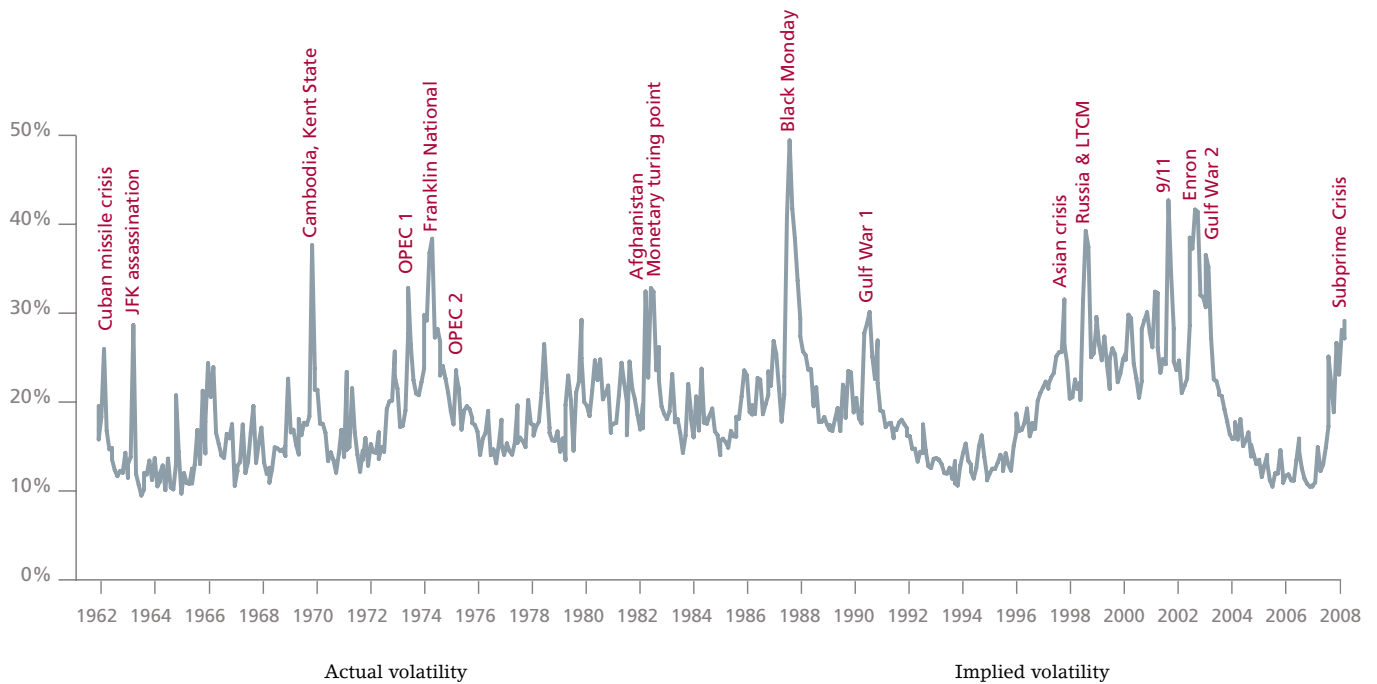


Recent research by **Nick Bloom** – as well as research of an earlier vintage by Fed chairman Ben Bernanke – suggests that the impact of the credit crunch on uncertainty will lead to an economic slowdown much worse than we currently anticipate.

# Will the credit crunch lead to recession?



Figure 1:  
Monthly US stock market volatility 1962-2008



One of the most striking effects of the recent credit crunch is a huge surge in stock market volatility. The uncertainty over the extent of financial damage, the identity of the next banking casualty and the unpredictability of the policy response of central banks and governments have all led to tremendous instability.

A standard measure of uncertainty – the ‘implied volatility’ of the S&P100 of the US stock market, commonly known as the index of ‘financial fear’ – has more than doubled since the subprime crisis first emerged in August 2007. This jump in uncertainty is of similar magnitude to those that followed the Cuban missile crisis, the assassination of President Kennedy, the Gulf War and the terrorist attacks of 9/11 (see Figure 1).

