One of the most interesting aspects of economics is the study of how various incentives lead to either desired behavior by agents in an economy or to behaviors full of unintended consequences. Past columns of this blog have dealt with various scenarios in which perverse or incorrect incentives lead or have led to behaviors that are economically undesirable. For example, the promotion of electric vehicles, ostensibly with the idea of preserving the environment, leads to two undesirable outcomes. First, the cloud of apparent virtue that many owners surround themselves with leads them to be even less aware of the environmental impact that the production of electricity, some of which they use to power their vehicles, has on the environment by way of carbon emissions and other pollutants at coal-fire power plants. This method of energy production to drive an automobile might likely more damaging than burning gasoline in an internal combustion engine, but the absolute certainty projected by the governmental and media infrastructures persuades consumers that they needn’t even ask the question. Second, the fact that roads are funded by the tax levied on gasoline sales means that owners of electric vehicles do not pay their fair share in the maintenance and upkeep of the highway and buy way system of the United States which benefits everybody. The thought that they might be sponging off of the efforts of others doesn’t even enter into their discourse.

Other examples have been covered in various columns (an inventory will be given below) but it became clear, as I listened to a set of lectures on the financial market, that this column had never offered a rigorous or systematic discussion of how economists view undesirable behaviors and outcomes as a whole and it seemed that now was a good time to make such a comparison.

Generally speaking, economists seem to group these kinds of market failures (their term for the rise of bad behaviors and outcomes) into two broad categories known as [adverse selection](https://en.wikipedia.org/wiki/Adverse_selection) and [moral hazard](https://en.wikipedia.org/wiki/Moral_hazard). Of course, there are many subdivisions possible within each and academics will often disagree with other’s subdivision or set one scenario or another aside as its own category for special consideration, but these two categories seem to provide enough structure to organize the various bad behaviors that perverse incentives can give rise to. At the heart of their distinctions are the questions of timing, risk, and who bears the cost of the market failure.

\*\*Adverse selection occurs when, due to a lack of information (called [information asymmetry](https://en.wikipedia.org/wiki/Information_asymmetry)), the wrong type or class, defined as having characteristics not well suited to the demands of the market, is favored by the incentives of the market. \*\*

A classic example, adapted from one Prof. Collen Fullenkamp’s lectures on the financial markets, is the issuance of a loan. For the sake of this argument, we’ll imagine that borrowers fall into two categories: safe and risky. A safe borrower takes his commitment to the lender seriously by putting the money he obtains towards his stated purpose and by paying off his loan on time. In contrast, the risky borrower doesn’t take his loan commitment seriously and is much more likely to default. If the lender had complete information he could either not issue loans to the risky type or set the interest rate of those loans at a premium to cover the risk. But, due to asymmetric information, even though the applicant knows his type, the lender doesn’t and he is forced, if he wants to stay in business, to make some number of loans to the risky types. Suppose that the lender, having analyzed the behaviors of the two types sets the interest rate for safe and risky borrowers at 5% and 20%, respectively. A naïve lender may then argue to himself that if the borrower where as likely to be safe as risky then a reasonable interest rate would be 12.5%, since this value would return the average interest rate for a group of borrowers without the hassle of trying to discern which type each borrower was.

Any lender trying this approach would quickly find himself in trouble since the safe borrowers, knowing themselves to be worthy of a better rate, would decline to borrow while the risky borrowers, knowing a bargain when they see one, would line up in greater numbers. The lender, by his naïve approach to the numbers, would have created an incentive favoring the risky borrowers over the safe.

\*\*In contrast, a moral hazard is a market failure in which an agent within an economy has an incentive to take on more risk than he ordinarily would because he does not bear the full cost of the risk.\*\*

The case with electric cars discussed above as the opening example is one such scenario but perhaps the most-cited example is the holder of an insurance policy who behaves more recklessly than he would without it under the belief that someone else will bear the cost should things go awry. If rumor is to be believed, this effect is particularly present in car and house rentals and is one of the reasons that a security deposit is demanded before access to both are granted.

The Wikipedia article on adverse selection presents the following table as a comparison between these two effects:

|  |  |  |
| --- | --- | --- |
|  | Adverse Selection | Moral Hazard |
| Asymmetric information regarding the: | type of an individual | the behavior of an individual |
| Results in a bias: | before entering a contract | after entering a contract |

I have may doubts as to using information asymmetry as the organizing principle. It seems that the salient point in the case of the moral hazard is that there is a strong temptation for every individual, regardless of his ultimate decision on whether to act on it. It is more important to eliminate that temptation than to fret over not knowing who will succumb. Focusing on the temptation-aspect of the moral hazard is not only important because it helps us de-incentivize bad behavior it also serves as a valuable organizing principle for seeing that the [free rider](https://en.wikipedia.org/wiki/Free-rider_problem) and [tragedy of the commons](https://en.wikipedia.org/wiki/Tragedy_of_the_commons) problems are aspects of the moral hazard.

Finally, as promised, here is the inventory of past columns that have touched upon one or the other of these effects.

Adverse Selection:

* [How Neutral is Net Neutrality?](http://commoncents.blogwyrm.com/?p=324)
* [Economics of Elections](http://commoncents.blogwyrm.com/?p=805)
* [Vicious Cycle](http://commoncents.blogwyrm.com/?p=441)
* [Gunless and Gunrunners](http://commoncents.blogwyrm.com/?p=131)

Moral Hazard:

* [Free Riders on the Mayflower](http://commoncents.blogwyrm.com/?p=45)
* [Free Electric Riders](http://commoncents.blogwyrm.com/?p=73)
* [Who’s Risk is it Anyway?](http://commoncents.blogwyrm.com/?p=164)
* [Tesla is No Free Lunch](http://commoncents.blogwyrm.com/?p=387)
* [Telemarketing, Traffic, and the Tragedy of the Commons](http://commoncents.blogwyrm.com/?p=542)