the original articles by about 75 percent. This not only allows the book to be about one-quarter the price, but also allows the reader to focus on the essentials. I have found that when articles are too long students tend to skim readings rather than try for a deeper understanding. The original articles were generally directed to a different audience – researchers in the field. I have tried to cut the articles in such a way that they are more directed to the student.

For the economics major, this collection offers a respite from the dry theory presented in intermediate microeconomics texts. The theory presented here is much more alive than the endless drill on isocost curves and the like.

For the law student, this collection creates a unified vision of the law. This is in contrast to law school, where torts, contracts, and corporate law, etc., are treated as completely separate fields, each with their own logic.

For each article, I have provided the background and context in which the article was written. In this way, the collection is not merely a string of articles with no apparent connection, but a more cohesive offering. For motivation, I have included a number of articles on controversial topics.

Introductory readings in the economic analysis of law typically have a large dose of readings that are antagonistic to the enterprise. This collection does not. Presumably, a person reads this book in order to see what economic analysis can explain about the law rather than hear some hackneyed arguments against economic theory.

This collection contains work by two Nobel prize-winning authors and work by others
who have been very influential in the economic analysis of law. I hope that everyone learns a great deal from these articles. Certainly I have.

I thank Cheryl Van de Veer and Zoe Sodja for all their Herculean effort in converting the original articles into text format. Even with the aid of optical readers, this was not an easy task.
Acknowledgments

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The publishers apologize for any errors or omissions in the above list and would be grateful to be notified of any corrections that should be incorporated in the next edition or reprint of this book.
Part I

Coase Theorem
1

The Problem of Social Cost

Ronald H. Coase

EDITOR’S INTRODUCTION

It is fitting that we start the collection of readings with “The Problem of Social Cost.” This article is the foundation for much of what follows in the economic analysis of law. It is also the most cited article in economics and the basis for Ronald Coase receiving the Nobel Prize in economics. The article is remarkable in a number of ways. First, it made people realize that both the injurer and injured were inputs into the production of damage. Before the publication of Coase’s article, the solution to an externality problem (e.g., sparks from a train igniting farmers’ crops planted near the railroad) was to change the behavior of the injurer (e.g., put in a spark arrester). After Coase’s article, one also had to consider changing the behavior of the injured (e.g., planting crops that were more fire-resistant). Second, the article demonstrated that the private market could solve problems that economists had heretofore believed were solvable only by government. Before “The Problem of Social Cost,” people believed that if a rancher was not liable for the damage from his cows trampling his neighbor’s corn field, then there would be too much damage and a “Pigovian” tax on the production of cows would be needed. After publication of this article, people realized that the neighboring farmer would pay the rancher to stop his cows from harming the corn if the reduction in damage to the farmer was greater than the cost to the rancher of preventing his cows from damaging the corn. Furthermore, Coase showed that in the absence of transaction costs (e.g., haggling and monitoring of agreements), the amount of damage would be the same whether the farmer had the right to no harm or the rancher had the right to harm. This became the basis of the “Coase theorem.” But Coase was more interested in the opposite situation. He argued that the existence of transaction costs determined the optimal institutions and laws.

I. The Problem to be Examined

This paper is concerned with those actions of business firms which have harmful effects on others. The standard example is that of a factory the smoke from which has harmful effects on those occupying neighbouring properties. The economic analysis of such a situation has usually proceeded in terms of a divergence between the private and social product of the
factory, in which economists have largely followed the treatment of Pigou in *The Economics of Welfare*. The conclusions to which this kind of analysis seems to have led most economists is that it would be desirable to make the owner of the factory liable for the damage caused to those injured by the smoke, or alternatively, to place a tax on the factory owner varying with the amount of smoke produced and equivalent in money terms to the damage it would cause, or finally, to exclude the factory from residential districts (and presumably from other areas in which the emission of smoke would have harmful effects on others). It is my contention that the suggested courses of action are inappropriate, in that they lead to results which are not necessarily, or even usually, desirable.