But after these earlier ‘shocks’, volatility spiked and then quickly fell back. For example, after 9/11, implied volatility dropped back to baseline levels within two months. In contrast, the current levels of implied volatility have remained stubbornly high for the last seven months, rising rather than abating as the crisis continues.

My research shows that even the

**Note:** The vertical axis shows a percentage measure of volatility known as ‘annualised standard deviation’. Prior to 1986, this is calculated as the percentage actual volatility of monthly returns on the S&P500 index of the US stock market. After 1986, it is calculated using the percentage ‘implied volatility’ from an option on the S&P100 index.

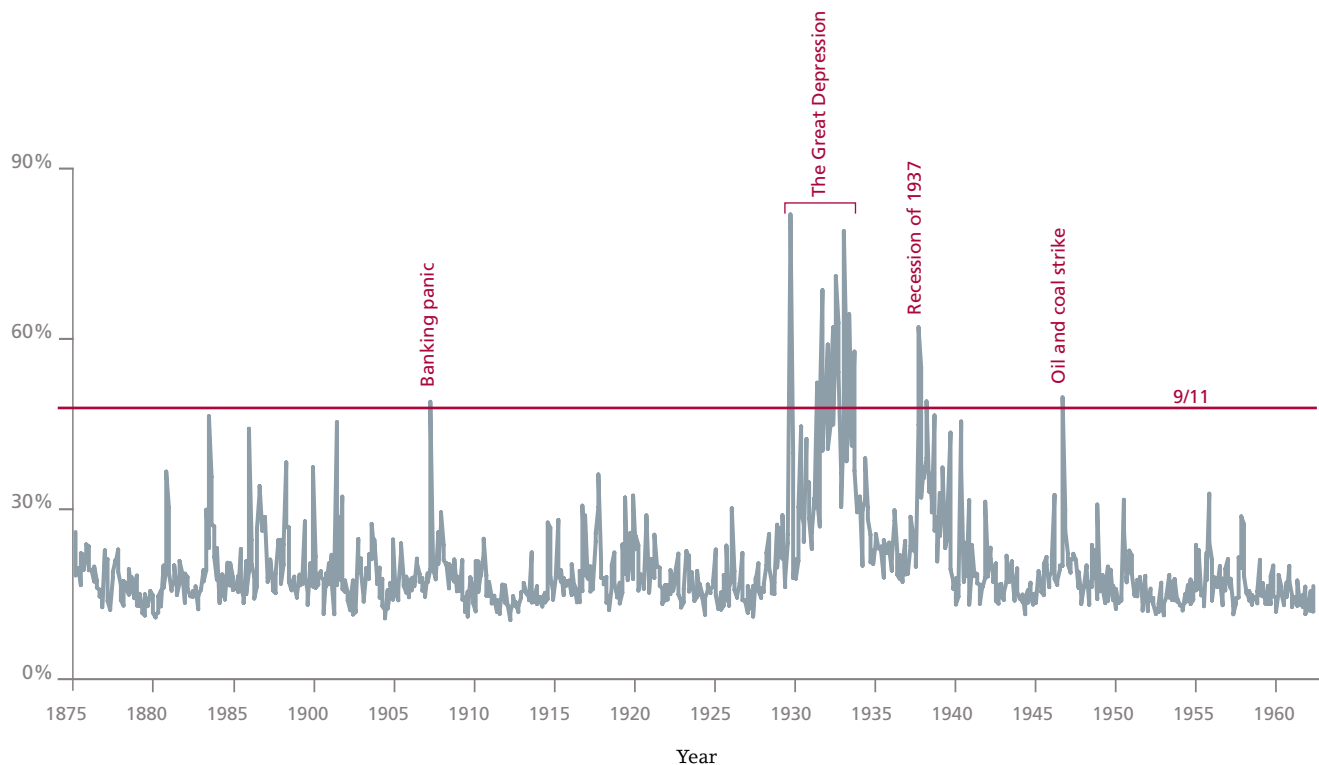
temporary surges in uncertainty that followed previous shocks had very destructive effects. The average impact of the 16 shocks plotted in Figure 1 (before the credit crunch) was to cut US GDP by 2% over the next six months (Bloom, 2007).

