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## **Calculating Economics of an Eye for an Eye**

By **PATRICIA COHEN**

In the Albanian canon, a 15th-century handbook detailing the rules of revenge that is still in circulation, a man's relatives are expected "to take their blood back" if he is shot. In Iran a death can be compensated with blood money: 100 camels in early Islam; thousands of dollars today. A girl's life is worth only half of a boy's. So is an eye; a tooth, one-twentieth. In Sicily there is an oral tradition describing various methods of revenge: tying a man's feet to his neck so that when he moves, he strangles himself; handcuffing a victim to a bonfire of olive wood; throwing him into a sty with hungry pigs.

Today one can see vengeance on a mass scale embodied in the person of [Radovan Karadzic](#), the former leader of the Bosnian Serbs, who is sitting in a Belgrade jail, charged with war crimes, including overseeing the massacre of nearly 8,000 Muslim men and boys in 1995 at Srebrenica. At least some of those deaths were claimed by Bosnian Serb officials at the time as revenge for previous killings of Serbs.

Vengeance: it is as old as humanity, as natural as blinking. It has been examined and pondered by anthropologists, [psychologists](#), sociologists, philosophers, legal scholars, poets, playwrights and even primatologists, who have recently found that chimpanzees will punish thieves by overturning their food tables so they cannot enjoy the fruits of their crime.

Only recently, however, have economists turned their attention to vengeance and tried to measure it in the real world. In a working paper published last month on the Web site of the National Bureau of Economic Research ([www.nber.org](http://www.nber.org)), Naci H. Mocan, an economist at Louisiana State University, gathered information on 89,000 people in 53 countries to draw a map of vengefulness. What he found was that among the most vengeful are women, older people, the poor and residents of high-crime areas.

“There was a question of whether or not we can quantify vengeful feelings in a scientific fashion,” Mr. Mocan said. “It’s the first analysis of the issue looking at actual data.”

It turns out that personal attributes — age, income, gender — as well as the characteristics of one’s culture and country contribute to a person’s desire for revenge, Mr. Mocan said. “A feeling such as vengeance,” he said, “which can be considered primal, is nonetheless influenced by the economic and social circumstances of the person and the country he or she lives in.”

For economists, Mr. Mocan’s work, while still preliminary, opens up a new area for exploration. “I think this is really important research,” said Daniel Houser, a professor at George Mason University specializing in experimental economics and emotion. “I’m not aware of any work in economics that tries to capture individual differences in vengeful feelings.”

In the last couple of decades a lot of work has shown how important trust and reciprocity are in developing efficient markets, Mr. Houser explained, and what helps to create trust is [punishment](#). Yet punishment can also spiral out of control, and people can get stuck in a retaliatory cycle, just as in a nasty divorce or a longstanding family feud.

“How do you calibrate the proper level of punishment to promote effective market relations?”

Mr. Houser asked. It may turn out, he said, that “how much you want to punish is connected to

the likelihood of creating a more formal market economy.”

Mr. Mocan collected data compiled by a [United Nations](#) Interregional Crime and Justice Research Institute survey from the 1990s and 2000. People were asked what would be an appropriate sentence for a 20-year-old man found guilty of stealing a color television if it was his second offense. The punishments ranged from alternatives to prison through two to six months in jail, all the way to a life sentence. Mr. Mocan tried to take account of the different values of a television in different countries, the effectiveness of the legal system and the going rate, if you will, for other crimes.

In China, Romania and Botswana, for example, nearly 40 percent of participants preferred a prison sentence of four or more years. In South Africa the rate is 25 percent; 18 to 20 percent in Egypt, Ukraine and Paraguay; 16 percent in Canada and Indonesia; 12 percent in the United States and the Philippines; about 4 percent in Norway and Slovenia; and 1 percent in Belgium and Spain.

Within a given country, people who have been victims of the same kind of crime (here, a burglary) tend to be more vengeful, but not if they have been victims of a different crime, like mugging.

Most of Mr. Mocan’s findings confirm what researchers in different disciplines have already found: that vengeful feelings are stronger in countries with low levels of income and education, a weak rule of law and those who recently experienced a war or are ethnically or linguistically fragmented. Anthropologists tend to believe that vengeful feelings were useful in binding a family or group together in early human society. They were protective devices before states were established and did the job of punishing wrongdoers.

“The results make good intuitive sense, confirming what we already suspected,” said Tyler Cowen, the author of “Discover Your Inner Economist: Use Incentives to Fall in Love, Survive Your Next Meeting and Motivate Your Dentist.”

What Mr. Mocan found most surprising was that women turned out to be more vengeful than men. If a woman had been a victim of burglary, she was 10 percent more likely to impose a prison sentence; for men the figure was 5 percent.

Edward Glaeser, an economist at Harvard who has tried to explain group hatred in terms of political economy, has written that “an economist’s definition of hatred is the willingness to pay a price to inflict harm on others.” In healthy economies, he argues, the cost is higher, and the demand for hatred and vengeance drops.

Vengeance, of course, often defies what would appear to be rational calculations of gain and loss. In experiments using what is known as the ultimatum game, subjects were told that Player 1 would offer to share a sum of money — say, \$10 — with Player 2. But if the two didn’t agree on how to split the cash, then no one would get anything.

Logically, even an offer of one cent leaves you better off than you were before. But people repeatedly rejected offers of less than 30 percent of the total, preferring to forgo any money and punish the cheapskate (and themselves), rather than accepting what they perceived to be an unfair offer. If a computer instead of a person did the split, the other player was more likely to accept a low offer.

The willingness to suffer harm yourself is often much more extreme. In [Euripides’](#) play, Medea is so bent on wreaking vengeance on her unfaithful husband, Jason, that she murders their children.

Jared Diamond recently wrote in [The New Yorker](#) about a revenge killing in the New Guinea Highlands that took three years and involved 300 men, 30 deaths, permanent crippling and large payments to all the soldiers recruited. The reward? Psychological satisfaction and the knowledge that the avenger would be considered a hero and remembered if he were killed. That personal satisfaction is something Mr. Diamond said every human being, no matter what the culture, can identify with.

This type of vengeful passion, Mr. Mocan acknowledged, may occupy a wholly different dimension than the one he tried to capture with his research. But Mr. Mocan, who has also done research that found that the death penalty deters murders, said his findings raised the question of whether vengeance should be a legitimate aspect of the criminal justice system.

In her 2002 book, “Revenge: A Story of Hope,” Laura Blumenfeld wrote about her search for vengeance on a [Palestinian](#) terrorist who grazed her father with a bullet in Jerusalem without seriously harming him. She explored the dark alleyways of revenge, like the examples cited in the beginning of this article.

She is skeptical of the economic approach. “How do you quantify shame?” she asked. Often “punishment is irrelevant,” she said, which is why families often still want to take revenge even if the perpetrator is jailed. “It’s not about inflicting pain, it’s about honor.”

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