II. The Reciprocal Nature of the Problem

The traditional approach has tended to obscure the nature of the choice that has to be made. The question is commonly thought of as one in which A inflicts harm on B and what has to be decided is: how should we restrain A? But this is wrong. We are dealing with a problem of a reciprocal nature. To avoid the harm to B would inflict harm on A. The real question that has to be decided is: should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm. . . . [Consider] the [true] case of a confectioner the noise and vibrations from whose machinery disturbed a doctor in his work. To avoid harming the doctor would inflict harm on the confectioner. The problem posed by this case was essentially whether it was worth while, as a result of restricting the methods of production which could be used by the confectioner, to secure more doctoring at the cost of a reduced supply of confectionery products. Another example is afforded by the problem of straying cattle which destroy crops on neighbouring land. If it is inevitable that some cattle will stray, an increase in the supply of meat can only be obtained at the expense of a decrease in the supply of crops. The nature of the choice is clear: meat or crops. What answer should be given is, of course, not clear unless we know the value of what is obtained as well as the value of what is sacrificed to obtain it. To give another example, . . . [consider] the contamination of a stream. If we assume that the harmful effect of the pollution is that it kills the fish, the question to be decided is: is the value of the fish lost greater or less than the value of the product which the contamination of the stream makes possible. It goes almost without saying that this problem has to be looked at in total and at the margin.

III. The Pricing System with Liability for Damage

I propose to start my analysis by examining a case in which most economists would presumably agree that the problem would be solved in a completely satisfactory manner: when the damaging business has to pay for all damage caused and the pricing system works smoothly (strictly this means that the operation of a pricing system is without cost).

A good example of the problem under discussion is afforded by the case of straying cattle which destroy crops growing on neighbouring land. Let us suppose that a farmer and a cattle-raiser are operating on neighbouring properties. Let us further suppose that, without any fencing between the properties, an increase in the size of the cattle-raiser’s herd increases the total damage to the farmer’s crops. What happens to the marginal damage as the size of
the herd increases is another matter. This depends on whether the cattle tend to follow one another or to roam side by side, on whether they tend to be more or less restless as the size of the herd increases and on other similar factors. For my immediate purpose, it is immaterial what assumption is made about marginal damage as the size of the herd increases.

To simplify the argument, I propose to use an arithmetical example. I shall assume that the annual cost of fencing the farmer’s property is $9 and that the price of the crop is $1 per ton. Also, I assume that the relation between the number of cattle in the herd and the annual crop loss is as follows:

<table>
<thead>
<tr>
<th>Number in herd (Steers)</th>
<th>Annual crop loss (Tons)</th>
<th>Crop loss per additional steer (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
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</tr>
<tr>
<td>4</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>

Given that the cattle-raiser is liable for the damage caused, the additional annual cost imposed on the cattle-raiser if he increased his herd from, say, two to three steers is $3 and in deciding on the size of the herd, he will take this into account along with his other costs. That is, he will not increase the size of the herd unless the value of the additional meat produced (assuming that the cattle-raiser slaughters the cattle), is greater than the additional costs that this will entail, including the value of the additional crops destroyed. Of course, if, by the employment of dogs, herdsmen, aeroplanes, mobile radio, and other means, the amount of damage can be reduced, these means will be adopted when their cost is less than the value of the crop which they prevent being lost. Given that the annual cost of fencing is $9, the cattle-raiser who wished to have a herd with four steers or more would pay for fencing to be erected and maintained, assuming that other means of attaining the same end would not do so more cheaply. When the fence is erected, the marginal cost due to the liability for damage becomes zero, except to the extent that an increase in the size of the herd necessitates a stronger and therefore more expensive fence because more steers are liable to lean against it at the same time. But, of course, it may be cheaper for the cattle-raiser not to fence and to pay for the damaged crops, as in my arithmetical example, with three or fewer steers.

