

# FREAKONOMICS

A ROGUE ECONOMIST EXPLORES  
THE HIDDEN SIDE OF EVERYTHING

BY STEVEN D. LEVITT AND STEPHEN J. DUBNER

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## ■ What the Bagel Man Saw

*An Accidental Glimpse at Human Nature*

By STEPHEN J. DUBNER and STEVEN D. LEVITT

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Once upon a time, Paul F. dreamed big dreams. While studying agricultural economics at Cornell, he wanted to end world hunger. Instead, after doctoral work at M.I.T., he wound up taking a job with a research institute in Washington, analyzing the weapons expenditures of the United States Navy. This was in 1962. After four years came more of the same: analyst jobs with the Bureau of the Budget, the Institute for Defense Analyses, the President's Commission on Federal Statistics. Still, he dreamed. He had "potent research ideas," as he recalls them now, which the Environmental Protection Agency failed to appreciate. He developed a statistical means of predicting cancer clusters, but because he was an economist and not a doctor, he couldn't make headway with the National Cancer Institute. He still loved the art of economics -- the data-gathering, the statistical manipulation, the problem-solving -- but it had led him to a high-level dead end. He was well paid and unfulfilled. "I'd go to the office Christmas party, and people would introduce me to their wives or husbands as the guy who brings in the bagels," he says. "'Oh! You're the guy who brings in the bagels!' Nobody ever said, 'This is the guy in charge of the public research group.'"

The bagels had begun as a casual gesture: a boss treating his employees whenever they won a new research contract. Then he made it a habit. Every Friday, he would bring half a dozen bagels, a serrated knife, some cream cheese. When employees from neighboring floors heard about the bagels, they wanted some, too. Eventually he was bringing in 15 dozen bagels a week. He set out a cash basket to recoup his costs. His collection rate was about 95 percent; he attributed the underpayment to oversight.

In 1984, when his research institute fell under new management, he took a look at his career and grimaced. "I was sick of every aspect of the whole thing," he says. "I was discouraged. I was tired of chasing contracts. So I said to management: 'I'm getting out of this. I'm going to sell bagels.'"

His economist friends thought he had lost his mind. They made oblique

remarks (and some not so oblique) about "a terrible waste of talent." But his wife supported his decision. They had retired their mortgage; the last of their three children was finishing college. Driving around the office parks that encircle Washington, he solicited customers with a simple pitch: early in the morning, he would deliver some bagels and a cash basket to a company's snack room; he would return before lunch to pick up the money and the leftovers. It was an honor-system commerce scheme, and it worked. Within a few years, he was delivering 700 dozen bagels a week to 140 companies and earning as much as he had ever made as a research analyst. He had thrown off the shackles of cubicle life and made himself happy.

He had also -- quite without meaning to -- designed a beautiful economic experiment. By measuring the money collected against the bagels taken, he could tell, down to the penny, just how honest his customers were. Did they steal from him? If so, what were the characteristics of a company that stole versus a company that did not? Under what circumstances did people tend to steal more, or less?

As it happens, his accidental study provides a window onto a subject that has long stymied academics: white-collar crime. (Yes, shorting the bagel man is white-collar crime, writ however small.) Despite all the attention paid to companies like Enron, academics know very little about the practicalities of white-collar crime. The reason? There aren't enough data.

A key fact of white-collar crime is that we hear about only the very slim fraction of people who are caught. Most embezzlers lead quiet and theoretically happy lives; employees who steal company property are rarely detected. With street crime, meanwhile, that is not the case. A mugging or a burglary or a murder is usually counted whether or not the criminal is caught. A street crime has a victim, who typically reports the crime to the police, which generates data, which in turn generate thousands of academic papers by criminologists, sociologists and economists. But white-collar crime presents no obvious victim. Whom, exactly, did the masters of Enron steal from? And how can you measure something if you don't know to whom it happened, or with what frequency, or in what magnitude?

