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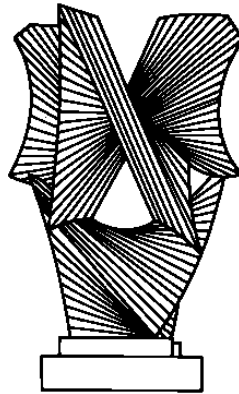
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The Law and Economics of Contract Damages

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**THE LAW SCHOOL
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The Law and Economics of Contract Damages

Douglas G. Baird[†]

Those of us who study contracts tend to forget that most people keep the promises they make. Contract law matters because of the way it affects the behavior of everyone who enters into a contract, not just those who end up in court. In this talk, I want to show that law and economics is useful for exactly this reason. It helps us to identify the effects that legal rules have on behavior.

I.

Let's start with a well-known case and a discrete problem of contract damages. The case is *Missouri Furnace Co. v. Cochrane*.¹ The problem is measuring damages in the case of anticipatory breach.² The time is 1880. In early January, Cochrane promises to deliver 100 tons of coke to Missouri Furnace every working day of the year at a price of \$1.20 a ton. There is a sudden rise in the price of coke in January and Cochrane breaches the contract in mid-February. Missouri Furnace immediately enters into a substantially similar contract with a different seller, but at the much higher price of \$4 a ton.

This \$4-per-ton price is less than the spot price for coke in February and it is the prevailing price for a forward contract in February. The spot price of coke, however, later falls far below \$4. If Missouri Furnace had waited and purchased

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This paper was given as a Coase Lecture at the University of Chicago Law School in February 1994. The purpose of the series is make the principles of law and economics readily accessible to a lay audience. Law and economics scholars will find the ideas presented here familiar. This paper tries to distill the essence of the work of Richard Posner, William Landes, Steven Shavell, Ian Ayres, Robert Gertner, Thomas Jackson, and others. There are many important contributions that I do not cover explicitly. Given the state of the literature, this paper tries only to set out some basic landmarks.

One of the seminal treatments of contract damages remains Richard A. Posner, *Economic Analysis of Law* §4.8, at 117-28 (4th ed. 1992). Other work has also made important contributions. See, e.g., Robert Cooter & Thomas Ulen, *Law and Economics* (1988); Lewis A. Kornhauser, *An Introduction to the Economic Analysis of Contract Remedies*, 57 *Univ. Colo. L. Rev.* 683 (1986); A. Mitchell Polinsky, *An Introduction to Law and Economics* (2d ed. 1989).

¹ 8 F. 463 (W.D. Pa. 1881).

²The first comprehensive treatment of this question is Thomas H. Jackson, "Anticipatory Repudiation" and the Temporal Element in Contract Law: An Economic Inquiry into Contract Damages in Cases of Prospective Nonperformance, 31 *Stan. L. Rev.* 69 (1978). My discussion follows Jackson closely. For a critique, see Alan Schwartz & Robert Scott, *Commercial Transactions: Principles and Policies* 323-25 (1982).

coke throughout the year on the spot market it would have paid on average substantially less than \$4 a ton for its coke.

Missouri Furnace argued that later changes in the price were irrelevant. It was entitled to the difference between the contract price of \$1.20 and \$4, the price of the forward contract at the time of the breach. Cochrane argued that Missouri Furnace was taking its chances when it entered into another forward contract. In its view, Missouri Furnace was entitled only to the difference between \$1.20 and the spot price for the coke at the time it was to be delivered.

The court agreed with Cochrane and held that Missouri Furnace was not entitled to recover for the costs of entering into the forward contract that subsequently proved unfavorable:

[Missouri Furnace was] not bound to enter into such a contract, which might be to [its] advantage or detriment, according as the market might fall or rise. If it fell, [Cochrane] might fairly say that [Missouri Furnace] had no right to enter into a speculative contract, and [Cochrane might fairly] insist that he was not called upon to pay a greater difference than would have existed had [Missouri Furnace] held its hand. . . . As [Missouri Furnace] was not bound to enter into the new forward contract, . . . it did so at its own risk.