It might be thought that the fact that the cattle-raiser would pay for all crops damaged would lead the farmer to increase his planting if a cattle-raiser came to occupy the neighbouring property. But this is not so. If the crop was previously sold in conditions of perfect competition, marginal cost was equal to price for the amount of planting undertaken and any expansion would have reduced the profits of the farmer. In the new situation, the existence of crop damage would mean that the farmer would sell less on the open market but his receipts for a given production would remain the same, since the cattle-raiser would pay the market price for any crop damaged. Of course, if cattle-raising commonly involved the destruction of crops, the coming into existence of a cattle-raising industry might raise the price of the crops involved and farmers would then extend their planting. But I wish to confine my attention to the individual farmer.
I have said that the occupation of a neighbouring property by a cattle-raiser would not cause the amount of production, or perhaps more exactly the amount of planting, by the farmer to increase. In fact, if the cattle-raising has any effect, it will be to decrease the amount of planting. The reason for this is that, for any given tract of land, if the value of the crop damaged is so great that the receipts from the sale of the undamaged crop are less than the total costs of cultivating that tract of land, it will be profitable for the farmer and the cattle-raiser to make a bargain whereby that tract of land is left uncultivated. This can be made clear by means of an arithmetical example. Assume initially that the value of the crop obtained from cultivating a given tract of land is $12 and that the cost incurred in cultivating this tract of land is $10, the net gain from cultivating the land being $2. Assume for purposes of simplicity that the farmer owns the land. Now assume that the cattle-raiser starts operations on the neighbouring property and that the value of the crops damaged is $1. In this case $11 is obtained by the farmer from sale on the market and $1 is obtained from the cattle-raiser for damage suffered and the net gain remains $2. Now suppose that the cattle-raiser finds it profitable to increase the size of his herd, even though the amount of damage rises to $3; which means that the value of the additional meat production is greater than the additional costs, including the additional $2 payment for damage. But the total payment for damage is now $3. The net gain to the farmer from cultivating the land is still $2. The cattle-raiser would be better off if the farmer would agree not to cultivate his land for any payment less than $3. The farmer would be agreeable to not cultivating the land for any payment greater than $2. There is clearly room for a mutually satisfactory bargain which would lead to the abandonment of cultivation.

I think it is clear that if the cattle-raiser is liable for damage caused and the pricing system works smoothly, the reduction in the value of production elsewhere will be taken into account in computing the additional cost involved in increasing the size of the herd. This cost will be weighed against the value of the additional meat production and, given perfect competition in the cattle industry, the allocation of resources in cattle-raising will be optimal. What needs to be emphasised is that the fall in the value of production elsewhere which would be taken into account in the costs of the cattle-raiser may well be less than the damage which the cattle would cause to the crops in the ordinary course of events. This is because it is possible, as a result of market transactions, to discontinue cultivation of the land. This is desirable in all cases in which the damage that the cattle would cause, and for which the cattle-raiser would be willing to pay, exceeds the amount which the farmer would pay for use of the land. In conditions of perfect competition, the amount which the farmer would pay for the use of the land is equal to the difference between the value of the total production when the factors are employed on this land and the value of the additional product yielded in their next best use (which would be what the farmer would have to pay for the factors). If damage exceeds the amount the farmer would pay for the use of the land, the value of the additional product of the factors employed elsewhere would exceed the value of the total product in this use after damage is taken into account. It follows that it would be desirable to abandon cultivation of the land and to release the factors employed for production elsewhere. Even given the possibility of market transactions, a situation in which damage to crops exceeded the rent of the land would not endure. Whether the cattle-raiser pays the farmer to leave the land uncultivated or himself rents the land by paying the land-owner an amount slightly greater than the farmer would pay (if the farmer was himself renting the land), the final result would be the same and would maximise the value of production. Even
when the farmer is induced to plant crops which it would not be profitable to cultivate for sale on the market, this will be a purely short-term phenomenon and may be expected to lead to an agreement under which the planting will cease. The cattle-raiser will remain in that location and the marginal cost of meat production will be the same as before, thus having no long-run effect on the allocation of resources.

IV. The Pricing System with No Liability for Damage

I now turn to the case in which, although the pricing system is assumed to work smoothly (that is, costlessly), the damaging business is not liable for any of the damage which it causes. This business does not have to make a payment to those damaged by its actions. I propose to show that the allocation of resources will be the same in this case as it was when the damaging business was liable for damage caused. As I showed in the previous case that the allocation of resources was optimal, it will not be necessary to repeat this part of the argument.

I return to the case of the farmer and the cattle-raiser. The farmer would suffer increased damage to his crop as the size of the herd increased. Suppose that the size of the cattle-raiser’s herd is three steers (and that this is the size of the herd that would be maintained if crop damage was not taken into account). Then the farmer would be willing to pay up to $3 if the cattle-raiser would reduce his herd to two steers, up to $5 if the herd were reduced to one steer and would pay up to $6 if cattle-raising was abandoned. The cattle-raiser would therefore receive $3 from the farmer if he kept two steers instead of three. This $3 foregone is therefore part of the cost incurred in keeping the third steer. Whether the $3 is a payment which the cattle-raiser has to make if he adds the third steer to his herd (which it would be if the cattle-raiser was liable to the farmer for damage caused to the crop) or whether it is a sum of money which he would have received if he did not keep a third steer (which it would be if the cattle-raiser was not liable to the farmer for damage caused to the crop) does not affect the final result. In both cases $3 is part of the cost of adding a third steer, to be included along with the other costs. If the increase in the value of production in cattle-raising through increasing the size of the herd from two to three is greater than the additional costs that have to be incurred (including the $3 damage to crops), the size of the herd will be increased. Otherwise, it will not. The size of the herd will be the same whether the cattle-raiser is liable for damage caused to the crop or not.

