

# ECON 522 - DISCUSSION NOTES ON CONTRACT LAW-PART 3

(Default Rules, Investment in Performance, Paradox of Compensation, Dire Constraints)

## 1 Default Rules

A *default rule* tells the court what to do when a contract fails to specify what should happen in some contingency. Such an omission is called a *gap*, and they are inevitable; it's not feasible to include every possible contingency in a contract. We've considered two types of default rules, as well as regulations:

- A *efficient default rule* is an attempt to fill a gap with the rule the parties would have wanted, had they thought to specify it. Such rules work well when gaps exist due to a high transaction cost of filling them, and not due to strategic omission.
- A *penalty default rule* is an attempt to fill a gap with a rule the parties would not have wanted in order to encourage the parties to disclose information and fill the gap with something efficient. Such rules may work well when gaps are left for strategic reasons.
- *Regulations* are like default rules, but can't be negotiated around.

## 2 Investment in Performance

*Investment in performance* is investment to reduce the probability of breach. For example, suppose I decide to pay a contractor to build me a new house. The contractor can buy fire extinguishers to reduce the chance that the house burns down mid-project, or it can buy the materials ahead of time to secure prices and reduce the probability of breach due to cost increases. But these actions cost something, they aren't free. Thus, when the contractor is deciding whether or not to invest in performance, he will compare how much benefit he gets from the investment (the increased probability of successfully completing the contract and getting paid) to the cost (what the investment costs, and what the expected cost of breach will be based on the probability of breach).

What we saw in lecture was that if expectation damages include reliance, then a promisor will invest the efficient amount in performance, but if reliance is not included in expectation damages then there will be under-investment in performance. The reasoning again has to do with externalities. If I'm the promisor, and if I don't have to pay back reliance in expectation damages, then I won't take into account the fact that the promisee loses the money invested in reliance if I breach. Thus every dollar that I *don't* invest in performance imposes a *negative* externality on the promisee (or, every dollar that I *do* invest imposes a *positive* externality). To force me to internalize this externality, we have to include reliance in expectation damages, as the following example (from lecture) shows.

**Example.** As activities coordinator of the Economics department graduate student association, you have been tasked with organizing the department's annual winter party. Lacking any audio equipment or DJ skills, you contract with a professional DJ service to provide the music. The DJ service must choose which of its two employees to send to your event—Tom, who shows up with probability  $\frac{1}{2}$ , or the slightly less flaky Evan, who shows up with probability  $\frac{2}{3}$  but costs the service an additional \$55. You expect the winter party to make the department \$300 better off as currently planned, but you have the opportunity to purchase an additional keg of cheap beer for \$175 or quality microbrew for \$250; these investments will increase the value of the party to the department by \$300 and \$390 respectively. If the DJ fails to show up, however,

all is lost: Your party will quickly dissolve, and since you will have already tapped your kegs and lack the means to keep them cold, your beer will go bad after the night is over. The keg purchases available to you and the DJs available to the service are common knowledge; assume transaction costs are high.

1. What is the efficient choice of DJ and reliance?
2. What will you and the DJ service choose to do if reliance is included in expectation damages?
3. What will you and the DJ service choose to do if reliance is not included in expectation damages?
4. Is social surplus higher when reliance is included or not included?

**Answers:**

1. We can calculate surplus in each scenario, by applying the formula

$$\text{Total Surplus} = (\text{Probability of Performance})(\text{Benefit from Reliance} + 300) - (\text{Cost of Reliance}) - (\text{Cost of Investment in Performance})$$

This yields surplus amounts of

	No extra keg	Cheap beer	Microbrew
Tom	150	125	95
Evan	145	170	155

So Evan and an extra keg of cheap beer are efficient.

2. If reliance is included in expectation damages, my payoff is just  $(\text{Benefit from Reliance} + 300) - (\text{Cost of Reliance})$  since the DJ service has to compensate me for the lost benefit from reliance when they breach. The DJ service's payoffs are then  $(1 - \text{Probability of Performance})(\text{Benefit from Reliance} + 300) - (\text{Cost of Investment in Performance})$ . So we can write this as a game and find the Nash equilibrium:

	No extra keg	Cheap beer	Microbrew
Tom	(-150, 300)	(-300, 425)	(-345, 440)
Evan	(-155, 300)	(-255, 425)	(-285, 440)

Microbrew is a dominant strategy for you; knowing this, the DJ service will send Evan.

3. If reliance is not included in expectation damages, my payoff is

$$300 + (\text{Probability of Performance})(\text{Benefit from Reliance}) - (\text{Cost of Reliance})$$

and the DJ service's is just  $(1 - \text{Probability of Performance})(300)$ . Again we write this as a game and find the Nash equilibrium:

	No extra keg	Cheap beer	Microbrew
Tom	(-150, 300)	(-150, 275)	(-150, 245)
Evan	(-155, 300)	(-155, 325)	(-155, 310)

Sending Tom is a dominant strategy for the DJ service; knowing this, you will not rely.