Paul F.'s bagel business was different. It did present a victim. The victim was Paul F.

It is 3:32 a.m., and Paul F. is barreling down a dark Maryland road when he jams on the brakes and swears. "I forgot my hearing aids," he mutters. He throws the gearshift into reverse and proceeds to drive backward nearly as fast as he had been driving forward.

He is 72, and his business is still thriving. (Thus his request to mask his full name and his customers' identities: he is wary of potential competitors poaching his clients.) His daughter, son-in-law and one other employee now make most of the deliveries. Today is a Friday, which is the only day Paul F. still drives. Semireirement has left him more time to indulge his economist self and tally his data. He now knows, for instance, that in the past eight

years he has delivered 1,375,103 bagels, of which 1,255,483 were eaten. (He has also delivered 648,341 doughnuts, of which 608,438 were eaten.)

He knows a good deal about the payment rate, too. When he first went into business, he expected 95 percent payment, based on the experience at his own office. But just as crime tends to be low on a street where a police car is parked, the 95 percent rate was artificially high: Paul F.'s presence had deterred theft. Not only that, but those bagel eaters knew the provider and had feelings (presumably good ones) about him. A broad swath of psychological and economic research has argued that people will pay different amounts for the same item depending on who is providing it. The economist Richard Thaler, in his 1985 "Beer on the Beach" study, showed that a thirsty sunbather would pay \$2.65 for a beer delivered from a resort hotel but only \$1.50 for the same beer if it came from a shabby grocery store.

In the real world, Paul F. learned to settle for less than 95 percent. Now he considers companies "honest" if the payment is 90 percent or more. "Averages between 80 percent and 90 percent are annoying but tolerable," he says. "Below 80 percent, we really have to grit our teeth to continue."

In recent years, he has seen two remarkable trends in overall payment rates. The first was a long, slow decline that began in 1992. "All my friends say: 'Aha! Clinton!'" Paul F. says. "Although I must say that most of my friends are conservative and inclined to see such things where others might not." The second trend revealed in Paul F.'s data was even starker. Entering the summer of 2001, the overall payment rate had slipped to about 87 percent. Immediately after Sept. 11, the rate spiked a full 2 percent and hasn't slipped much since. (If a 2 percent gain in payment doesn't sound like much, think of it this way: the nonpayment rate fell from 13 percent to 11 percent, which amounts to a 15 percent decline in theft.) Because many of Paul F.'s customers are affiliated with national security, there may be a patriotic element to this 9/11 effect. Or it may represent a more general surge in empathy. Whatever the reason, Paul F. was grateful for the boost. He expends a great deal of energy hectoring his low-paying customers, often in the form of a typewritten note. "The cost of bagels has gone up dramatically since the beginning of the year," reads one. "Unfortunately, the number of bagels and doughnuts that disappear without being paid for has also gone up. Don't let that continue. I don't imagine that you would teach your children to cheat, so why do it yourselves?"

He is impatient and cantankerous but in sum agreeable. Dressed in jeans and sneakers, with busy eyes and a wavy fringe of gray hair, he awoke this Friday at 3 a.m. Working out of his garage, he first loaded 50 cardboard trays of doughnuts -- a local bakery delivered them overnight -- into the back of his van. He drives an unmarked white Ford E-150 rigged with a bagel-warming compartment. (The van was never stopped during the D.C. sniper attacks, but Paul F.'s tendency to park at the curb caused problems in the near aftermath of 9/11. One customer left a note saying: "Please park in a

parking space. You are freaking a lot of people out.")