It may be argued that the assumed starting point – a herd of three steers – was arbitrary. And this is true. But the farmer would not wish to pay to avoid crop damage which the cattle-raiser would not be able to cause. For example, the maximum annual payment which the farmer could be induced to pay could not exceed $9, the annual cost of fencing. And the farmer would only be willing to pay this sum if it did not reduce his earnings to a level that would cause him to abandon cultivation of this particular tract of land. Furthermore, the farmer would only be willing to pay this amount if he believed that, in the absence of any payment by him, the size of the herd maintained by the cattle-raiser would be four or more steers. Let us assume that this is the case. Then the farmer would be willing to pay up to $3 if the cattle-raiser would reduce his herd to three steers, up to $6 if the herd were reduced to two steers, up to $8 if one steer only were kept and up to $9 if cattle-raising were abandoned. It will be noticed that the change in the starting point has not altered the amount
which would accrue to the cattle-raiser if he reduced the size of his herd by any given amount. It is still true that the cattle-raiser could receive an additional $3 from the farmer if he agreed to reduce his herd from three steers to two and that the $3 represents the value of the crop that would be destroyed by adding the third steer to the herd. Although a different belief on the part of the farmer (whether justified or not) about the size of the herd that the cattle-raiser would maintain in the absence of payments from him may affect the total payment he can be induced to pay, it is not true that this different belief would have any effect on the size of the herd that the cattle-raiser will actually keep. This will be the same as it would be if the cattle-raiser had to pay for damage caused by his cattle, since a receipt foregone of a given amount is the equivalent of a payment of the same amount. It might be thought that it would pay the cattle-raiser to increase his herd above the size that he would wish to maintain once a bargain had been made, in order to induce the farmer to make a larger total payment. And this may be true. It is similar in nature to the action of the farmer (when the cattle-raiser was liable for damage) in cultivating land on which, as a result of an agreement with the cattle-raiser, planting would subsequently be abandoned (including land which would not be cultivated at all in the absence of cattle-raising). But such manoeuvres are preliminaries to an agreement and do not affect the long-run equilibrium position, which is the same whether or not the cattle-raiser is held responsible for the crop damage brought about by his cattle.

It is necessary to know whether the damaging business is liable or not for damage caused since without the establishment of this initial delimitation of rights there can be no market transactions to transfer and recombine them. But the ultimate result (which maximises the value of production) is independent of the legal position if the pricing system is assumed to work without cost.

V. The Problem Illustrated Anew

The harmful effects of the activities of a business can assume a wide variety of forms. . . . A recent case in Florida concerned a building which cast a shadow on the cabana, swimming pool, and sunbathing areas of a neighbouring hotel. The problem of straying cattle and the damaging of crops, which was the subject of detailed examination in the two preceding sections, although it may have appeared to be rather a special case, is in fact but one example of a problem which arises in many different guises. To clarify the nature of my argument and to demonstrate its general applicability, I propose to illustrate it anew by reference to . . . [an] actual case.

Let us . . . consider the case of *Sturges v. Bridgman.* In this case, a confectioner (in Wigmore Street) used two mortars and pestles in connection with his business (one had been in operation in the same position for more than 60 years and the other for more than 26 years). A doctor then came to occupy neighbouring premises (in Wimpole Street). The confectioner’s machinery caused the doctor no harm until, eight years after he had first occupied the premises, he built a consulting room at the end of his garden right against the confectioner’s kitchen. It was then found that the noise and vibration caused by the confectioner’s machinery made it difficult for the doctor to use his new consulting room. “In particular . . . the noise prevented him from examining his patients by auscultation for diseases of the chest. He also found it impossible to engage with effect in any occupation
which required thought and attention.” The doctor therefore brought a legal action to force
the confectioner to stop using his machinery. The courts had little difficulty in granting the
doctor the injunction he sought. . . .

