
SUPERFREAKONOMICS

Global Cooling, Patriotic Prostitutes, and Why Suicide Bombers Should Buy Life Insurance

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AN EXPLANATORY NOTE

The time has come to admit that in our first book, we lied. Twice.

The first lie appeared in the introduction, where we wrote that the book had no “unifying theme.” Here’s what happened. Our publishing house—nice people, smart people—read the first draft of our book and cried out in alarm: “This book has no unifying theme!” Instead, the manuscript was a random heap of stories about cheating teachers, self-dealing Realtors, and crack-selling mama’s boys. There was no nifty theoretical foundation upon which these stories could be piled to miraculously add up to more than the sum of their parts.

Our publisher’s alarm only grew when we proposed a title for this mishmash of a book: *Freakonomics*. Even over the phone, you could hear the sound of palms smacking foreheads: This pair of bozos just delivered a manuscript with no unifying theme and a nonsensical, made-up title!

It was duly suggested that in the published book we concede right up front, in the introduction, that we had no unifying theme. And so, in the interest of keeping the peace (and our book advance), that’s what we did.

But in truth, the book did have a unifying theme, even if it wasn’t obvious at the time, even to us. If pressed, you could boil it down to four words: People respond to incentives. If you wanted to get more expansive, you might say this: People respond to incentives, although not necessarily in ways that are predictable or manifest. Therefore, one of the most powerful laws in the universe is the law of unintended consequences. This applies to schoolteachers and Realtors and crack dealers as well as expectant mothers, sumo wrestlers, bagel salesmen, and the Ku Klux Klan.

The issue of the book’s title, meanwhile, still lay unresolved. After several months and dozens of suggestions, including *Unconventional Wisdom* (eh), *Ain’t Necessarily So* (bleh), and *E-Ray Vision* (don’t ask), our publisher finally decided that perhaps *Freakonomics* wasn’t so bad after all—or, more precisely, it was so bad it might actually be good.

Or maybe they were simply exhausted.

The subtitle promised that the book would explore “the hidden side of everything.” This was our second lie. We were sure reasonable people would view such a phrase as intentional hyperbole. But some readers took it literally, complaining that our stories, as motley a collection as they were, did not in fact address “everything.” And so, while the subtitle was not intended as a lie, it turned out to be one. We apologize.

Our failure to include “everything” in the first book, however, had an unintended consequence of its own: it created the need for a second book. But let it be noted straightaway that this second book and the first book combined still do not literally comprise “everything.”

The two of us have now been collaborators for several years. It began when one of us (Dubner, an author and journalist) wrote a magazine article about the other (Levitt, an academic economist). Adversaries in the beginning, albeit civil ones, we joined forces only when several publishers began to offer significant sums of money for a book. (Remember: people respond to incentives—and, despite the common perception, economists and journalists are people too.)

We discussed how the money should be divided. Almost immediately we came to an impasse, for each of us insisted on a 60–40 split. Upon realizing that we each thought the other guy should get 60 percent, we knew we’d have a good partnership. So we settled on 50–50 and got to work.

We didn't feel much pressure writing that first book because we genuinely thought few people would read it. (Levitt's father agreed and said it was "immoral" to accept even a penny up front.) These low expectations liberated us to write about any-and everything we found worthwhile. So we had a pretty good time.

We were surprised and thrilled when the book became a hit. As profitable as it might have been to pump out a quick follow-up—think *Freakonomics for Dummies* or *Chicken Soup for the Freakonomics Soul*—we wanted to wait until we had done enough research that we couldn't help but write it all down. So here we finally are, more than four years later, with a second book that we believe is easily better than the first. Of course it is up to you, not us, to say if that is true—or perhaps if it's as bad as some people feared our first book might be.

If nothing else, our publishers have resigned themselves to our unyielding bad taste: when we proposed that this new book be called *SuperFreakonomics*, they didn't even blink.

