

Notes on Exculpatory Clauses

An *exculpatory clause* is the negation of a legal ruling (*default rule*) if parties involved explicitly expressed ruling(s) contrary to the default rule. It should be noted that many ostensible exculpatory clauses are either invalid or redundant.

If they are allowed, the final assignment of liability does not depend on the initial allocation of liability. This is because products, like Coke, could simply say that they are not liable for exploding bottles (and it will do so if its profit is higher than when it is not liable) when they are liable by default. In this situation, if it is instead true that it is more profitable for Coke to be liable, it will have no need to print anything on the Coke bottle. This also occurs when Coke is risk neutral and at least some of its customers are risk averse. Thus, the only effect that the rule has when exculpatory clauses are allowed is on the amount of printing or other costs required to write the exculpatory clause (transaction costs). Coke will therefore provide the warranty (insurance policy) if it can charge more for the warranty than it costs Coke to provide the warranty.

Note that the lack of liability by the seller does not imply that the seller does not have the proper incentives to provide the optimal amount of safety. If safety is cost effective (its cost is less than the expected damage reduction from its use), then the seller will provide that safety.

When both sides are equally good insurers and both sides are informed about the risks, the outcome is the same whether the producer is liable or not. Here, it also does not matter whether exculpatory clauses are allowed or not.

Notes on Insurance and Uncorrelated Risks

Most people are risk averse when there is a potential for a *large* downside loss. Hence, people buy insurance since it shifts income from uncertain good states of the world to uncertain bad states of the world. As for the insurance companies, they try to aggregate *uncorrelated* risks. This works because individuals have a much harder time diversifying their portfolio of risks and many of them are risk averse (would pay a bit more than the expected value of a gamble to avoid risks).

When risks are correlated, it is difficult and very expensive to insure. Think of destruction in a war. Even though there is a very small likelihood of a war in the U.S., if it does happen, many houses and other infrastructure will be damaged or destroyed. Therefore, the insurance company will be faced with a tremendous amount of liability and may not be able to cover all of the compensation they previously promised given that the damages occurred at the same time (correlated).

For similar reasons, the smaller the downside loss (when it does occur), the less likely that it will be insured. Individuals are much better at diversifying their own portfolio of mild bad luck. The main reason for not insuring against such contingencies is that diversifying such risks, and the transaction costs of paying premiums and filing claims is likely to swamp any remaining benefits from risk reduction.

Notes on Problems that Insurance Companies Face:

These problems increase insurance rates and often involve social costs. One main problem is moral hazard. It exists when the presence of insurance reduces the person's incentive to take care below

the optimal. To fix this, insurance companies began requiring appropriate behavior, experience ratings, and by having deductibles (first x dollars fall on the insured) and coinsurance.

The second problem is known as Adverse Selection. It occurs when an insurance company does not distinguish between individuals with different levels of risk, and consequently people with higher than average expected risk, who produce a negative expected profit for the insurance company, purchase insurance more often than people with lower than average risk. Insurance companies try to control for this by separating people into different risk pools (a method known as screening) – higher risks pay higher premiums.

Read Gray Boxes: pages 224 – 226, 277 – 267

Notes on Insurance:

We assume that people are, in general, risk averse. This means that they would like to avoid any risks if they can help it.¹ Hence, they purchase insurance since insurance shifts income from uncertain good states of the world to uncertain bad states of the world. For example, an individual who just purchased a home (uncertain good state) may want to make sure that the house is insured in case a fire occurs (bad state). This perspective is in terms of the buyer of the insurance. However, what are insurance companies and why do they offer insurance policies?

Insurance companies exist because they have a comparative advantage in risk spreading and have relatively low transaction costs in doing so. This means that insurance companies are better at aggregating uncorrelated risks. Well, why do we care if the shocks are uncorrelated? This is because, ignoring administrative/transaction costs, the ideal insurance is a transfer from policy-holders in a good state to those in a bad-state when both types of policy-holders purchased insurance beforehand.

Take, for example, a case in which fifty identical houses are in one neighborhood (think of cookie-cutter suburbs). They all decided to create an insurance pool. Given that there is 1/50 chances that a fire occurs and burns down a house that year and that each house is worth approximately \$500,000, the expected loss of each homeowner is $\$500,000/50=\$10,000$. Without insurance, the owner of a burned house loses the value of the house (\$500,000). To avoid such a large downside loss, they will be willing to pay \$10,000 at most if they are risk-neutral. The risk-averse individuals, on the other hand, will be willing to pay more than \$10,000.² The highest amount they will be willing to pay will be based on the amount of risk aversion they have. This means that the less risk an individual homeowner is willing to take, the higher the insurance premium he will be willing to pay to avoid a large downside loss.³

Insurance companies, however, will not offer policies for risks that are highly correlated. Hence, there is usually a clause in home insurance claims explaining that in the case of highly correlated damages from large earthquakes, they do not cover the costs. This is because in the event of correlated risks, a transfer from some policy-holders to others is not applicable.

¹ Undoubtedly, there are exceptions to which this assumption does not apply to but we focus on risk averse individuals. This follows from the logic that if an individual actually like risks (risk-loving), then they would not purchase any insurance

² For those with a background in insurance policies, this is the logic behind why the certainty equivalent is higher than the Expected Value for risk averse individuals.

³ Because of this reasoning, some economists refer to risk-averse individuals as loss-averse.

