How Uncertainty Cripples Us

By JONAH LEHRER

One of the traditional roles of government has been placing limits on uncertainty in the marketplace. That's why the Federal Deposit Insurance Corp. guarantees our bank accounts and the Federal Reserve tries to keep inflation in check. These interventions encourage people to invest for the long-term without worrying about short-term catastrophes.

In recent years, however, the federal government has begun introducing a new source of economic uncertainty in the form of temporary tax laws and contested regulations.

Let's begin with taxes. As noted in a recent article in The Wall Street Journal, the number of provisions in the tax code that require congressional renewal has soared from fewer than a dozen in the late 1990s to 141 as of last month. Consider the estate tax, which disappeared last year but was set to increase to 55% on all estates over $1 million in 2011. The uncertainty over the law—would Congress reach a compromise?—led to a spike in sales of life-insurance policies, as families tried to hedge the political uncertainty. (In the end, the estate tax was set at 35% for estates over $5 million.) Similar problems have afflicted investors worried about a rise in capital-gains taxes and renewable-energy companies that depend on tax subsidies.

Experiments show that our brains hate uncertainty: Faced with cards of uncertain probability, parts of the brain associated with scary memories light up.

New regulations have also increased market uncertainty. Even though health-care reform has passed, it remains unclear if all of the legislation will be implemented. The same goes for new greenhouse gas standards, which have been repeatedly challenged by the state of Texas.

The problem with these makeshift laws and contested rules is that they inject a dose of unpredictability into the market precisely when it needs reassurance. Instead of calming our frazzled nerves, these provisions make it even harder to plan. And that is a very dangerous thing, as the mere whiff of uncertainty can dramatically skew our decision-making.

Consider a 2006 study by the economists Uri Gneezy, John List and George Wu, in which people were asked how much they would pay for various items. One offering consisted of $50 and $100 Barnes & Noble gift certificates. Not surprisingly, subjects were willing to pay larger amounts for larger gift certificates: They offered, on average, $45 for the $100 gift certificate and $26.10 for the $50 one.

Everything changed, however, when the economists introduced a little uncertainty into the marketplace. Instead of bidding on guaranteed gift certificates, the subjects were offered lotteries in which they were sure to win one of the options but didn't know which one. A sample lottery, for instance, gave the subjects a 50% chance of winning the $100 Barnes & Noble gift certificate and a 50% chance of winning the $50 one. If people were rational agents, they should have offered to pay between $26.10 and $45 for a chance to win. Instead, the subjects were willing to pay only $16. This is the curse of uncertainty. It makes every possibility seem less appealing.

Other scientists have explored the impact of uncertainty on decision-making processes in the brain. A recent experiment by neuroeconomists at the California Institute of Technology used a
simple gambling game in which people bet on whether the next card drawn from a deck of 20 cards would be red or black. At first, the players were told how many red cards and black cards were in the deck, which allowed them to quickly calculate the probability of the next card being a certain color. This gamble corresponds to the investing ideal, in which people face a known set of risks. As a result, the scientists observed increased activity in those parts of the brain, such as the striatum, involved with the expectation of rewards.

In the second gamble, subjects were told the number of cards in the deck but not how many red or black cards it contained. With less information to go on, the players exhibited substantially more activity in the amygdala, a brain area associated with scary memories and emotional arousal.

The uncertainty effect remains a major problem for the American economy. Macroeconomic forecasters continue to disagree about nearly everything, from the growth of the job market in 2011 to the likelihood of a double-dip recession. This disagreement is understandable, since there are few historical precedents for the recent financial crisis.

But such unpredictable times make the stabilizing hand of government more important than ever. We need institutions that take some of the ambiguity out of the marketplace, that allow us to plan as rationally as possible. Instead, we're stuck with a tax code and a regulatory horizon that seem to be doing the opposite.

Printed in The Wall Street Journal, page C12