Money matters:

An economist on the Fed, the banks and the future

By Catherine Zandonella

IT'S BEEN NINE YEARS since the start of the Great Recession, and economies are still recovering worldwide. Economists are still debating — not about the causes of the crisis, which involved shoddy lending standards and economic opportunism — but about what can be done to prevent future calamities.

Markus Brunnermeier's research explores the underlying mechanisms behind the crisis and suggests possible solutions. His insights are part of a new *Money and Banking* video series he created to explain these concepts to his students and the public.

The German-born economist has been studying bubbles and their inevitable messy bursts since coming to Princeton in 1999. Brunnermeier grew up in Bavaria under the expectation that he

Markus Brunnermeier is the co-author of *The Euro and the Battle of Ideas* with Harold James, the Claude and Lore Kelly Professor in European Studies and professor of history and international affairs at Princeton, and Jean-Pierre Landau, a professor at Sciences Po, Paris (Princeton University Press, 2016).

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would take over his family's carpentry business, but in his early 20s, he pivoted to follow a dream he'd had since 10th grade — to study economics and apply his knowledge to improving how people live.

He does this through his research on how government central banks like the U.S.'s Federal Reserve System (the Fed) can keep the economy healthy. Central banks can inject money into a wobbly economy. But how can they do this in a way that stabilizes the economy without unleashing inflation? Should they rescue banks, or help consumers?

These are questions that Brunnermeier, the Edwards S. Sanford Professor of Economics and director of the Bendheim Center for Finance at Princeton, and an academic consultant to the Federal Reserve Bank of New York, has studied for the past several years with his collaborator, Yuliy Sannikov, a former Princeton professor of economics who is now at Stanford University. They put forth their ideas last year in a working paper titled "The I Theory of Money."

More about what the "I" stands for in a moment, but first, it helps to have a little background. Many people do not realize the role that banks play in injecting new money into the economy. Although some of the money in the economy comes from the Federal Reserve, money is also created when banks grant loans, including mortgages. These loans do not come from stacks of bills retrieved from a vault — rather, they stem from newly issued electronic money. In fact, banks and other financial institutions have become the largest source of new money in the economy.

These loans can carry some risk, however. When the financial crisis of 2008 hit, some borrowers defaulted, leaving financial institutions with less money to meet their obligations. To compensate, banks sold some of their existing loans to other financial institutions at fire-sale prices. With few buyers for these risky loans, the prices fell even more, driving a "liquidity spiral."

The banks also granted fewer new loans, creating less new money. Consumers, fearing job losses, started holding more savings. In short, banks lowered their money supply at the same time that consumers expanded their demand for money. To attract buyers, producers lowered the prices of goods, causing deflation.

Deflation is bad for banks because they have to pay depositors in money that has become more valuable than it was when deposited. Deflation is also bad for the economy as the value of the debt rises for indebted homeowners and businesses. As businesses earn fewer profits, they may lay off workers and cut expansion plans. The economy stagnates instead of recovering. Each bank tries to be more prudent by reducing its leverage, but when all banks do this, the overall risk in the economy rises, leading to what Brunnermeier and Sannikov call the "paradox of prudence."

One key to stopping these negative feedback loops is to restore the banks' ability to start lending again, Brunnermeier and Sannikov argue. Once banks start lending, they can again create new money, which the researchers call "inside" money. This is the "I" in the I theory of money.

The I theory suggests that when faced with the choice to help floundering banks or flailing consumers, the right choice is to help the financial sector because it is the bottleneck to recovery.

One way that the Fed can help switch off the adverse feedback loops is by cutting interest rates. To see how, imagine that a bank holds long-term loans that are being repaid at a fixed 5 percent interest rate. If the rate goes down, those old loans increase in value because they bring in more money than new loans issued at the lower rate. "This is like a helicopter drop of money to the banks," Brunnermeier said.

The I theory suggests that the Fed's decision after the 2008 crisis to lower interest rates, and to shore up banks by buying their troubled assets, both helped individual consumers by keeping home prices from falling and helped stabilize these bottlenecks in the economy. "Before the financial crisis, people thought that as long as you keep inflation in check, everything will be fine on the financial stability side, too," Brunnermeier said. "What the crisis has shown is that price stability does not automatically imply financial stability."

How can this research lead to a safer future? Monetary policy — the toolbox of central banks — as well as an economy-wide prudential policy that limits risky lending, needs to be proactive and take steps before a crisis occurs, Brunnermeier said.

"Economists are like doctors — we can warn about the risks of too much cholesterol but we cannot tell you exactly when the heart attack will strike," Brunnermeier said. Economists also cannot always force patients to take their medicine or change their lifestyles. And patients can usually find someone willing to give them a different second opinion.

Brunnermeier hopes his research will help central banks make sound policy decisions. They are already picking up on his research. "Economics as a field is about helping policymakers and the public make better decisions, whether on monetary policy or on how to save for retirement," he said. "Without it we would be poorer not only financially but also in terms of our well-being." D

View the Money and Banking *series online at scholar.princeton.edu/markus*