If this book is any good, you have yourselves to thank as well. One of the benefits of writing books in an age of such cheap and easy communication is that authors hear directly from their readers, loudly and clearly and in great number. Good feedback is hard to come by, and extremely valuable. Not only did we receive feedback on what we'd already written but also many suggestions for future topics. Some of you who sent e-mails will see your thoughts reflected in this book. Thank you.

The success of *Freakonomics* had one particularly strange by-product: we were regularly invited, together and separately, to give lectures to all sorts of groups. Often we were presented as the very sort of "experts" that in *Freakonomics* we warned you to watch out for—people who enjoy an informational advantage and have an incentive to exploit it. (We tried our best to disabuse audiences of the notion that we are actually expert in anything.)

These encounters also produced material for future writings. During a lecture at UCLA, one of us (Dubner) talked about how people wash their hands after using the bathroom far less often than they admit. Afterward, a gentleman approached the podium, offered his hand, and said he was a urologist. Despite this unappetizing introduction, the urologist had a fascinating story to tell about hand-washing failures in a high-stakes setting—the hospital where he worked—and the creative incentives the hospital used to overcome these failures. You'll find that story in this book, as well as the heroic story of another, long-ago doctor who also fought poor hand hygiene.

At another lecture, to a group of venture capitalists, Levitt discussed some new research he was doing with Sudhir Venkatesh, the sociologist whose adventures with a crack-selling gang were featured in *Freakonomics*. The new research concerned the hour-by-hour activities of street prostitutes in Chicago. As it happened, one of the venture capitalists (we'll call him John) had a date later that evening with a \$300-an-hour prostitute (who goes by the name of Allie). When John arrived at Allie's apartment, he saw a copy of *Freakonomics* on her coffee table.

"Where'd you get that?" John asked.

Allie said a girlfriend of hers who was also "in the business" had sent it to her.

Hoping to impress Allie—the male instinct to impress the female is apparently strong even when the sex is already bought and paid for—John said he'd attended a lecture that very day by one of the book's authors. As if that weren't coincidence enough, Levitt mentioned he was doing some research on prostitution.

A few days later, this e-mail landed in Levitt's in-box:

I heard through a mutual acquaintance that you are working on a paper about the economics of prostitution, correct? Since I am not really sure if this is a serious project or if my source was putting me on, I just thought I would put myself out there and let you know I would love to be of assistance.

Thanks, Allie

One complication remained: Levitt had to explain to his wife and four kids that he wouldn't be home the following Saturday morning, that instead he'd be having brunch with a prostitute. It was vital, he argued, to meet with her in person to accurately measure the shape of her demand curve. Somehow, they bought it.

And so you will read about Allie in this book as well.

The chain of events that led to her inclusion might be attributed to what economists call cumulative advantage. That is, the prominence of our first book produced a series of advantages in writing a second book that a different author may not have enjoyed. Our greatest hope is that we have taken proper advantage of this advantage.

Finally, while writing this book we have tried to rely on a bare minimum of economics jargon, which can be abstruse and unmemorable. So instead of thinking about the Allie affair as an example of cumulative advantage, let's just call it...well, freaky.

INTRODUCTION

PUTTING THE FREAK IN ECONOMICS

Many of life's decisions are hard. What kind of career should you pursue? Does your ailing mother need to be put in a nursing home? You and your spouse already have two kids; should you have a third?

Such decisions are hard for a number of reasons. For one, the stakes are high. There's also a great deal of uncertainty involved. Above all, decisions like these are rare, which means you don't get much practice making them. You've probably gotten pretty good at buying groceries, since you do it so often, but buying your first house is another thing entirely.

Some decisions, meanwhile, are really, really easy.

Imagine you've gone to a party at a friend's house. He lives only a mile away. You have a great time, perhaps because you drank four glasses of wine. Now the party is breaking up. While draining your last glass, you dig out your car keys. Abruptly you conclude this is a bad idea: you are in no condition to drive home.