I want to use the tools of law and economics to examine whether the court's ruling in *Missouri Furnace* is consistent with its own first principles. The court in *Missouri Furnace*, like common law courts generally, accepts what is now called the expectation damages principle. The aggrieved party is entitled to those damages that put it in the same position that it would be in if the breach had not taken place. As the Uniform Commercial Code tells us in §1-106, remedies for breach of contract are to be "liberally administered to the end that the aggrieved party may be put in as good a position as if the other party had fully performed." Is the decision in *Missouri Furnace* consistent with this idea?

Our intuition probably tells us that there is something suspect about what the court did. The day before Missouri Furnace breached, it had Cochrane's promise to take care of all its needs for coke for the whole year in exchange for its promise to pay \$1.20 a ton. After Cochrane breached, Missouri Furnace had to promise to pay \$4 a ton to get someone else to promise to do the same thing—to satisfy its need for coke for the entire year. To put Missouri Furnace in the same position it had been in before Cochrane broke its promise, it would seem Missouri Furnace needs damages based on the difference between \$4 and \$1.20.

Missouri Furnace entered into its contract with Cochrane in the first place because it had decided not to buy on the spot market. Missouri Furnace bargained for the benefit of a forward contract. To make Missouri Furnace whole,

the right question is how much more it would cost to enter into a forward contract with another seller.

The court in *Missouri Furnace* had it exactly backwards. Missouri Furnace did not want to speculate on the price of coke. It wanted to pay a fixed price for the coke. For that reason Missouri Furnace bargained for a forward contract with Cochrane and it is that benefit which it lost when Cochrane broke his contract.

We cannot stop our analysis here, however. In many cases, there won't be a forward market that the buyer can reenter. It may be much easier to figure out the spot price than the forward price. Even if the forward contract measure is conceptually correct, is there anything the matter with the spot price measure? The price could be higher or lower, but is there anything *systematically* wrong with it? After all, once this rule is in place, why should Missouri Furnace complain? It can just buy coke in the spot market and send Cochrane the bill. How is it any worse off?

Law and economics can answer this question for us. The spot price measure is systematically overcompensatory. In *Missouri Furnace*, the seller wanted the spot price after the fact, but, over the course of many cases and holding everything else constant, the seller more often favors the forward measure and the buyer the spot price.

The intuition is not that hard when one takes a step back. Assume we use the spot price measure. If the seller breaches and the price of coke continues to go up, the seller takes the entire loss. The seller pays the difference between the contract price and the market price. This amount just gets bigger as the spot price of coke rises.

But what if the price moves in the other direction? The seller gets the benefit of a fall in price only until the spot price falls to the original contract price. As soon as the spot price falls below the original contract price, the buyer gets all the benefit of further declines. (In the absence of the breach, in the face of this decline, the buyer would have to buy coke at the contract price, a price that was greater than the market price. The seller's breach frees the buyer from this obligation.) Under the spot price measure, the seller bears the entire risk if the price continues to rise, but does not capture the entire benefit when the price falls.

Let me make the point with a simple example. Before I do, however, I want to make an aside about methodology. My arithmetic example, consistent with the spirit of much of law and economics, simplifies things dramatically. We have to be careful that the assumptions we make do not eliminate the problem that we want to study. But simplifying assumptions have virtues that can offset this potential danger.

By stripping away the unnecessary, we can understand the basic forces at work much better than we could otherwise. I am going to use examples that make all sorts of unrealistic assumptions. I am not going to worry about litigation costs. I am also going to assume that people are risk neutral, even though I believe most people are risk averse. I do this not because economics isn't up to the task, but rather because it isn't necessary given the points I want to make.

The question you need to ask is not whether the model is too simple, but rather whether the basic force that is being identified in the example still remains in richer environments. Indeed, the single largest vice in modern law and economics is that we have become so compulsive about taking everything into account that we get caught up in the mathematics we need to do this. We then lose sight of the

transactions we are trying to understand. As Ronald Coase put it:

In my youth it was said that what was too silly to be said may be sung.
In modern economics it may be put into mathematics.³

Let's look at a simple example. On January 1, you promise to sell me coke at \$15 for delivery on July 1. It is now the end of February. You have decided to retire and you want to call off the contract. But there is now labor unrest in the coke industry. For this reason, I cannot find someone else who is willing to sell July 1 coke for \$15.