The court’s decision established that the doctor had the right to prevent the confectioner
from using his machinery. But, of course, it would have been possible to modify the arrange-
ments envisaged in the legal ruling by means of a bargain between the parties. The doctor
would have been willing to waive his right and allow the machinery to continue in operation
if the confectioner would have paid him a sum of money which was greater than the loss of
income which he would suffer from having to move to a more costly or less convenient
location or from having to curtail his activities at this location or, as was suggested as a
possibility, from having to build a separate wall which would deaden the noise and vibration.
The confectioner would have been willing to do this if the amount he would have to pay the
doctor was less than the fall in income he would suffer if he had to change his mode of
operation at this location, abandon his operation, or move his confectionery business to
some other location. The solution of the problem depends essentially on whether the con-
tinued use of the machinery adds more to the confectioner’s income than it subtracts from
the doctor’s. But now consider the situation if the confectioner had won the case. The
confectioner would then have had the right to continue operating his noise and vibration-
generating machinery without having to pay anything to the doctor. The boot would have
been on the other foot: the doctor would have had to pay the confectioner to induce him to
stop using the machinery. If the doctor’s income would have fallen more through continu-
ance of the use of this machinery than it added to the income of the confectioner, there
would clearly be room for a bargain whereby the doctor paid the confectioner to stop using
the machinery. That is to say, the circumstances in which it would not pay the confectioner
to continue to use the machinery and to compensate the doctor for the losses that this
would bring (if the doctor had the right to prevent the confectioner’s using his machinery)
would be those in which it would be in the interest of the doctor to make a payment to the
confectioner which would induce him to discontinue the use of the machinery (if the
confectioner had the right to operate the machinery). The basic conditions are exactly the
same in this case as they were in the example of the cattle which destroyed crops. With
costless market transactions, the decision of the courts concerning liability for damage would
be without effect on the allocation of resources. . . .

. . .

Judges have to decide on legal liability but this should not confuse economists about the
nature of the economic problem involved. In the case of the cattle and the crops, it is true
that there would be no crop damage without the cattle. It is equally true that there would be
no crop damage without the crops. The doctor’s work would not have been disturbed if the
confectioner had not worked his machinery; but the machinery would have disturbed no one
if the doctor had not set up his consulting room in that particular place. . . . If we are to
discuss the problem in terms of causation, both parties cause the damage. If we are to attain
an optimum allocation of resources, it is therefore desirable that both parties should take the
harmful effect (the nuisance) into account in deciding on their course of action. It is one of
the beauties of a smoothly operating pricing system that, as has already been explained, the
fall in the value of production due to the harmful effect would be a cost for both parties.

. . .

The reasoning employed by the courts in determining legal rights will often seem strange
to an economist because many of the factors on which the decision turns are, to an econo-
mist, irrelevant. Because of this, situations which are, from an economic point of view, identical will be treated quite differently by the courts. The economic problem in all cases of harmful effects is how to maximise the value of production. . . . But it has to be remembered that the immediate question faced by the courts is not what shall be done by whom but who has the legal right to do what. It is always possible to modify by transactions on the market the initial legal delimitation of rights. And, of course, if such market transactions are costless, such a rearrangement of rights will always take place if it would lead to an increase in the value of production.

VI. The Cost of Market Transactions Taken into Account

The argument has proceeded up to this point on the assumption (explicit in Sections III and IV and tacit in Section V) that there were no costs involved in carrying out market transac-
tions. This is, of course, a very unrealistic assumption. In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. These operations are often extremely costly, sufficiently costly at any rate to prevent many transactions that would be carried out in a world in which the pricing system worked without cost.

In earlier sections, when dealing with the problem of the rearrangement of legal rights through the market, it was argued that such a rearrangement would be made through the market whenever this would lead to an increase in the value of production. But this assumed costless market transactions. Once the costs of carrying out market transactions are taken into account it is clear that such a rearrangement of rights will only be undertaken when the increase in the value of production consequent upon the rearrangement is greater than the costs which would be involved in bringing it about. When it is less, the granting of an injunction (or the knowledge that it would be granted) or the liability to pay damages may result in an activity being discontinued (or may prevent its being started) which would be undertaken if market transactions were costless. In these conditions the initial delimitation of legal rights does have an effect on the efficiency with which the economic system operates. One arrangement of rights may bring about a greater value of production than any other. But unless this is the arrangement of rights established by the legal system, the costs of reaching the same result by altering and combining rights through the market may be so great that this optimal arrangement of rights, and the greater value of production which it would bring, may never be achieved. . . .