So the omens for the impact of the current credit crunch are worrying. If these earlier temporary spikes in uncertainty had such a significant effect on economic activity, the impact of the current persistent spike in uncertainty is likely to be far worse. On these numbers, a recession is almost inevitable.

For a broader historical comparison to the credit crunch, we can also go back 70 years to the Great Depression.

The large and persistent rise in uncertainty since last August is likely to be very damaging to the economy

Figure 2:  
The Great Depression was notable for very high volatility



**Note:** The vertical axis shows a measure of volatility derived from Schwert (1990), which contains daily stock returns to the Dow Jones composite portfolio from 1885 to 1927, and to the Standard and Poor's composite portfolio from 1928 to 1962. The figure plots the volatility of monthly returns following exactly the same procedure as for the actual volatility data from 1962 to 1985 in Figure 1.

Much like the credit crunch today, the Great Depression began with a stock market crash and a meltdown of the financial system

This was the last time that volatility was persistently high (see Figure 2).

Much like the credit crunch today, the Great Depression began with a stock market crash and a meltdown of the financial system. Banks withdrew credit lines and the interbank lending market froze up. The US central bank – the Federal Reserve – desperately scrambled to restore calm but without success.

What followed were massive levels of stock market volatility and a recession of unprecedented proportions. From 1929 to 1933, US GDP fell by 50%, a bigger drop than in every recession since World War II combined. On these numbers, a recession not only looks almost inevitable, but its longer-run effects start to become alarming.

So why is this rise in uncertainty likely to be so damaging for the economy? The reason is that firms typically postpone making investment and hiring decisions when business conditions are uncertain. It is expensive to make a hiring or investment mistake – so if conditions are

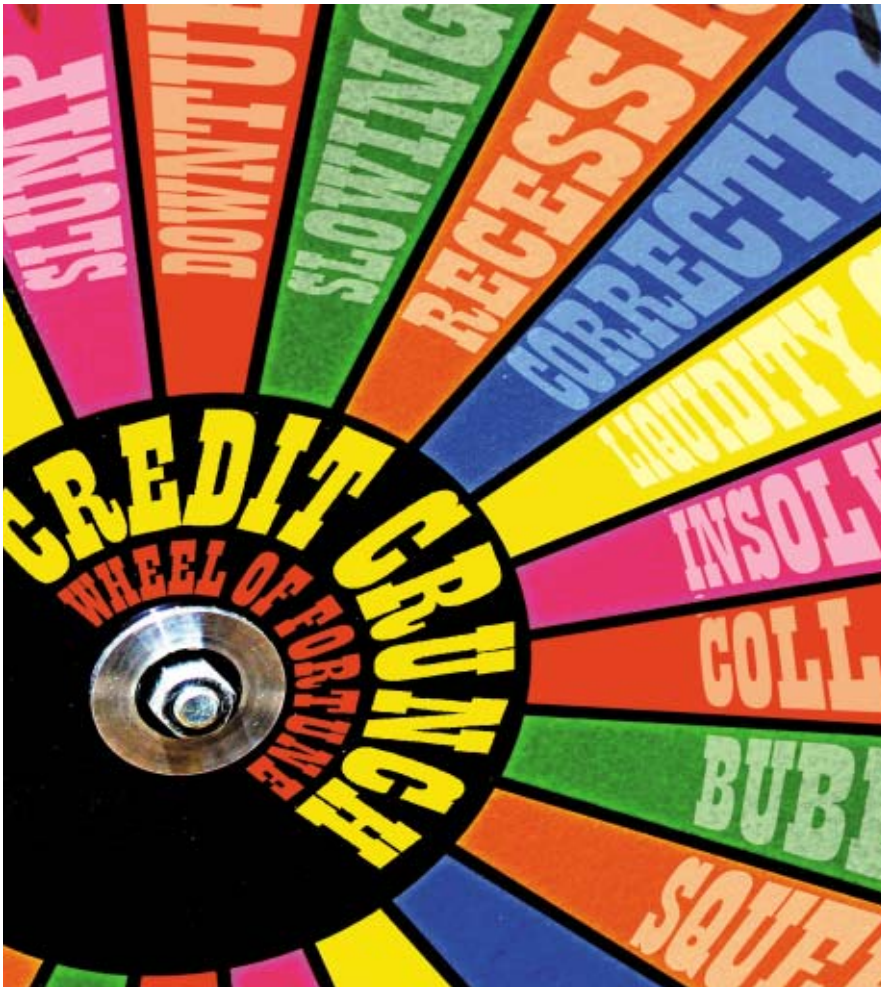
unpredictable, the best course of action is often to wait.