Let me tell you exactly what the conditions are. If the labor disputes are resolved and the workers enter a new contract, the price of coke will be \$10 on July 1. But if things do not settle down, mines will shut down and the price of coke will be \$30 on July 1. Either event is equally likely. These possibilities are reflected in the forward price for coke of \$20. (\$20 is the average of \$10 and \$30.)

If you break your contract to sell me coke at \$15, what damages should I recover? How much will it take to put me back into the same situation I was in before the breach? If others offer the same type of contract you offered me, I can simply enter into a forward contract. Because I have to promise this new seller \$20 and I promised you only \$15, I need \$5 in damages to be made whole. (\$5 is the difference between the \$20 market price and the \$15 contract price.)

But what is my recovery if contract law gives me the difference between the spot price and the contract price? There is a 50-50 chance that the spot price will be \$30. In that case, I get the difference between \$30 and the contract price of \$15. This would give me damages of \$15. But let's consider the other possibility. If the spot price drops to \$10, it is below the contract price. I have not been injured by your breach. Indeed, you turned out to do me a big favor by breaching. If I still want coke, I can go out and get it for less than I promised you. I don't need any damages to be made whole.

What are my expected damages then if we use the spot market measure? It is the average of \$15 and \$0 (or \$7.50). An expected damage award of \$7.50 is greater than the \$5 I would get if we used the forward contract measure. The numbers are simple, but there is nothing cooked about them. The effect here is a quite general one. Over the course of many cases, the buyer is going to get more under a spot price measure than under the forward price measure. Because the forward price measure gives the buyer enough money to buy exactly that which the seller promised, the spot price measure gives the buyer more than is needed to make the buyer whole.

We should not rush to conclusions. A court might be justified in departing from the expectation damages principle in a case of anticipatory repudiation. The

³ R.H. Coase, *The Firm, the Market, and the Law* 185 (1988).

spot price may be readily ascertainable and the departure from the expectation damages principle may be negligible. The chance of the price falling below the original contract price may be small. Hence, the spot price may be a good approximation in cases in which the forward price is not available. Moreover, when the forward price is readily available, we do not need to be as worried about getting the damages remedy exactly right. In such cases, breach is less likely. A seller who wanted to retire could, instead of breaching, simply enter into the futures market and thereby find someone else to perform.

We should not, however, do what the court did in *Missouri Furnace*. That court did not recognize that it was departing from the expectation damages principle. If we want to depart from it, that may be fine, but we want to be aware of what we are doing. This naturally leads us to the question of whether the expectation damages rule itself is sensible.

II.

Let us imagine the prototypical contract. I agree to build a machine for you. I want the deal. I think I can make the machine for less than the contract price. You want the deal. You think that the machine will bring you more money over the long haul than the contract price. But none of this is certain. After we enter into the contract, but before performance, conditions can suddenly change. One of us may be tempted to breach. Legal rules can give each of us the right set of incentives. Or, to put it more cautiously, we want to be sure that we do not have legal rules in place that give us the wrong set of incentives. Let us see exactly how expectation damages changes the incentives of parties to a contract.

Let's use another example with stylized facts. We have a buyer who needs a new machine. Buyer could build the machine itself, but Seller has more expertise. It can build a better machine more cheaply. Buyer agrees to buy the machine for \$125. Buyer is excited about getting the machine, because over the course of its life the machine will produce an extra \$200 in income for Buyer. Buyer is going to be \$75 richer with this machine than without it.

Seller is also happy with this deal. Seller believes it will cost about \$100 to make the machine. It could cost more and it could cost less. Seller does not find out how much it will cost to make the machine until just before the time comes to build it, but on average Seller's profits on the deal will equal the difference between the \$125 purchase price and the expected cost of \$100. Seller's expected profit, in other words, is \$25.

What is going to happen if the cost of building the machine suddenly rises? The machine turns out to cost \$175. The contract is now a losing deal for Seller. If Seller performs, Seller will spend \$175 building the machine and will get only

\$125 in return. But the machine is still worth building. The cost of the machine is still less than the \$200 it is worth to Buyer.

