

Economic dangers that policy-makers refuse to face



In December 2007, the Fed said that 1930s levels of unemployment were close to impossible

by CHARLIE FOTE and NABIL ABU EL ATA

THE Fed's monetary policy is meant to protect the economy against impending risks — a task that requires having some sense of how serious those risks might be.

Currently, the central bank seems set on raising interest rates because it sees the risks — such as a decline in growth and hiring — as being relatively small. But there is reason for concern that, as in the last three recessions, any model-based assessment of economic risk can be overly optimistic. With potentially disastrous repercussions...

Current economic forecasting methods are outdated, which means policymakers' decisions are often made without a full understanding of the implications.

The whole point of building elaborate forecasting models is to understand the range of possible outcomes and assign probabilities to them. And this is the problem.

Models based on past experience can be inaccurate. In the absence of any reliable methods to predict economic dangers, policymakers remain optimistic that everything will turn out all right.

Economic disasters result from risks that no one anticipated

Currently, the central bank seems set on raising interest rates because it sees the risks as being relatively small

or took seriously. In December 2007, the Fed's main economic model thought it unlikely that the unemployment rate would be above six percent in two years; it hit 10 percent.

The model said that it was close to impossible, and not considered a plausible risk. These errors suggest fundamental flaws in the formulation of economic forecasting models.

New financial instruments, technological advancements,

regulations, evolving cyber threats, politics, wars, changing preferences and other market changes introduce risks which can cause financial disaster.

Historical data cannot be used to determine the probability of something that has never happened before. Neither experts nor statistical approaches can reliably predict the probability of risk in a system as complex and far reaching as the economy.

Only advanced forms of mathematical emulation, like those used in physics and chemistry, can comprehensively model the dynamic complexity of systems influenced by both internal and external dependencies. Without a realistic model, policymakers cannot reliably predict how changes may cause unexpected system behaviors — or economic dangers.

Today's financial systems are supported by billions upon billions of complex dynamic interactions that make them vulnerable to failure. One small change — a rise in sub-prime mortgage defaults, for example — can produce a ripple effect, a.k.a. a global financial crisis.

This was not the anomaly that policymakers would have us believe.

Unless changes are made, these types of economic shocks will increase in frequency and severity at scales that pose serious threat.

And yet, policymakers are still looking in the rearview mirror. Using outdated financial dynamic models reliant on past data, satisfied in their ability to predict what will come next, then taking action without fully understanding the impacts.

The truth is, we can do better. In 2011, former Secretary of the Treasury, Henry Paulson wrote, "In retrospect, the crisis that struck in August 2007 had been building for years.

Structural differences in economies of the world that led to what analysts call 'imbalances' that created massive and destabilising cross-border capital flows. In short we were living beyond our means — on borrowed money and borrowed time."

The "imbalances" (and catastrophic outcomes) would have been evident if policymakers were using the latest scientific and technological advances to model and predict dynamic complexity

**'In retrospect,
the crisis
that struck in
August 2007
had been
building for
years'**

related risks. Newly developed mathematical-based modeling innovations show promise in their ability to reveal the circumstances that can cause market imbalances. They provide the level of realism needed to take the right actions at the right time.

A market collapse can be triggered by a growing number of events that are considered improbable, but not impossible — such as stock market panic-selling,

a bond-market bubble collapse or a sudden increase in credit card defaults.

Due to the interconnectedness of modern financial systems, one small change can produce an avalanche of unintended consequences.

Whether we want to acknowledge it or not, the dynamics of our hyperconnected world amplify the risks. Cycles of volatility will begin to accelerate unless we advance the way we identify and treat economic risk.

Isn't it time that policymakers, economists, academia and technologists worked together to build economic models that better reflect the dynamic nature of our global financial markets and better control the hyper risks they engender?

* Charlie Fote retired as chairman and CEO of First Data in 2005 after 30 years in various roles at the global electronic payments company. Dr Nabil Abu el Ata is the author of *Solving The Dynamic Complexity Dilemma, The Tyranny Of Uncertainty and Leading From Under The Sword Of Damocles*.



The Federal Reserve Bank's monetary policy is meant to protect the economy