For the past few decades, we've been rigorously educated about the risks of driving under the influence of alcohol. A drunk driver is thirteen times more likely to cause an accident than a sober one. And yet a lot of people still drive drunk. In the United States, more than 30 percent of all fatal crashes involve at least one driver who has been drinking. During the late-night hours, when alcohol use is greatest, that proportion rises to nearly 60 percent. Overall, 1 of every 140 miles is driven drunk, or 21 billion miles each year.

Why do so many people get behind the wheel after drinking? Maybe because—and this could be the most sobering statistic yet—drunk drivers are rarely caught. There is just one arrest for every 27,000 miles driven while drunk. That means you could expect to drive all the way across the country, and then back, and then back and forth three more times, chugging beers all the while, before you got pulled over. As with most bad behaviors, drunk driving could probably be wiped out entirely if a strong-enough incentive were instituted—random roadblocks, for instance, where drunk drivers are executed on the spot—but our society probably doesn't have the appetite for that.

Meanwhile, back at your friend's party, you have made what seems to be the easiest decision in history: instead of driving home, you're going to walk. After all, it's only a mile. You find your friend, thank him for the party, and tell him the plan. He heartily applauds your good judgment.

But should he? We all know that drunk driving is terribly risky, but what about drunk walking? Is this decision so easy?

Let's look at some numbers. Each year, more than 1,000 drunk pedestrians die in traffic accidents. They step off sidewalks into city streets; they lie down to rest on country roads; they make mad dashes across busy highways. Compared with the total number of people killed in alcohol-related traffic accidents each year—about 13,000—the number of drunk pedestrians is relatively small. But when you're choosing whether to walk or drive, the overall number isn't what counts. Here's the relevant question: on a per-mile basis, is it more dangerous to drive drunk or walk drunk?

The average American walks about a half-mile per day outside the home or workplace. There are some 237 million Americans sixteen and older; all told, that's 43 billion miles walked each year by people of driving age. If we assume that 1 of every 140 of those miles are walked drunk—the same proportion of miles that are driven drunk—then 307 million miles are walked drunk each year.

Doing the math, you find that on a per-mile basis, a drunk walker is eight times more likely to get killed than a drunk driver.

There's one important caveat: a drunk walker isn't likely to hurt or kill anyone other than her-or himself. That can't be said of a drunk driver. In fatal accidents involving alcohol, 36 percent of the victims are either passengers, pedestrians, or other drivers. Still, even after factoring in the deaths of those innocents, walking drunk leads to five times as many deaths per mile as driving drunk.

So as you leave your friend's party, the decision should be clear: driving is safer than walking. (It would be even safer, obviously, to drink less, or to call a cab.) The next time you put away four glasses of wine at a party, maybe you'll think through your decision a bit differently. Or, if you're too far gone, maybe your friend will help sort things out. Because friends don't let friends walk drunk.

If you had the option of being born anywhere in the world today, India might not be the wisest choice. Despite its vaunted progress as a major player in the global economy, the country as a whole remains excruciatingly poor. Life expectancy and literacy rates are low; pollution and corruption are high. In the rural areas where more than two-thirds of Indians live, barely half of the households have electricity and only one in four homes has a toilet.

It is especially unlucky to be born female, because many Indian parents express a strong "son preference." Only 10 percent of Indian families with two sons want another child, whereas nearly 40 percent of families with two daughters want to try again. Giving birth to a baby boy is like giving birth to a 401(k) retirement fund. He will grow up to be a wage-earning man who can provide for his parents in their sunset years and, when the time comes, light the funeral pyre. Having a baby girl, meanwhile, means relabeling the retirement fund a dowry fund. Although the dowry system has long been under assault, it is still common for a bride's parents to give the groom or his family cash, cars, or real estate. The bride's family is also expected to pay for the wedding.