If every firm in the economy waits, then economic activity slows down. This directly cuts back on investment and employment, two of the main drivers of economic growth. But it also has knock-on effects in depressing productivity growth.

Most productivity growth comes from 'creative destruction' – productive firms expanding and unproductive firms shrinking. But if every firm in the economy pauses, then creative destruction temporarily freezes – productive firms do not grow and unproductive firms do not contract. This leads to a stalling of productivity growth.

Similarly damaging effects also happen on the consumers' side: when uncertainty is high, people avoid buying consumer durables like cars, fridges and TVs. The housing market is also hit hard: uncertainty makes people cautious about upscaling their house.

One reassuring fact is that global



**Nick Bloom** is an assistant professor of economics at Stanford University and a research associate in CEP's productivity and innovation programme.

The forces of uncertainty that lead to a recession also render policy-makers relatively powerless to prevent it

policy-making is in safe hands. The damaging effect of uncertainty shocks is well known to Fed chairman Ben Bernanke. His doctoral thesis of more than 25 years ago explored the negative effects of uncertainty shocks.

The main paper from that thesis was pioneering in the way it formalised the negative effects of uncertainty in causing recessions, noting that: 'events whose long-run implications are uncertain can create an investment cycle by temporarily increasing the returns to waiting for information' (Bernanke, 1983).

So what is stopping Bernanke acting to counteract this rise in uncertainty and forestall the recession? Well, as Bernanke also knows, the same forces of uncertainty that lead to a recession also render policy-makers relatively powerless to prevent it.

When uncertainty is high, firms become cautious, so they react much less readily to monetary and fiscal policy shocks. According to research on UK firms, which I conducted with two

colleagues, uncertainty shocks typically reduce the responsiveness of firms by more than half, leaving monetary and fiscal policy-makers relatively powerless (Bloom et al, 2007).

So the current situation is a perfect storm – a huge surge in uncertainty that is not only generating a rapid slowdown in activity but also limiting the effectiveness of standard monetary and fiscal policy to prevent this.

Policy-makers are doing the best they can – making huge cuts in interest rates, dishing out tax rebates and aggressively pouring liquidity into the financial markets. But will this be enough? History suggests not. A recession looks likely.

## Further reading

Ben Bernanke (1983), 'Irreversibility, Uncertainty and Cyclical Investment', *Quarterly Journal of Economics* 98(1): 85-106.

Nick Bloom (2007), 'The Impact of Uncertainty Shocks', National Bureau of Economic Research Working Paper No. W13385, also available as CEP Discussion Paper No. 718 (<http://cep.lse.ac.uk/pubs/download/dp0718.pdf>).

Nick Bloom, Stephen Bond and John Van Reenen (2007), 'Uncertainty and Investment Dynamics', *Review of Economic Studies* 74: 391-415.

William Schwert (1990), 'Indexes of U.S. Stock Prices from 1802 to 1987', *Journal of Business* 63(3): 399-426.