We want Seller to take account of the loss Buyer will suffer when it is deciding whether to perform. How can we do this? How can we make Seller compare the cost of the machine to it against the benefits of the machine to Buyer? The answer is that we can use expectation damages.

Let's see how this works. Remember expectation damages. If Seller breaches, Seller has to make Buyer whole. Seller has to pay damages equal to the value of the machine to Buyer (or \$200) less the contract price of \$125. By contrast, if Seller performs, it incurs the costs of building the machine (\$175), but Buyer pays it for the machine and Seller receives \$125. When Seller thinks about breach, it will compare these two amounts: On the one hand, the value of the machine, less the contract price (\$200 minus \$125); on the other, Seller's cost, less the contract price (\$175 minus \$125).

The relationship between these two amounts does not change if we ignore the contract price, the \$125, on both sides of the equation. Hence, under expectation damages, Seller is effectively comparing the \$200 value of the machine to Buyer against its costs of \$175. Seller won't breach because \$200 is greater than \$175. Under expectation damages, Seller is forced to internalize the benefit Buyer gets from the machine and to compare this benefit against its own costs.

Expectation damages forces someone who contemplates breaking a promise to take account of the harm others will suffer in the event of breach. One of the things legal rules can do is force people to internalize costs. We see legal rules with this feature everywhere from tort law to the law of agency.

Expectation damages also has the virtue of being informationally parsimonious. Expectation damages forces Seller to take account of the harm to Buyer when its own costs rise, but it does not require the court to measure Seller's costs. The court needs to know only the value of the machine to Buyer, not the costs to Seller of making it.

This rule, of course, doesn't overcome all our informational problems. The benefit Buyer enjoys from the machine may be hard to determine. Note, however, that it is exactly in those cases that determining Buyer's benefit is hard—when the goods are unique and have a great deal of subjective value—that we typically do not have a rule of expectation damages at common law, but rather the remedy of specific performance.

III.

The account I have given of contract damages so far, however, is incomplete. We must remember one of the central lessons of *The Problem of Social Cost*: It takes

two to tango.⁴ So far we have looked at how expectation damages affects the behavior of Seller. We must also ask how expectation damages affects the behavior of Buyer.⁵

Before we assumed that the new machine would be worth \$200 regardless of what Buyer did. But this is too simple. After Buyer and Seller sign the contract, but before Seller builds the machine, Buyer may have the chance to spend money in anticipation of the delivery of the machine. For example, Buyer might begin training its workers to operate this particular machine so full advantage can be taken of the machine from the moment it arrives.

Let me offer a variation on our example to show how this complicates matters. Let's assume that the machine is worth \$200 if Buyer makes no preparations. But the machine is worth \$240 if Buyer spends \$35 training workers to operate this particular model before the machine is delivered. These training costs are entirely wasted if Seller does not perform.

Let us first ask what damages Seller must pay under an expectation damages regime. When Buyer spends \$35 preparing for the performance, the value of the machine, under our assumptions, will be \$240. Buyer gets a \$240 benefit less the \$125 contract price when Seller performs. Similarly, under a damage measure that puts Buyer in the same position as when Seller makes the machine, Seller must, when it breaches, pay the difference between \$240 and the contract price of \$125.

In all cases, the \$35 investment in preparations increases what Buyer receives by \$40. (Either the value of the performance increases by this amount or the damage recovery increases by this amount.) Hence, under expectation damages, Buyer will always train the workers before the machine arrives.

Do we want Buyer to do this, however? It is not obvious. If we are certain that building the machine makes sense and certain that Seller is going to perform, then we want Buyer to make this investment. The \$35 in training costs brings a \$40 benefit. There is a net gain of \$5. But Seller is not always going to perform.

Let us assume that there is a 25% chance that it will cost so much to make the machine that it will not make sense to build it. Seller would rather pay expectation damages than perform. If the machine is going to be built only 75% of the time, Buyer should discount the \$40 benefit accordingly. Preparations are

⁴ See R.H. Coase, *The Problem of Social Cost*, 3 *J. Law & Econ.* 1 (1960).