The U.S. charity Smile Train, which performs cleft-repair surgery on poor children around the world, recently spent some time in Chennai, India. When one local man was asked how many children he had, he answered "one." The organization later learned that the man did have a son—but he also had five daughters, who apparently didn't warrant a mention. Smile Train also learned that midwives in Chennai were sometimes paid \$2.50 to smother a baby girl born with a cleft deformity—and so, putting the lure of incentives to good use, the charity began offering midwives as much as \$10 for each baby girl they took to a hospital for cleft surgery.

Girls are so undervalued in India that there are roughly 35 million fewer females than males in the population. Most of these "missing women," as the economist Amartya Sen calls them, are presumed dead, either by indirect means (the girl's parents withheld nutrition or medical care, perhaps to the benefit of a brother), direct harm (the baby girl was killed after birth, whether by a midwife or a parent), or, increasingly, a pre-birth decision. Even in India's smallest villages, where electricity might be sporadic and clean water hard to find, a pregnant woman can pay a technician to scan her belly with an ultrasound and, if the fetus is female, have an abortion. In recent years, as these sex-selective abortions have become more common, the male-female ratio in India—as well as in other son-worshipping countries like China—has grown even more lopsided.

A baby Indian girl who does grow into adulthood faces inequality at nearly every turn. She will earn less money than a man, receive worse health care and less education, and perhaps be subjected to daily atrocities. In a national health survey, 51 percent of Indian men said that wife-beating is justified under certain circumstances; more surprisingly, 54 percent of women agreed—if, for instance, a wife burns dinner or leaves the house without permission. More than 100,000 young Indian women die in fires every year, many of them "bride burnings" or other instances of domestic abuse.

Indian women also run an outside risk of unwanted pregnancy and sexually transmitted disease, including a high rate of HIV/AIDS. One cause is that Indian men's condoms malfunction more than 15 percent of the time. Why such a high fail rate? According to the Indian Council of Medical Research, some 60 percent of Indian men have penises too small for the condoms manufactured to fit World Health Organization specs. That was the conclusion of a two-year study in which more than 1,000 Indian men had their penises measured and photographed by scientists. "The condom," declared one of the researchers, "is not optimized for India."

With such a multitude of problems, what should be done to improve the lives of Indian women, especially the majority who live in the countryside?

The government has tried to help by banning dowries and sex-selective abortions, but these laws have largely been ignored. A number of monetary interventions have also been designed for Indian women. These include Apni Beti, Apna Dhan ("My Daughter, My Pride"), a project that pays rural women not to abort female babies; a vast micro-credit industry that makes small-business loans to women; and an array of charitable programs launched by a veritable alphabet soup of international aid agencies.

The Indian government has also vowed to make smaller condoms more readily available.

Unfortunately, most of these projects have proven complicated, costly, and, at best, nominally successful.

A different sort of intervention, meanwhile, does seem to have helped. This one, like the ultrasound machine, relies on technology, but it had little to do with women per se and even less to do with baby-making. Nor was it administered by the Indian government or some multinational charity. In fact, it wasn't even designed to help anyone at all, at least not the way we normally think of "help." It was just a plain old entrepreneurial development, called television.

State-run broadcast TV had been around for decades, but poor reception and a dearth of programming meant there simply wasn't much reason to watch. But lately, thanks to a steep fall in the price of equipment and distribution, great swaths of India have been wired for cable and satellite TV. Between 2001 and 2006, some 150 million Indians received cable for the first time, their villages suddenly crackling with the latest game shows and soap operas, newscasts and police procedurals, beamed from the big cities of India and abroad. TV gave many Indian villagers their first good look at the outside world.

But not every village got cable TV, and those that did received it at different times. This staggered introduction produced just the kind of data—a lovely natural experiment—that economists love to exploit. The economists in this case were a pair of young Americans, Emily Oster and Robert Jensen. By measuring the changes in different villages based on whether (and when) each village got cable TV, they were able to tease out the effect of TV on Indian women.

