

Ironically, more emigration from the developing world to the United States has a better chance of improving economic institutions overseas according to a vast quantity of empirical peer-reviewed research. Mass emigration convinces elites to improve institutions to stop the exodus, so-called social remittances send new governance and social ideas back to poor countries, and return migrants bring back norms, habits, resources, and opinions from developed countries. By eliminating low-skilled immigration to the United States, Salam would likely slow down the process of economic and political reform that has lifted living standards in impoverished countries over the last generation.

The subtitle of Salam's book is: *A Son of Immigrants Makes the Case Against Open Borders*. Being the son of immigrants does not give one license to cherry-pick research, produce unfounded predictions of a looming civil war, and make a generally inconsistent and self-contradictory argument. If anything, Salam's book is evidence that the second generation assimilates just fine into a political culture that rewards identity over logical and reasoned argument supported by evidence. If that's the result of assimilation, perhaps we'd all be better off with a little less of it.

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A Crisis of Beliefs: Investor Psychology and Financial Fragility

Nicola Gennaioli and Andrei Shleifer

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Investment fund pioneer Sir John Templeton wrote that “bull markets are born on pessimism, grow on skepticism, mature on optimism and die on euphoria.” There is a long line of economists and financial historians who have studied investor propensity to sudden mood swings. Charles Kindleberger wrote a celebrated history of financial panics that remains a reference four decades after publication. Hyman Minsky pointed to the recurrence of abrupt reversals at the peak of speculative manias, prompting a plunge that resembles Wile E. Coyote's when he realizes there is no ground under him. Robert Shiller won a Nobel Prize for documenting excess volatility in stock prices that fundamental factors cannot explain.

Identifying periodic bouts of irrationality in security markets is thus not an academic innovation. But so far, researchers have struggled to sketch out the policy implications, for both private investors and public authorities, of their findings. Can “irrational exuberance,” as Federal Reserve chairman Alan Greenspan characterized the market’s mood in the mid-1990s, be diagnosed, quantified, and acted upon?

A Crisis of Beliefs, by Bocconi University’s Nicola Gennaioli and Harvard’s Andrei Shleifer, has the reader pining for an affirmative answer, only to have his hopes ultimately dashed.

The book is mainly a summary of the authors’ research with Pedro Bordalo at the University of Oxford. At its heart is the concept of diagnostic expectations, which are neither rational in the sense of incorporating all available information, nor merely extrapolative of past experience. Rather, diagnostic expectations respond excessively to news, leading to a distorted estimation of the likelihood of future outcomes. In this way, investors become unduly enthusiastic in good times and overly gloomy in bad.

To justify their hypothesis, Gennaioli and Shleifer draw on the cognitive biases established by behavioral economists. The notion of “representativeness”—when subjects systematically overestimate the probability of unlikely events that are made more probable by recent information—features prominently in their models. New information can make certain outcomes more likely, but people tend to overestimate how much more likely. For example, rapid house price growth in the run-up to 2007 led market participants to expect future rises of similar magnitude, despite the long-term stability of home prices in U.S. history.

Gennaioli and Shleifer collect survey evidence from many different sources to show that investor (and central bank) expectations before the financial crisis were too optimistic. The authors go on to formulate a model in which beliefs distorted by representativeness can both raise expected returns beyond what is reasonable and tighten the distribution of returns so as to underestimate the likelihood of extreme left-tail events, which Nassim Taleb has termed “black swans.”

The authors’ account offers a rigorous theory of financial crises and credit bubbles grounded in the findings of behavioral psychology. Much behavioral finance to date relies on anecdotes of temporary price divergence from fundamental value. These instances are

often observable in hindsight but difficult to diagnose or predict. They make for entertaining lunch seminars but offer little in the way of a theoretical alternative to the efficient-market hypothesis, the dominant paradigm in asset pricing since the 1970s. The EMH, as the theory is known, argues that asset prices at any point in time reflect all publicly available information and that price changes therefore cannot be forecast. Gennaioli and Shleifer point to systematic asset mispricing fueled by investors' errors of judgment that might make future returns somewhat predictable, contradicting the EMH. *A Crisis of Beliefs* thus promises a new research agenda for behavioral finance.

Yet, to judge by their book, it is too early to tell whether this promise will deliver the hoped-for results. *A Crisis of Beliefs* makes three distinct claims. First, it argues that conventional accounts of the financial crisis cannot explain the lull between spring 2007, when mortgage markets began to stutter, and summer 2008, immediately before the collapse of Lehman Brothers. Second, the book posits that survey data reflect market sentiment and can add useful information for predictions. Third, it argues that a model of diagnostic expectations can explain the financial crisis and the behavior of market participants at different stages of the credit cycle.

The authors back up each of their claims, but that does not mean the three add up to a coherent whole. The natural thing would have been to apply the model to the data and test its predictions. But that approach presents a challenge, because Gennaioli and Shleifer's model of diagnostic expectations relies on a "distortion parameter" that is difficult to quantify *ex ante*. Indeed, it is unclear how this parameter might change over the cycle, or how different items of information enter into the expectations equation. There is also the pesky business of quantifying investor sentiment.

Thus, the authors present a model that could explain the financial crisis, but they need the financial crisis to make their model useful.

To overcome this obstacle, Gennaioli and Shleifer could calibrate the model using data from the crisis period—estimating the parameters from outcomes during the crisis and testing them against more recent market developments under the assumption that they continue to hold. There are plenty of events to choose from: the 2013 Fed taper tantrum, the run-up to and aftermath of the Brexit referendum and the 2016 presidential election, and the ongoing

disruption to global trade relations come to mind. *A Crisis of Beliefs*, however, does not extend its analysis beyond the 2008 financial crisis.

The reader is left hoping for a theoretical breakthrough that will yield more easily testable predictions, much like Black, Scholes, and Merton did for options pricing in the 1970s by stripping existing models of nebulous qualitative parameters. Their achievement merited a Nobel Prize and the gratitude of traders around the world.

Gennaioli and Shleifer are a long way from a victory of similar proportions. Nevertheless, their book opens new vistas for finance researchers, and it holds out the hope that we can learn something from the despondency and euphoria that intermittently grip financial markets.

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