⁵ The pathbreaking work that analyzes the incentives of both parties to a contract is Steven Shavell, *Damage Measures for Breach of Contract*, 11 *Bell J. Econ.* 466 (1980). I follow Shavell's work closely in both this section and the next. Here, as elsewhere, there are complications that can be introduced into the analysis. See, e.g., David D. Friedman, *An Economic Analysis of Alternative Damage Rules for Breach of Contract*, 32 *J. Law & Econ.* 281 (1989).

worth \$30 if the machine is built 75% of the time. Because training costs \$35, it is not worth doing if it gives an expected benefit of only \$30.

Expectation damages gives Buyer the incentive to invest too much in preparing for performance. Expectation damages induces Buyer to treat performance as a sure thing. This is wrong. If Buyer were making the machine itself, it would take into account the possibility that it might not acquire the machine and make the decision about training the workers accordingly.

Ideally, a damage measure should induce both Seller and Buyer to behave optimally, just as the ideal tort rule should induce the injurer and the victim to take due care. Can we modify expectation damages to take this into account? There is such a rule.⁶ We could limit the amount of preparation costs that Buyer can recover. We could instruct a court to identify the optimal amount that Buyer should have spent preparing for the new machine. The court could then calculate the value of the machine to Buyer if it had invested this amount. It would then award Buyer the difference between this amount and the contract price.

This rule, however, sacrifices a major benefit of expectation damages. A rule that requires a court to determine the optimal level of preparation is not informationally parsimonious. A damage measure that gives the correct incentives is not any good if a court has no way to calculate it.

IV.

So far we have seen that expectation damages does not give both Buyer and Seller the correct set of incentives, but is there any other rule that we can implement that is better? What about reliance damages? When we reward reliance damages, we award Buyer that amount of money necessary to put Buyer back in the position it would have been in if it had never entered into the contract. Reliance damages is the measure most commonly compared to expectation damages. Let's see how it affects the incentives of Seller and Buyer.

Let's first look at how reliance damages affects Seller's incentives. Under the reliance damage measure, Seller does not have to compensate Buyer for the value of the promise that has been broken. Buyer recovers only her out-of-pocket costs.

Let's see how reliance damages affects Seller's incentives in our example. When Seller breaches, it saves the \$175 costs of building the machine. By contrast, when Seller performs, it enjoys the purchase price \$125 and it avoids having to compensate Buyer for the \$35 preparation costs. This is \$160. Seller compares \$175 to \$160 and is therefore tempted to breach.

⁶ K. Spier & M.D. Whinston, *Legal Restrictions on Damages for Breach of Contract: Strategic Entry, Reliance, and Renegotiation* (Harvard University manuscript 1993).

Note how this comparison under a reliance-based regime differs from the one Seller does under an expectation-based regime. The benchmark against which Seller compares its \$175 costs in an expectation-damages regime is the value of the performance to Buyer (\$240 in our example). The comparable benchmark in a reliance-based regime is the contract price and the amount spent in preparation (\$160 in our example).

Note that the expectation benchmark is going to be consistently greater than the reliance benchmark. We are dealing with situations in which Buyer wants Seller to perform. This means that the machine brings Buyer a net benefit. For this reason, it must be that the value of the machine to Buyer is greater than what Buyer has to give up to get it. The value of the machine, the benchmark for expectation damages, is higher than contract price plus preparation costs, the benchmark for reliance damages.

As our example showed, costs of building the machine can be high enough to give Seller an incentive to breach under reliance damages, but not so high that Seller would breach in an expectations-based regime. Because Seller fully internalizes the costs of breach to Buyer under expectation damages, it follows that Seller is not fully internalizing them under reliance damages. Therefore, under reliance damages Seller does not take full account of the harm that Buyer will suffer in the event of breach.

But what is the effect of reliance damages on Buyer's incentives? Do reliance-based damages work better here than expectation damages?⁷ Remember the problem with Buyer's incentives under expectation damages. Buyer prepares for performance as if performance were certain. Buyer spends \$35 for something that has an expected benefit of only \$30.