It is clear that an alternative form of economic organisation, which could achieve the same result at less cost than would be incurred by using the market, would enable the value of production to be raised. As I explained many years ago, the firm represents such an alternative to organising production through market transactions. Within the firm individual bargains between the various co-operating factors of production are eliminated and for a market transaction is substituted an administrative decision. The rearrangement of production then takes place without the need for bargains between the owners of the factors of production. A landowner who has control of a large tract of land may devote his land to various uses
taking into account the effect that the interrelations of the various activities will have on the net return of the land, thus rendering unnecessary bargains between those undertaking the various activities. Owners of a large building or of several adjoining properties in a given area may act in much the same way. In effect, using our earlier terminology, the firm would acquire the legal rights of all the parties and the rearrangement of activities would not follow on a rearrangement of rights by contract, but as a result of an administrative decision as to how the rights should be used.

It does not, of course, follow that the administrative costs of organising a transaction through a firm are inevitably less than the costs of the market transactions which are superseded. But where contracts are peculiarly difficult to draw up and an attempt to describe what the parties have agreed to do or not to do (e.g. the amount and kind of a smell or noise that they may make or will not make) would necessitate a lengthy and highly involved document, and, where, as is probable, a long-term contract would be desirable; it would be hardly surprising if the emergence of a firm or the extension of the activities of an existing firm was not the solution adopted on many occasions to deal with the problem of harmful effects. This solution would be adopted whenever the administrative costs of the firm were less than the costs of the market transactions that it supersedes and the gains which would result from the rearrangement of activities greater than the firm’s costs of organising them.

But the firm is not the only possible answer to this problem. The administrative costs of organising transactions within the firm may also be high, and particularly so when many diverse activities are brought within the control of a single organisation. In the standard case of a smoke nuisance, which may affect a vast number of people engaged in a wide variety of activities, the administrative costs might well be so high as to make any attempt to deal with the problem within the confines of a single firm impossible. An alternative solution is direct government regulation. Instead of instituting a legal system of rights which can be modified by transactions on the market, the government may impose regulations which state what people must or must not do and which have to be obeyed. Thus, the government (by statute or perhaps more likely through an administrative agency) may, to deal with the problem of smoke nuisance, decree that certain methods of production should or should not be used (e.g. that smoke-preventing devices should be installed or that coal or oil should not be burned) or may confine certain types of business to certain districts (zoning regulations).

The government is, in a sense, a super-firm (but of a very special kind) since it is able to influence the use of factors of production by administrative decision. But the ordinary firm is subject to checks in its operations because of the competition of other firms, which might administer the same activities at lower cost and also because there is always the alternative of market transactions as against organisation within the firm if the administrative costs become too great. The government is able, if it wishes, to avoid the market altogether, which a firm can never do. The firm has to make market agreements with the owners of the factors of production that it uses. Just as the government can conscript or seize property, so it can decree that factors of production should only be used in such-and-such a way. Such authoritarian methods save a lot of trouble (for those doing the organising). Furthermore, the government has at its disposal the police and the other law enforcement agencies to make sure that its regulations are carried out.

It is clear that the government has powers which might enable it to get some things done at a lower cost than could a private organisation (or at any rate one without special govern-
mental powers). But the governmental administrative machine is not itself costless. It can, in fact, on occasion be extremely costly. Furthermore, there is no reason to suppose that the restrictive and zoning regulations, made by a fallible administration subject to political pressures and operating without any competitive check, will necessarily always be those which increase the efficiency with which the economic system operates. Furthermore, such general regulations which must apply to a wide variety of cases will be enforced in some cases in which they are clearly inappropriate. From these considerations it follows that direct governmental regulation will not necessarily give better results than leaving the problem to be solved by the market or the firm. But equally there is no reason why, on occasion, such governmental administrative regulation should not lead to an improvement in economic efficiency. This would seem particularly likely when, as is normally the case with the smoke nuisance, a large number of people are involved and in which therefore the costs of handling the problem through the market or the firm may be high.

There is, of course, a further alternative, which is to do nothing about the problem at all. And given that the costs involved in solving the problem by regulations issued by the governmental administrative machine will often be heavy (particularly if the costs are interpreted to include all the consequences which follow from the government engaging in this kind of activity), it will no doubt be commonly the case that the gain which would come from regulating the actions which give rise to the harmful effects will be less than the costs involved in government regulation.