- Looking back at the surplus chart, we see that we will end up with surplus of 155 if expectation damages include reliance and 150 if they do not. Hence, we can think of not including reliance as a (constrained) efficient default rule, if the court is incapable of discerning what level of reliance is efficient.

It's worth noting that we could have done better by writing the efficient choices of investment in performance and reliance into our contract. Why didn't we? It might be that you didn't realize it would be worth getting another keg—perhaps you found out at the last minute that the entire Minnesota economics department was visiting—but it also might be that someone strategically failed to disclose information.

Now suppose that, before you sign the contract, the DJ service is unaware that you might purchase an additional keg.

- If reliance is included in expectation damages, are you likely to tell the DJ service about this contingency?
- What if it is not included? Assume that it is possible to specify who will DJ your event in the contract.

### Answers.

- Probably not:

- You can bargain over a fee as if no reliance might take place (say you split the gains from trade, so you would pay \$225) then turn around and rely (increasing your payoff to \$465)
- If you mentioned this possibility, then you could write (Evan, Cheap Beer) into the contract, but if you again split the gains from trade you would end up with a payoff of  $\frac{1}{2} \left( \frac{2}{3}(600) - 55 - 175 \right) = 85$

- Yes, you would: If you don't mention the reliance, they will send Tom, and so you won't rely. This isn't efficient; you know that there are further gains from trade to be split between you, and so you will disclose the possibility of reliance.

Hence, although including reliance in expectation damages is the (constrained) efficient default rule after the contract has been signed, not including reliance works as a penalty default when the DJ service is unaware of your options, enabling an efficient contract to be signed during initial negotiations.

## 3 Math note: Geometric Series

We talked in lecture about how another role of contract law is to promote enduring relationships. We motivated this by examining an investment game played over multiple periods. In the game, player A gives player B some money, and player B invests it. The investment gives a return with 90% probability, and once the return is realized player B can return some of the money to player A or steal the money and run away. The payoff of running away is a one time payment of \$200, and if player B sticks to the contract he gets \$50 every period that there is positive return. We decided that if the present value of \$50 now until forever is greater than \$200, then it's a subgame perfect equilibrium for B to cooperate. Let  $X$  = the present value of getting \$50 today and forever. Then:

$$X = 50 + .9(50) + .9^2(50) + .9^3(50) + \dots = 50 + .9(50 + .9(50) + .9^2(50) + .9^3(50) + \dots) = 50 + .9X$$

$$\Rightarrow X - .9X = 50$$

$$\Rightarrow .1X = 50$$

$$\Rightarrow X = \$500$$

Just a reminder on how to do this type of geometric infinite sum.

## 4 Some thoughts on “Dire Constraints” and other ways to back out of a contract

We saw that there are different ways to set up damages in case of breach, but sometimes we want contracts to simply be annulled, with no penalties for anyone. Recall that there are two main classes of excuses that are reasonable to void a contract: Formation Defenses (we never had a valid contract) and Performance Defenses (things have changed). The main formation defenses that we examined were the “dire constraint” examples: you cannot form a valid contract with someone under duress or in a situation of necessity. We decided that the “under duress” example was pretty straightforward, since, even though at the time of a contract both parties may want the contract enforceable and thus it must be efficient, we don’t want to promote crime. We had a tougher time showing the necessity example made sense. However, we also pointed out that many contracts are formed under some sort of duress (e.g. “give me a raise or I quit”), and we decided that duress is OK as long as the threat is to not create new value, rather than destroy already existing value (e.g. “give me a raise or I destroy all of the office computers” is not OK). One way to think about necessity situations is that if you’re negotiating with someone who really *needs* something, then you’re implicitly threatening to destroy value. Also, someone really in need is probably not at their most rational or competent state of mind.

**Note the difference between mutual mistake and frustration of purpose.** Frustration of purpose means the purpose of the contract no longer exists, which is different than being mistaken about the contract. For example, in the king’s coronation case that established this doctrine, there was no longer a purpose to have the contracts, since there was no longer a coronation parade. The case that established mutual mistake involved a cow which was thought to be barren, but turned out to be fertile (and already pregnant) when sold. In this case the *purpose* of the contract still exists: the buyer wants a cow, but they were mistaken over what they were contracting: barren cow vs. fertile cow.

Last note: Take a look at the performance defense list. We decided that bilateral mistake may be a reason to void a contract, but unilateral mistake often is not. Thus, if I know that a car I’m buying from you is an antique and you don’t, and I subsequently buy the car at a very low price, that’s a valid contract. This “unites knowledge with control,” and gives people incentive to collect information.<sup>1</sup> Presumably I’ll be able to use the car more efficiently since I know its true value, thus the deal is a net increase in social welfare. However, we also decided that one of the roles of contract law is to promote disclosure of information, which would seem to imply that unilateral mistake should be grounds to void a contract. So, sometimes it’s efficient to incentivize disclosure of information, and sometimes it isn’t.

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<sup>1</sup>“Knowledge” is knowing the true value of an object, “control” is ownership.