What does Buyer do under reliance damages? Buyer doesn't look at what happens when Seller breaches in calculating how much to invest in preparations. Buyer gets the \$35 back in damages. Whenever Seller breaches, the money spent in preparation will be recovered.

Buyer therefore focuses on those cases in which Seller makes the machine and invests in preparations on the assumption that Seller will perform. Looked at from this point of view, Buyer will compare the \$40 benefit with the \$35 cost. But this is a bad idea. Because Buyer is fully compensated for preparation costs if Seller breaches, Buyer does not take the possibility that Seller will breach into account when deciding how much to invest in preparation.

We face exactly the same bad incentive as under expectation damages. Buyer makes investment in preparation as if performance were always going to happen

⁷ For the classic discussion of expectation and reliance damages, see Lon Fuller & William R. Perdue, *The Reliance Interest in Contract Damages (Part I)*, 46 *Yale L.J.* 52 (1936).

even though it will not. Reliance damages are worse than expectation damages as far as the incentives it gives Seller and no better in the incentives it gives Buyer. Indeed, things are worse than this. There is another effect that we need to take into account.

In an expectation damages world, Buyer does not care whether Seller builds the machine. In theory, Buyer gets the same amount in all states of the world. But when Seller breaches in a reliance-based regime, Buyer loses out. Buyer loses a winning deal, a bargain in which it gets a machine that is worth more than the purchase price and preparation costs. Buyer would like to do something to encourage Seller to perform. Is there anything that Buyer can do?

There is. Remember that, under a reliance damages regime, Seller is going to breach when its cost of making the machine is greater than Buyer's preparation costs and the contract price. Buyer can influence Seller's decision about whether to make the machine (and increase the chance of getting a winning deal) by increasing the amount it invests in preparation.

As long as Buyer spends over \$50 in preparation, Seller will perform when its costs are \$175. Seller prefers to incur costs of \$175 and get paid \$125 (for a loss of \$50) rather than repay Buyer's preparation costs of a greater amount. From Buyer's perspective, the additional preparation costs may be a good deal. It spends an extra \$15 and ensures it gets a machine that it values a lot rather than a damage remedy that leaves it no better than when it started.

By increasing the investment in preparation, Buyer makes it less likely that Seller's manufacturing costs exceed the sum of the purchase price and Buyer's preparation costs. The more Buyer spends preparing for performance, the more likely that Seller will be better off making the machine rather than breaching.

Buyer does not make unlimited investments in preparation. After all, Seller will ordinarily make the machine and too much spent on preparing will cut down on Buyer's profits when Seller performs. But some additional expenditures on preparation, even though they don't bring a dollar for dollar increase in the value of the machine, are worth incurring from Buyer's perspective. Reliance damages gives Seller a bad incentive that was not there under expectation damages. Moreover, reliance damages gives Buyer an even worse set of incentives than expectation damages.

I have sketched all this out in very broad strokes. Steven Shavell, Kathy Spier, and others have explored this problem carefully. There are many complications, but the bottom line is pretty clear. Over two important dimensions—the incentives they give to Buyer and Seller respectively—reliance damages are unambiguously worse than expectation damages.

One cannot simply assume that expectation damages are therefore better than reliance damages. For example, reliance damages may be much easier to measure

than expectation damages and in many instances reliance damages are an excellent proxy for expectation damages. But this way of looking at contract damages by looking at a model with very few elements tells us that using reliance damages comes at a cost.

V.

We should be careful about pursuing this mode of analysis too far, however. We have to remember another lesson of *The Problem of Social Cost*. We cannot make sense of legal rules without taking into account the frictions that exist in our world. We live in a world in which transaction costs are everywhere. Thus far, the account I have given of contract damages abstracts from transaction costs. We are bound to gain additional insights if we make an effort to take these into account. Let me spend a little time focusing on how we might do this by drawing on the work of Ian Ayres and Robert Gertner.⁸

Recall the facts of *Hadley v. Baxendale*.⁹ In that case, a miller contracted with a carrier to transport a broken shaft from Gloucester to Greenwich. The shipment was delayed. The miller sued and the court had to decide whether the carrier should be liable for the profits lost for the increased time the mill was shut down. The court ruled that the miller could not recover the profits lost from the delay. The miller had not even told the carrier about its special needs. These damages from delay were not “reasonably foreseeable.” Modern contract law continues to embrace this rule that a person is not entitled to its consequential damages when those damages are not reasonably foreseeable.

