FEATURED ARTICLE | JUNE 5, 2006

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Incentives Matter

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Towards the end of the 18th century, England began sending convicts to Australia. The transportation was privately provided but publicly funded. A lot of convicts died along the way, from disease due to overcrowding, poor nutrition and little or no medical treatment. Between 1790 and 1792, 12% of the convicts died, to the dismay of many good-hearted English men and women who thought that banishment to Australia shouldn't be a death sentence. On one ship 37% perished.

"The government decided to pay the captains a bonus for each convict that walked off the boat in Australia alive."

How might captains be convinced to take better care of their human cargo?

You might lecture the captains on the cruelty of death, and the clergy from their pulpits did just that. You might increase the funds allotted by the state provided to the captains based on the number of passengers they carried. You might urge the captains to spend more of those funds for the care of their passengers. (Some entrepreneurial captains hoarded food and medicine meant for the convicts and sold them upon arrival in Australia.) You might urge the captains to spend the money more carefully. Shame them into better behavior.

But a different approach was tried. The government decided to pay the captains a bonus for each convict that walked off the boat in Australia alive.

This simple change worked like a charm. Mortality fell to virtually zero. In 1793, on the first three boats making the trip to Australia under the new set of incentives, a single convict died out of 322 transported, an amazing improvement.

I don't think the captains got any more compassionate. They were just as greedy and mean-spirited as before. But under the new regulations, they had an incentive to act as if they were compassionate. The change in incentives aligned the self-interest of the captains with the self-interest of the convicts. Convicts were suddenly more valuable alive than dead. The captains responded to the incentives.

Incentives matter. The most famous example in economics is the idea of the demand curve—when something gets more expensive, people buy less of it. When it gets less expensive, people buy more of it.

Some find this bedrock principle of economics hard to accept, based on introspection. "When the price of gas goes up, I still buy gasoline," says the skeptic. Or in its more extreme form: "You need gasoline, so people will keep buying it even when it gets more expensive."

You may still buy gasoline when it gets more expensive. But you will try and find ways to buy less. Not necessarily zero, less.

Thinking about how people respond to the incentive of the higher price opens up a world of possibility beyond the cold turkey of going without. When gasoline gets more expensive, some people car pool, some people drive at slower speeds, some try and combine multiple errands into one trip. Let the price of gasoline rise enough and be expected to stay higher for a long enough period of time and some people will buy a car that gets better mileage, move closer to work or postpone or cancel that order for the pleasure boat that takes $400 to fill its tank when gasoline is $3 a gallon.

Not everyone will do all of these things. Some people will do very few of them. But the overall effect of an increase in the price of gasoline is to discourage the purchase of gasoline.

And as something gets less expensive, we want to have more of it, everything else held equal.

People respond to incentives. But how they respond can be very creative. During a period of hyperinflation in Chile, the story is told that the government's imposition of a maximum price made it unprofitable for suppliers to sell bread—the legal maximum was below the cost of production.

A simple prediction would be that bread would disappear from the shelves. But that prediction underestimated the ingenuity of bakers in responding to incentives. Their first response was to shrink the loaf of bread until the cost of a loaf fell below the legally mandated price. The government then mandated a minimum weight for a loaf of bread. The bakers responded by selling the bread raw, so that the weight of the raw dough could meet the minimum. As inflation climbed, it became unprofitable to sell even the raw dough to meet the minimum. So the enterprising bakers sold the raw dough in bags with water so the minimum weight could be achieved.

Despite a common belief that economics is about money, non-monetary incentives can be just as important as monetary incentives in affecting behavior. Time is one important non-monetary factor in what we do.

Suppose you're a huge Beatles fan. It is announced that through a miracle, the Beatles will be reunited for one farewell concert one month from today. All four Beatles will be appearing in a small intimate theater near your house. You're ecstatic until you hear that the concert is free and that seats for the concert will be handed out on a first-come, first-served basis: the first 250 fans in line be allowed to hear the Beatles.

The concert isn't free. It's going to be very expensive—if you want to attend you're going to have live in front of the theater for a month. Otherwise, you won't be one of the first 250. And it might be dangerous as well. When goods are priced so that people want to buy a lot more than is available, people don't always line up courteously.

On the dangers, see **this Richmond Times-Dispatch article**.

