The world’s major stock markets are volatile. Those in South America -- which add political concerns onto domestic and world economic conditions -- are more volatile still. Roller coaster rides produce gasps and thrills in amusement parks. But in financial markets, they cause sheer terror, as recent years have demonstrated. And that terror in turn, creates movements of its own, followed in time by speculative bubbles when the panic fades from memory.

Beyond the gripping emotions, however, those wild rides should induce substantial new thinking. Old theories, which did not allow for the whipsaws of the last five years, at the very least must be subjected to severe scrutiny, and then to modification and potential debunking. All those should be the fate of Efficient Market Theory, a beautiful and admired edifice, but one with the salient shortcoming of having failed to predict the most significant recent developments in the real-world financial markets.

Over the past couple of decades, a rival theory has been developed: behavioral finance. It starts with the premise that human beings are psychological animals. Our decisions, even our highly important decisions, stray far from what any plausible rational theory would prescribe. Behavioral finance draws together psychology, economics, and finance; it is based on observations of the way real individuals make actual decisions affecting their financial futures. It then traces the implications of those decisions to the behaviors of the financial markets. Though this theory has received considerable attention in the United States and Europe, it has received little recognition in academic or financial circles in South America.

The style of investigation associated with behavioral finance is deeply empirical. Its proponents study the way individuals make decisions in laboratory settings, where extraneous factors can be controlled. They also investigate field behavior, examining how much people save, how they allocate their portfolios, when they buy, and when they sell. Behavioral finance scholars and practitioners look as well at the institutions – mutual funds, banks, hedge funds – in which people place their assets. More recent investigations have examined human genes and MRI scans to understand better the ways individuals actually make decisions.

The strength of behavioral finance comes from its examination of actual market behaviors. These are tracked, from the proclivities of individuals, through their investments in institutions, to the prices of market assets. Behavioral finance assesses how investors respond to data, how panic and euphoria erupt in markets, when fundamentals are considered, and when they are ignored.

Anxiety and its intense cousin, panic, are inimical to rational thinking. Thus, during the meltdown of 2008, mere snippets of information could send the market up, or more often down, by 2 or 3% in the space of an hour. Investors fled, with their nightmares nipping at their heels.

A recent experiment I conducted with my colleague Cass Sunstein well illustrates this point. We asked Harvard Law students how much they would need to be paid in order to submit to a brief, painful, but not dangerous electric shock. (The shock experiment would be conducted if a student’s price was less than the secret price we were willing to pay.) We had two different experimental conditions. In one, the student was certain to receive a shock. In the other, the student had merely a 1% chance of receiving the shock.

Remarkably, the prices students quoted for the two sets of conditions were indistinguishable, though the shock was 100 times more likely in the first. Once the electric shock was mentioned, the students experienced anxiety. Considerations of probability, which require rational contemplation in the prefrontal cortex of the brain, simply vanished. Brain scientists have a good explanation for this phenomenon of probability neglect: Anxiety stimulates the amygdala, which controls our fight or flight response, at the expense of the prefrontal cortex.

Probability neglect was prevalent during the recent financial collapse. Emotions drove out rational thinking. People did not calculate the likelihoods of various outcomes; they focused merely on a horrifying possible consequence, the looming potential disaster. Probability neglect is but one of many profound biases that economists and psychologists have identified, and which affect the behavior in and the behavior of financial markets.

Here are a few of the more important findings from behavioral finance: (a) Individuals are strongly risk-averse on small risks, yet take gambles when they have already suffered losses. (This finding is a critical component of Prospect Theory, which helped secure the Nobel Prize in Economics for Daniel Kahneman in 2002.) (b) Financial markets move much more strongly than traditional theory would predict. Human decisions create such movements. Participants remembering "what happened last time" take actions...
that would have worked then. This completely changes market
behavior; big surprises result. (c) Individuals and institutions
— even sophisticated institutions such as government banks and
major investment banking houses — engage in herd behavior. Such
imitation can offer protection when bad things happen, and can
ensure that no one gets too far ahead. But it can also ensure that
major dangers will be missed as the herd goes over a cliff together.

Behavioral finance provides many insights into financial
markets, but it also raises profound questions, and then the
beginnings of answers. Why was the recent crisis so enormous?
We all know that the subprime crisis was the triggering event. The
remarkable thing about this crisis in contrast to previous crises is
how a relatively small loss — $1 trillion in
subprime mortgages in the United States —
triggered a gigantic loss amounting to $20
trillion worldwide.

The novel aspect of this recent crisis, as opposed to the many financial crises of the
past 50 years, was the tremendous inter-
penetration of the various financial sectors.
Much blame goes to financial engineering.
Thus B’s shortfalls turned into losses for A.
Given that assets were both unfamiliar and
opaque, A had not understood his level of
exposure or risk. With a shot heard ‘round the financial world, losses
reverberated, and the ensuing cascade brought down the financial
markets everywhere. In this process, every player was trying to guess
what the other players were doing. This situation represented a prime
example of behavioral tendencies in action. Psychology and speculation
on the behaviors and circumstances of others replaced fundamentals
as the basis for pricing. The rise of the nonbank banks, or the shadow
banking industry, complemented this financial engineering. Such
banks had become responsible for most of the lending in our economy.

Alas, such engineering, like nuclear weapons, will now be with us
forever. Pandora’s Box has been opened. Sophisticated and hard-
to-track financial instruments will not go away. Equally disturbing,
investors are still unlikely to understand that what looks new and
fresh and attractive may also be extremely dangerous. Sophisticated
and misunderstood financial instruments are sure to figure in
future financial crises. Indeed, some of the seeds have already been
planted; witness the crisis in Greece that came to light just a year
ago, with Goldman Sachs once again in a starring role as facilitator.

Proponents of behavioral finance take a sober look at such
developments and raise the issue of whether, in the race between
creative innovation and effective regulation, the latter will win out.
Unfortunately, if the answer is only “most of the time,” or even “almost
always,” major financial collapses will still be a feature of our future.

The discipline of behavioral finance starts with the understanding
that major opportunities and dangers lie in unknowable events.
Once those events have occurred, they will readily be rationalized.
People will tend not to learn from experience.

Conclusion. Behavioral finance might be thought of as a field in
its early adult years. Its practitioners still
approach the subject with the enthusiasm
of youth. They have made some mistakes,
but have learned a great deal, and know
much more than they did even a few years
ago. The financial collapse of 2007-09 was
in some sense the coming-out party for the
field. Many of the phenomena that had been
predicted by behavioral finance — extreme
movements in prices on the basis of little
information, significant herd behavior even
by expert practitioners, investors taking
exposure or risk. With a shot heard ‘round the financial world, losses
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