The discussion of the problem of harmful effects in this section (when the costs of market transactions are taken into account) is extremely inadequate. But at least it has made clear that the problem is one of choosing the appropriate social arrangement for dealing with the harmful effects. All solutions have costs and there is no reason to suppose that government regulation is called for simply because the problem is not well handled by the market or the firm. Satisfactory views on policy can only come from a patient study of how, in practice, the market, firms and governments handle the problem of harmful effects. Economists need to study the work of the broker in bringing parties together, the effectiveness of restrictive covenants, the problems of the large-scale real-estate development company, the operation of government zoning and other regulating activities. It is my belief that economists, and policy-makers generally, have tended to over-estimate the advantages which come from governmental regulation. But this belief, even if justified, does not do more than suggest that government regulation should be curtailed. It does not tell us where the boundary line should be drawn. This, it seems to me, has to come from a detailed investigation of the actual results of handling the problem in different ways. But it would be unfortunate if this investigation were undertaken with the aid of a faulty economic analysis. The aim of this article is to indicate what the economic approach to the problem should be.

VII. The Legal Delimitation of Rights and the Economic Problem

The discussion in Section V not only served to illustrate the argument but also afforded a glimpse at the legal approach to the problem of harmful effects. . . . Of course, if market transactions were costless, all that matters (questions of equity apart) is that the rights of the various parties should be well defined and the results of legal actions easy to forecast. But as
we have seen, the situation is quite different when market transactions are so costly as to make it difficult to change the arrangement of rights established by the law. In such cases, the courts directly influence economic activity. It would therefore seem desirable that the courts should understand the economic consequences of their decisions and should, insofar as this is possible without creating too much uncertainty about the legal position itself, take these consequences into account when making their decisions. Even when it is possible to change the legal delimitation of rights through market transactions, it is obviously desirable to reduce the need for such transactions and thus reduce the employment of resources in carrying them out.

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The Cost of Coase

Robert Cooter

EDITOR’S INTRODUCTION

Ronald Coase argued that bargaining can overcome the problem of externalities when transaction costs are zero. And hence from an efficiency point of view it does not make any difference whether a farmer has the right to non-damage from cows or his rancher neighbor has the right to have his cows damage the farmer’s land. Either way, the outcome is the same. Robert Cooter shows that bargaining inherently involves strategic behavior whereby each side is willing to trade off some probability of an agreement in return for a greater surplus from the agreement should it be made. The possibility of a failed bargain means that even when transaction costs are zero, the assignment of rights does make a difference since the status quo has a privileged position. In a nutshell, Cooter shows that the so-called “Coase theorem” is not a theorem, but rather a conjecture on how people will behave.

Cooter then stands the Coase theorem on its head and produces the Hobbes theorem – society may want to limit the kinds of strategic behavior available to the parties since threats, especially if they are carried out, are costly.

Introduction

The publication of “The Problem of Social Cost” in 1960 by Ronald Coase brought together two powerful intellectual currents, namely, the economic theory of externalities and the common-law tradition concerning torts and nuisance. The sea is fertile but rough where two ocean currents meet, and the same can be said of the disputes provoked by Coase. Coase developed his argument through a series of concrete examples, such as the rancher and the farmer, the railroad sparks and the corn crops, etc. He steadfastly refused to articulate the general truths underlying the examples; for example, the famous “Coase theorem” is abstracted from the paper but not stated in it. After two decades of debate the generalizations underlying the examples are still disputed.

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Coase gave his name to a fundamental theorem on externalities and tort law, but he left to others the job of stating exactly what the theorem says. The basic idea of the theorem is that the structure of the law which assigns property rights and liability does not matter so
long as transaction costs are nil; bargaining will result in an efficient outcome no matter who bears the burden of liability. The conclusion may be drawn that the structure of law should be chosen so that transaction costs are minimized, because this will conserve resources used up by the bargaining process and also promote efficient outcomes in the bargaining itself.

We shall argue that the central version of the Coase theorem cannot be deduced from economic assumptions. The widespread belief to the contrary is symptomatic of confusion about bargaining. This confusion results in blindness toward certain outcomes of policy. We shall try to restore accurate vision by explaining the relations among liability law, bargaining, and the economic assumptions of rational behavior.

**BARGAINING PROBLEM**

. . . Polinsky has offered this compact statement of Coase’s theorem: “If transaction costs are zero the structure of the law does not matter because efficiency will result in any case.”1 The transaction costs of bargaining refer to the cost of communicating among the parties (including the value of time used up in sending messages), making side payments (the cost of the transaction, not the value of what is exchanged), and the cost of excluding people from sharing in the benefits exchanged by the parties. In the case of contingent commodities, the cost of obtaining information on the actions of the players is also treated as a transaction cost, so the inefficiencies from moral hazard and adverse selection are swept under the blanket of transaction costs. . . .