Yogi Berra once famously remarked (or at least supposedly remarked) when asked about a popular restaurant, "It's so crowded, nobody goes there any more." Like all good Yogiisms, the statement's absurd but closer examination reveals a hidden truth. What he could have meant was that is was so crowded that a person with a high value of time or a desire for a more relaxed atmosphere had better alternatives. Or to say it more succinctly, "It's so crowded, nobody *who's anybody* goes there

For some Yogiisms, see **Wikipedia.**

anymore." In fact, Yogi may have meant the opposite—it's so crowded, you have to be somebody to get in—the owners keep out the riff-raff.

So money isn't all that matters. Adding time to the list of incentives isn't enough either. People care about their reputation and fame and their conscience. They care about glory and patriotism and love. All of these can act as incentives.

When an economist says that incentives matter, the non-economist sometimes hears only that people respond to prices. But what the economist really means is that holding everything else constant—the amount of fame or shame, glory or humiliation—and increase the monetary reward, and people will do more of it. Lower the monetary reward while holding those non-monetary factors constant and people will do less of it.

Economists often focus on monetary incentives because they are observable and usually easier to change than non-monetary incentives. An economist will say that when the income of doctors goes up, more people will want to be doctors. People often misunderstand this statement to imply that doctors are motivated by money rather than non-monetary motives to be doctors. But all it means is that holding the non-monetary satisfactions of medicine constant, increasing the monetary satisfaction will make medicine more attractive relative to other professions. If we could measure or stimulate the non-monetary satisfactions of doctors, those factors would be just as relevant as the monetary ones.

The difference between monetary and non-monetary incentives can be seen in the shortage of kidneys available for transplant. It is currently against the law to buy and sell kidneys in the United States. The current supply of kidneys relies on altruism. Thousands of people each year endure the risk of death to donate a kidney to a loved one or a stranger. Others give up their kidneys after death. This willingness to donate is motivated by a desire to help others and that is a powerful incentive. But it is not a sufficiently powerful incentive to create a supply equal to the demand. Thousands die each year waiting for a kidney transplant.

If we want to *increase* the number of kidneys available to patients with failing kidneys, we're back in the situation of the Australian convicts and those tough captains. We need to increase the incentive to provide kidneys. We can exhort people to give up their kidneys—running more public service announcements and trying to convey the satisfactions that come from helping others. But allowing people to buy and sell a kidney legally is more likely to increase the number of kidneys available for transplanting than begging and pleading.

Listen to Richard Epstein discuss the market for kidneys in this **EconTalk podcast.**

The role of incentives plays a critical role in the way that individuals treat their own property relative to the property of others or communal property. People are more likely to change the oil in their own car relative to a rental car. Private farm plots in the former Soviet Union outperformed communal farms there.

The Pilgrims in Plymouth used communal farming their first winter but then after a dismal harvest that first year, moved to a system where there was a more direct incentive other than guilt and honor. Governor Bradford summed it up in his journal:

> "And so assigned to every family a parcel of land, according to the proportion of their number, for that end, only for present use (but made no division for inheritance) and ranged all boys and youth under some family. This had very good success, for it made all hands very industrious, so as much more corn was planted than otherwise would have been by any means the Governor or any other could use, and saved him a great deal of

> trouble, and gave far better content. The women now went willingly into the field, and took their little ones with them to set corn; which before would allege weakness and inability; whom to have compelled would have been thought great tyranny and oppression."

Not only were all hands more industrious—the incentive to harvest communal corn before it was fully ripe, a problem equivalent to poaching in the case of wildlife, was also eliminated.

Incentives matter. Tangible rewards, monetary or in-kind—as in the case of corn in Plimouth—are very powerful. The focus on monetary incentives creates a straw man—homo economicus, a mercenary who will do anything for a price. I used to tell my students that I would be happy to let them purchase an "A" in my class. The price was the GDP of France. My point was that my price was sufficiently high that it was essentially infinite. But truth be told, I like to think that even an exorbitant bribe would have been unsuccessful.

But even if I would have kept my honor and integrity intact in the face of an enormous bribe, I can imagine a non-monetary price where I would forfeit even my honor. I suspect I would gladly sell a grade or do something else dishonest for much less than the GDP of France if it meant saving the life of one of my children. Properly defined to include non-monetary costs and benefits, perhaps every man really does have his price.

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