After the doughnuts, Paul F. loaded two dozen money boxes, which he made himself out of plywood. A money slot is cut into the top. When he started out, he left behind an open basket for the cash, but too often the money vanished. Then he tried a coffee can with a slot in its plastic lid, which also proved too tempting. The wooden box has worked well. Each year he drops off about 7,000 boxes and loses, on average, just one to theft. This is an intriguing statistic: the same people who routinely steal more than 10 percent of his bagels almost never stoop to stealing his money box -- a tribute to the nuanced social calculus of theft. From Paul F.'s perspective, an office worker who eats a bagel without paying is committing a crime; the office worker apparently doesn't think so. This distinction probably has less to do with the admittedly small amount of money involved than with the context of the "crime." (The same office worker who fails to pay for his bagel might also help himself to a long slurp of soda while he's filling a glass in a self-serve restaurant, but it is extremely unlikely that he will leave the restaurant without paying.)

After retrieving his hearing aids, he heads for the bagel shop that provides him with roughly 50 dozen bagels, in six flavors, every day. He drives nearly 80 m.p.h. along empty highways and discusses what he has learned about honesty. He is leery of disparaging individual companies or even most industries, for fear it will hurt his business. But he will say that telecom companies have robbed him blind, and another bagel-delivery man found that law firms aren't worth the trouble. He also says he believes that employees further up the corporate ladder cheat more than those down below. He reached this conclusion in part after delivering for years to one company spread out over three floors -- an executive floor on top and two lower floors with sales, service and administrative employees. Maybe, he says, the executives stole bagels out of a sense of entitlement. (Or maybe cheating is how they got to be executives.) His biggest surprise? "I had idly assumed that in places where security clearance was required for an individual to have a job, the employees would be more honest than elsewhere. That hasn't turned out to be true."

Since he started delivering bagels, Paul F. has kept rigorous data -- which, when run through a computer and measured against external factors ranging from the local weather to the unemployment rate, can tell some interesting stories. Other conclusions, meanwhile, are purely intuitive, based on Paul F.'s 20-year exposure to bagel behavior.

He has identified two great overriding predictors of a company's honesty: morale and size. Paul F. has noted a strong correlation between high payment rates and an office where people seem to like their boss and their work. (This is one of his intuitive conclusions.) He also gleans a higher payment rate from smaller offices. (This one is firmly supported by the data.) An office with a few dozen employees generally outpays by 3 percent to 5

percent an office with a few hundred employees. This may seem counterintuitive: in a bigger office, a bigger crowd is bound to convene around the bagel table -- providing more witnesses to make sure you drop your money in the box. (Paul F. currently charges \$1 for a bagel and 50 cents for a doughnut.) But in the big-office/small-office comparison, bagel crime seems to mirror street crime. There is far less crime per capita in rural areas than in cities, in large part because a rural criminal is more likely to be known (and therefore caught). Also, a rural community tends to exert greater social incentives against crime, the main one being shame.

The bagel data also show a correlation between payment rate and the local rate of unemployment. Intuition might have argued that these two factors would be negatively correlated -- that is, when unemployment is low (and the economy is good), people would tend to be freer with their cash. "But I found that as the unemployment rate goes down, dishonesty goes up," Paul F. says. "My guess is that a low rate of unemployment means that companies are having to hire a lower class of employee." The data also show that the payment rate does not change when he raises bagel prices, though volume may temporarily fall.

If the payment tendencies that Paul F. has noted so far might be called macro trends, it is the micro trends -- those reflecting personal mood -- that are perhaps most compelling. Weather, for instance, has a major effect on the payment rate. Unseasonably pleasant weather inspires people to pay a significantly higher rate. Unseasonably cold weather, meanwhile, makes people cheat prolifically; so does heavy rain and wind. But worst are the holidays. The week of Christmas produces a 2 percent drop in payment rates -- again, a 15 percent increase in theft, an effect on the same order, in reverse, as 9/11. Thanksgiving is nearly as bad; the week of Valentine's Day is also lousy, as is the week straddling April 15. There are, however, a few good holidays: July 4, Labor Day and Columbus Day. The difference in the two sets of holidays? The low-cheating holidays represent little more than an extra day off from work. The high-cheating holidays are freighted with miscellaneous anxieties and the high expectations of loved ones.