Moreover, insurance provide payments for pecuniary damages. This occurs in order to smooth out the consumption of individuals throughout their lifetimes. On the other hand, the tort system often provides for non-pecuniary damages.

Notes on Adverse Selection

In addition, individuals will, for the most part, insure more if the amount of damages that they incur when they experience a bad state is high. This is because given the same probability of experiencing a bad state, the higher the downside loss is, the higher the expected loss will become. With this reasoning, we can see that with a higher expected loss, an individual will be more likely to purchase insurance. Now, let's play with an example in which we assume the same value of the downside loss but different probabilities of experiencing a bad state. Let's say that if an individual goes into a bad state, he loses his house (\$500,000). However, two homeowners live in opposite ends of the neighborhood, one beside an old electric post. The one who lives by the electric post has a higher probability of having his house burned (say 65%) while the one away from the post has a probability of 40% of getting into the bad state. If their corresponding amounts of risk aversion are equal, who is more likely to purchase insurance? The one by the electric post, right? Hence, this is the problem known as *adverse selection* that insurance companies try to control for. Given a certain amount of risk aversion, high risk individuals tend to purchase insurance more because they are more likely to claim payments from it. Without any sort of monitoring or screening and more high-risk individuals purchase insurance, insurance companies would have to charge more per policy given a higher probability of claims in the insurance pool. With more expensive insurance, it will not be worth it for some low-risk individuals to purchase insurance so they will drop out from the pool. The insurance pool then becomes even more concentrated with higher-risk individuals and the trend repeats until only high-risk individuals purchase insurance.

****Remember:* Adverse Selection is concerned with the type of individuals who are more likely to purchase insurance.***

It is interesting to note some of the different ways that insurance companies handle the Adverse Selection problem. They try to screen their applicants and separate people into various risk pools with their own corresponding insurance payments. Some of the ways in which potential buyers of the insurance are screened are through their records, family history, genetic makeup, and intellect. The government, on the other hand, can also remove the adverse selection problem by requiring everyone applicable to purchase a given insurance.⁴ In this way, both high risk and low risk types purchase insurance.

Moral Hazard

People may also slack off after purchasing insurance. By this, I mean that once an individual has obtained an insurance policy, he may have less intrinsic incentives to take the optimal amount of care in the activity connected to the insurance. For instance, an individual who just purchased a renter's insurance may decide not to add an additional security lock since if a thief comes in and steals his property in the apartment, the insurance company will reimburse him for the value of the stolen goods.

****Remember:* Moral Hazard is a change in behavior in response to obtaining insurance.***

⁴ By requirement, I mean not just a mandate that is punishable by a fine if not followed.

To control for moral hazard, insurance companies require appropriate behavior (charge higher premiums right after a bad state like a more expensive driver's insurance for drivers who recently had an accident or received a ticket). They also investigate the experience rating of the individuals and impose deductibles (such that they only cover damages beyond a certain monetary value) and co-insurance (covering only a percentage of the cost).

The insured also want Moral Hazard to be controlled. Why? This is because consumers ultimately pay for the insurance. The insurance company then reduces moral hazard until the cost of reducing equals the benefit.

Notes on Assignment of Liability: Exculpatory Clauses Allowed

The court has set default rules on liability. At times, however, it permits the use of exculpatory clauses, some kind of expressed consent by the parties to the contrary of a legal ruling. Many establishments post a version of exculpatory clauses but they do not always apply. This is because they are either invalid (think of a negligent parking lot operator) or redundant (one that repeats a default ruling, such as in Kodak films).

If exculpatory clauses are allowed, the final assignment of liability does not depend on the initial allocation of liability. This is because if an establishment (like coke) finds it more profitable to include an exculpatory clause on its products, it will do so. On the other hand, if it is more profitable to assume liability (since creating an alternative may actually increase profits), then the establishment will assume liability. It will then avoid the costs of posing an exculpatory clause and may just impose a small increase in the price of their goods. In a nutshell, the firm will provide an insurance policy (or warranty), if it can charge more for it than it costs the firm to provide the warranty. Moreover, it does not matter whether the firm is a monopolist or a perfect competitor; when both sides are informed, profit maximization will lead to the optimal allocation of liability.

Notes on the Effect of Liability when Exculpatory Clauses are Not Allowed

If the law does not permit the use of exculpatory clauses, the consumers are informed about the risks, and they can obtain insurance for the same price as the firm, *nothing is changed* when liability is shifted from the firm to the consumer except that the consumer no longer buys an insurance policy with the firm. This, in turn, implies that the consumer will pay less for the good.

However, if one party is a better at mitigating damages or insuring, then that party will do so and it does not matter whoever is liable. This is because both parties can be better off. For instance, if the consumers are liable, coke can produce a nonexploding bottle for 1.5 cents and it costs the consumers 2 cents to insure the bottle, it is better for coke to produce with the nonexploding bottle and sell it at 1.8 cents. If coke is liable, it should still produce with the nonexploding bottle and charge from 1.5 cents to 2 cents for this change.

Following this particular logic, the court should impose liability on the party that has a comparative advantage in insuring. This is because this allocation of liability leads to the optimal outcome. In addition, making the firm liable does not distribute wealth from the firm to consumers since the consumers end up paying for the insurance via a higher price. At most, making the firm liable redistributes income from those who do not incur damages to those who do.

Don't forget the gray boxes on page 272 to 273. Chapter 28's notes are placed on the questions, instead, since they clarify the main concept of the chapter.