Let’s see if we can identify the effects that this rule has. First, it is possible that there is relatively little that the carrier can do to prevent delays, but there is a lot that the miller can do to prevent the harm that can come from delay. A miller, for example, could have a back-up shaft. It is easier for a miller to have a back-up mill shaft than for a carrier to see that nothing gets delayed.

We want a legal rule to induce the person who can take steps to avoid the harm to have the incentive to do so. The rule in *Hadley v. Baxendale* may have this effect. I go to the Himalayas with one of those drug store cardboard cameras. The pictures of me on top of Mt. Everest do not come out. Can I get my money back plus the costs of a new trip? The rule of *Hadley v. Baxendale* tells me that I cannot. I am much better able to buy more suitable equipment that is less likely to fail than the drug store is able to ensure that the cardboard camera it sells me works.

⁸ Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 Yale L.J. 87 (1989). For a critique of their work, see Jason Johnston, Strategic Bargaining and the Economic Theory of Contract Default Rules, 100 Yale L.J. 615 (1990).

⁹ 9 Ex. 341, 156 Eng. Rep. 145 (1854).

My damages—the cost of mounting an expedition to Mt. Everest—are not reasonably foreseeable.

But it is not clear this story does a good job of explaining *Hadley v. Baxendale*. It is worth remembering the source of delay in the actual case. The case arose in the 1850s. The economy was in transition between transport by canal and transport by rail. The carrier had a choice—to send the mill shaft by canal boat or train—and it made the wrong decision given the miller’s need for speed. *Hadley* was a situation in which the carrier, unlike the drug store, could have prevented the harm if it had known about the miller’s special needs.

Second, the court suggests that it might have decided the case differently if the miller had told the carrier about the need for speed. For this reason, it may make sense to ask if we can understand the rule of *Hadley v. Baxendale* by looking explicitly at a transaction cost—the need for the miller to communicate information to the carrier.

Let’s pursue the idea that contract law may provide default rules that induce the miller to disclose information. Once again, we can identify a force that might be at work by giving a simple example. There are two types of millers. One type of miller is low-damage. If Carrier fails to deliver the shaft on time, the low-damage miller will suffer damages of \$100. The other type of miller is high-damage. These millers suffer \$1000 in damages if Carrier fails to deliver the shaft on time. Carrier knows that 90% of the millers are low-damage and that 10% are high-damage, but has no way of telling one type from the other.

There are two ways to ship a shaft—by rail or by canal. Shipping by canal costs \$10. Shipping by rail costs \$15. When you ship by canal, there is a 1% chance of delay. When you ship by rail, there is no chance of delay. There is otherwise no difference between the two forms of transportation. It costs a miller \$2 to contract around whatever legal rule we put in place.

What is going to happen if the *Hadley* legal rule is in effect? In the event of a delay, the carrier has to pay \$100 in damages, regardless of the type of miller the carrier faces. In the absence of a special deal, Carrier ships by canal. It costs Carrier \$10 to ship the mill shaft and Carrier expects to pay \$100 in damages 1% of the time. Carrier therefore charges everyone \$11.

The low-damage millers are fully compensated if there is a delay and they get their mill shafts shipped at Carrier’s cost. It makes sense for Carrier to use the canal boat and pay \$100 in damages one time in a hundred, than spend \$5 extra for rail shipment each time to eliminate delay entirely.

What about the high-damage millers? If they say nothing and there is a delay, they will lose \$1000 and recover only \$100. This \$900 loss happens 1% of the time, so they face expected damages of \$9 in addition to the \$11 they spend on

shipping. Their total costs under this rule are \$20 when their mill shafts are shipped by canal.

High-damage millers are better off identifying themselves as high-damage millers and having the shaft shipped by rail. High-damage millers would rather spend \$2 negotiating a special deal and paying \$15 for shipping by rail, than living with the status quo.