The mechanism for achieving efficiency in the absence of competitive markets is bargaining. For example, Calabresi formulated the Coase theorem as follows: “If one assumes rationality, no transaction costs, and no legal impediments to bargaining, all misallocation of resources would be fully cured in the market by bargains.”2 This formulation apparently presupposes a general proposition about bargaining, namely, . . . [b]argaining games with zero transaction costs reach efficient solutions. . . .

In order to evaluate this interpretation of Coase, we must explain the place of bargaining in game theory. A zero-sum game is a game in which total winnings minus total losses equals zero. Poker is an example. A zero-sum game is a game of pure redistribution, because nothing is created or destroyed. By contrast, a coordination game is a game in which the players have the same goal. For example, if a phone conversation is cut off, then the callers face a coordination problem. The connection cannot be restored unless someone dials, but the call will not go through if both dial at once. The players win or lose as a team, and winning is productive, so coordination games are games of pure production.

A bargaining game involves distribution and production. Typically, there is something to be divided called the *stakes*. For example, one person may have a car to sell and the other may have money to spend. The stakes are the money and the car. If the players can agree upon a price for the car, then both of them will benefit. The *surplus* is the joint benefits from cooperation, for example, consumer’s surplus plus seller’s surplus in our example of the car. If the players cannot agree upon how to divide the stakes, then the surplus will be lost. In brief, bargaining games are games in which production is contingent upon agreement about distribution.
The bargaining version of the Coase theorem takes an optimistic attitude toward the ability of people to solve this problem of distribution. The obstacles to cooperation are portrayed as the cost of communicating, the time spent negotiating, the cost of enforcing agreements, etc. These obstacles can all be described as transaction costs of bargaining. Obviously, we can conceive of a bargaining game in which these costs are nil.

A pessimistic approach assumes that people cannot solve the distribution problem, even if there are no costs to bargaining. According to this view, there is no reason why rationally self-interested players should agree about how to divide the stakes. The distribution problem is unsolvable by rational players. To eliminate the possibility of noncooperation, we would have to eliminate the problem of distribution, that is, to convert the bargaining game into a coordination game. But it makes no sense to speak about a bargaining game without a problem of distribution.

Our example of selling a car illustrates the collision of these two viewpoints. The costs of communicating, writing a contract, and enforcing its terms are the transaction costs of buying or selling a car. These costs sometimes constitute an obstacle to exchange. However, there is another obstacle of an entirely different kind, namely the absence of a competitive price. The parties must haggle over the price until they can agree upon how to distribute the gains from trade. There is no guarantee that the rational pursuit of self-interest will permit agreement. If we interpret zero transaction costs to mean that there is no dispute over price, then we have dissolved the bargaining game.

The polar opposite of the optimistic bargaining theorem can be stated as follows: “Bargaining games have noncooperative outcomes even when the bargaining process is costless.” This line of thought suggests the polar opposite of the Coase theorem: “Private bargaining to redistribute external costs will not achieve efficiency unless there is an institutional mechanism to dictate the terms of the contract.” One institutional mechanism to achieve efficiency . . . is a competitive market, which eliminates the power of parties to threaten each other. Another such institution is compulsory arbitration.

The conception of law which is the polar opposite to Coase is articulated in Hobbes and is probably much older. It is based upon the belief that people will exercise their worst threats against each other unless there is a third party to coerce both of them. The third party for Hobbes is the prince or leviathan – we would say dictatorial government – who has unlimited power relative to the bargainers. Without his coercive threats, life would be “nasty, brutish, and short.” We shall refer to the polar opposite of the Coase theorem as the Hobbes theorem.

The Coase theorem identifies the problem of externalities with the cost of the bargaining process, whereas the Hobbes theorem identifies the problem with the absence of an authoritative distribution of the stakes. We shall argue that both theorems are false. However, they are illuminating falsehoods because they offer a guide to structuring law in the interest of efficiency. In real situations faced by policymakers, transaction costs are positive. The Coase theorem suggests that the role of law is to assign entitlements to the party who values them the most, so that the costly process of exchanging the entitlement is unnecessary. There are many similar versions of this proposition, for example, liability for accidents should be assigned to the party who can prevent them at lowest cost, or the cost of breach of contract should be assigned to the party who is the best insurer against nonperformance. If the party who values the entitlement the most cannot be identified, then it should be assigned to the party who can initiate an exchange at the least cost.