As considerable as these oscillations may be, the fact is that a poorly paying office rarely turns into a well-paying office, or vice versa. This has led Paul F. to believe in a sobering sort of equilibrium: honest people are honest, and cheaters will cheat regardless of the circumstance. "One time when I was cleaning up leftovers," he recalls, "a man came and took a doughnut while I was standing there, and started to walk away without putting any money in the box. I never challenge people about paying, but in that place, despite notes and appeals to management, the payment rate had been abysmal, and I was fed up. I said to the guy, 'Are you going to pay for that?' And he said, 'Oh, I left my wallet in my car,' and started to put the doughnut back. Now I knew, and he knew that I knew, that he hadn't left his wallet in the car, but he was too cheap to pay 50 cents for a doughnut and too brazen to say, 'Oh,

I'm sorry, I just wasn't thinking,' which is what anyone with half a conscience would say."

Once the van is loaded with fresh bagels, sorted by the dozen into white paper bags that Paul F. had earlier labeled with customers' names, he begins his rounds. It is 5:02 a.m. The first stop is an office building in northern Virginia. His routine is nearly always the same. He grabs one of the magnetic ID cards dangling from his rearview mirror, hangs it from his neck, jumps around to the side of the van, loads up a cardboard box with bagels, doughnuts and a cash box and practically sprints inside. In the snack room, he dumps the bagels from their bag, folds back the top of the doughnut tray, plunks his money box on the table and hustles out. Then back into the van, which he drives maniacally even from one office-park cul-de-sac to the next. (When a woman in a Lexus tarries at the entrance to one parking lot, he calls her terrible names.) Another office building, another ID card, another delivery. You can tell the defense contractors by the art on the walls: achingly sensual black-and-white photographs of missiles and armored personnel carriers. Some of the break rooms have vending machines whose offerings -- "Spicy Chicken Biscuit" and "Chopped Beefsteak Sandwich" -- look so vile that the simple appeal of a warm, fresh bagel becomes all the more apparent.

By 9 a.m., he has made all his deliveries. At 11, he will start picking up leftovers and the money boxes. Until then, it is time for his weekly Friday morning breakfast with a dozen of his old economist friends. They meet in the ground-floor cafeteria of the office building where one of them now works. They swap gossip, tax tips, Ziploc bags of pipe tobacco.

These are some of the same friends who 20 years ago told Paul F. that his bagel business would never work. People cannot be trusted, they said. Their conversation this morning continues along those lines. One man cites a story he heard about a toll-collector strike in England. During the strike, drivers were asked simply to put their money into a box. As it turned out, the government collected more toll money during the strike -- which suggests that the drivers were at least fairly honest, but also that the toll collectors had been skimming like mad. Another economist at the table is now a tax preparer. He ticks off a long list of common tax evasions his clients try to use -- lying about the cost basis of stocks is perhaps the favorite -- and reminds the others that the United States tax code is, like Paul F.'s bagel business, largely built on an honor system.

Amid all the talk of cheating, lying and scamming, Paul F. takes the floor to declare his faith in humankind. "You guys know the story about the Ring of Gyges, right?" he says.

A man named Gyges, he explains, came upon a cave and, inside it, a skeleton wearing a ring. When Gyges put on the ring, he found that it made him invisible. Now he was faced with a choice: would he use his invisibility for good or evil? The story comes from Plato's "Republic." It was told by a

student named Glaucon, in challenge to a Socratic teaching about honesty and justice. "Socrates was arguing against the idea that people will be dishonest if given the chance," Paul F. says. "His point was that people are good, even without enforcement."

But Paul F. doesn't tell his friends how Glaucon's story ends. Gyges actually did woeful things once he got the ring -- seduced the queen, murdered the king and so on. The story posed a moral question: could any man resist the temptation of evil if he knew his acts could not be witnessed? Glaucon seemed to think the answer was no. But Paul F. sides with Socrates -- for he knows that the answer, at least 89 percent of the time, is yes.

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