They examined data from a government survey of 2,700 households, most of them rural. Women fifteen and older were asked about their lifestyles, preferences, and familial relationships. As it turned out, the women who recently got cable TV were significantly less willing to tolerate wife-beating, less likely to admit to having a son preference, and more likely to exercise personal autonomy. TV somehow seemed to be empowering women in a way that government interventions had not.

What caused these changes? Did rural Indian women become more autonomous after seeing cosmopolitan images on their TV sets—women who dressed as they pleased, handled their own money, and were treated as neither property nor baby-making machines? Or did such programming simply make the rural women feel embarrassed to admit to a government surveyor that they were treated so badly?

There is good reason to be skeptical of data from personal surveys. There is often a vast gulf between how people say they behave and how they actually behave. (In economist-speak, these two behaviors are known as declared preferences and revealed preferences.) Furthermore, when it costs almost nothing to fib—as in

the case of a government survey like this one—a reasonable amount of fibbing is to be expected. The fibs might even be subconscious, with the subject simply saying what she expects the surveyor wants to hear.

But when you can measure the revealed preference, or the actual behavior, then you're getting somewhere. That's where Oster and Jensen found persuasive evidence of real change. Rural Indian families who got cable TV began to have a lower birthrate than families without TV. (In a country like India, a lower birthrate generally means more autonomy for women and fewer health risks.) Families with TV were also more likely to keep their daughters in school, which suggests that girls were seen as more valuable, or at least deserving of equal treatment. (The enrollment rate for boys, notably, didn't change.) These hard numbers made the self-reported survey data more believable. It appears that cable TV really did empower the women of rural India, even to the point of no longer tolerating domestic abuse.

Or maybe their husbands were just too busy watching cricket.

When the world was lurching into the modern era, it grew magnificently more populous, and in a hurry. Most of this expansion took place in urban centers like London, Paris, New York, and Chicago. In the United States alone, cities grew by 30 million residents during the nineteenth century, with half of that gain in just the final twenty years.

But as this swarm of humanity moved itself, and its goods, from place to place, a problem emerged. The main mode of transportation produced a slew of the by-products that economists call negative externalities, including gridlock, high insurance costs, and far too many traffic fatalities. Crops that would have landed on a family's dinner table were sometimes converted into fuel, driving up food prices and causing shortages. Then there were the air pollutants and toxic emissions, endangering the environment as well as individuals' health.

We are talking about the automobile—aren't we?

No, we're not. We are talking about the horse.

The horse, a versatile and powerful helpmate since the days of antiquity, was put to work in many ways as modern cities expanded: pulling streetcars and private coaches, hauling construction materials, unloading freight from ships and trains, even powering the machines that churned out furniture, rope, beer, and clothing. If your young daughter took gravely ill, the doctor rushed to your home on horseback. When a fire broke out, a team of horses charged through the streets with a pumping truck. At the turn of the twentieth century, some 200,000 horses lived and worked in New York City, or 1 for every 17 people.

But oh, the troubles they caused!

Horse-drawn wagons clogged the streets terribly, and when a horse broke down, it was often put to death on the spot. This caused further delays. Many stable owners held life-insurance policies that, to guard against fraud, stipulated the animal be euthanized by a third party. This meant waiting for the police, a veterinarian, or the ASPCA to arrive. Even death didn't end the gridlock. "Dead horses were extremely unwieldy," writes the transportation scholar Eric Morris. "As a result, street cleaners often waited for the corpses to putrefy so they could more easily be sawed into pieces and carted off."

The noise from iron wagon wheels and horseshoes was so disturbing—it purportedly caused widespread nervous disorders—that some cities banned horse traffic on the streets around hospitals and other sensitive areas.

And it was frighteningly easy to be struck down by a horse or wagon, neither of which is as easy to control as they appear in the movies, especially on slick, crowded city streets. In 1900, horse accidents claimed the