Under the *Hadley* rule, we have a good outcome. The appropriate mode of transportation is used for each type of miller. The \$5 extra cost of shipping by rail is justified when there is a 1% risk of \$1,000 loss, but not when there is a 1% chance of a \$100 loss. In addition, we spend \$2 opting out of the default rule only 10% of the time, so transaction costs are at a minimum.

Do we get the same result under a consequential damages rule? If Carrier shipped all mill shafts by canal, it would pay damages of \$1000 in one time in a thousand and \$100 in nine times in a thousand. Total damages would be \$1900 over the course of 1,000 cases, so expected damages in a single case are therefore \$1.90. Given that shipping by canal costs \$10, total expected transportation costs for each miller are \$11.90.

Under the consequential damages regime, Carrier is better off shipping by canal than by rail if no one opts out and bargains for a special deal. The \$5 extra costs in shipping by rail is greater than the extra damages Carrier expects from shipping by canal boat. Carrier would prefer to face costs of \$11.90, rather than costs of \$15.

Does anyone opt out when we have the consequential damages rule in place? Let's see how each type of miller responds. The high-damage miller is happy to pay \$11.90 and be treated the same as the low-damage millers. The high-damage miller is completely compensated in the event of delay. It is better off than it would be if it identified itself as a high-damage miller and had the mill shaft shipped by rail. If the high-damage miller did this, he would pay \$15 rather than \$11.90.

The low-damage millers would like to bargain for a different deal. They are paying \$11.90 for a service that costs only \$11 to provide. They are subsidizing the high-damage millers. They would be better off if they could agree ahead of time to limit their damages to \$100. If they could do this, the carrier would provide them with the service for \$11 rather than \$11.90. But the low-damage millers can't do this, because it costs them \$2 to negotiate a special deal. The \$0.90 saved from the new deal does not offset the \$2 transaction cost associated with opting out of the legal rule.

The *Hadley* foreseeable damages rule, unlike the consequential damages rule, allows the millers to sort themselves by type. In this example, it brings about a better outcome because Carrier uses the mode of shipping that is most

appropriate for each type of miller. The rule of *Hadley v. Baxendale* forces one party to disclose information to another in way that the alternative rule would not.

The optimal contract default rule cannot focus merely on the bargain parties would strike in a world of no transaction costs. Our contract rules should bear in mind that parties may opt out of them and we need to pay attention to the transaction costs associated with opting out.

Once again, we have to be careful not to draw too many inferences from this example. This example identifies a force that we need to take into account in trying to understand how legal rules work. One cannot, however, use this highly stylized story to make a general point about the law that should govern carriers or anyone else. After all, someone who wants to ship a package quickly today goes to a carrier that specializes in overnight delivery. Millers with special needs sort themselves by going to a different type of carrier. There is no need for a legal rule to induce separation.

Once a market develops and specialized providers of services emerge, we can often see contract provisions that are tailored made to the transaction. We should expect these provisions to depart from the default rules that contract law provides. (And, indeed, the contracts of carriers like Federal Express do not use either of the terms we have discussed. Instead, they provide that the carrier is not liable for *any* consequential damages in the event of a delay.)

Legal rules matter most, not in highly developed markets like the one that exists today for overnight shipping, but in places where commercial practices are still evolving. In this environment, information asymmetries and transaction costs may be quite high. It is here that the information-shifting properties of contract default rules should be studied.

VI.

The work that has been done on the law and economics of contracts is enormous and its achievement substantial. We now have a solid understanding of the way in which contract rules operate. They keep us from wandering astray. For example, they tell us that, given its own starting assumptions, the court in *Missouri Furnace* was wrong. They can identify a way in which reliance damages are unambiguously inferior to expectation damages. They can force us to recognize the different ways in which legal rules operate in a world in which transaction costs are high.

Nevertheless, there is still much work that remains to be done. Contract law operates in a world in which there are many other forces at work—such as custom and reputation. It is one thing to understand the effects that different rules of contract damages have. It is quite another to understand how these rules

interact with other forces at work in a contractual relationship. Integrating the effects of law into the rest of the picture is the next challenge that we face and it is one that will surely begin, like all other quests in law and economics, with a focus on transaction costs.

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