



# Global financial instability

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## Why US monetary policy matters

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Eric Tong

- ▶ Small, open economies must, at times, impose controls to contain disruptive capital inflows.

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**In many ways,** the impacts of the 2007 Global Financial Crisis (GFC) are still with us. For a number of developed countries, household income remains below the level prior the crisis, employment has yet to recover, and governments are more indebted. Although New Zealand emerged from the crisis in a relatively robust state, it nevertheless took five years for the country to regain pre-crisis income levels, and six years for employment to rebound. Such severity is not atypical for a financial crisis. In examining some 100 systemic banking crises, Professor Carmen Reinhart and Professor Kenneth Rogoff of Harvard University found that, on average, a country takes eight years to return to its previous level of per capital GDP.

**A**gainst this backdrop, researchers and policymakers have devoted a great deal of effort to understanding the causes and consequences of financial crises, as well as the measures required to mitigate future ones. The following article shares insights on these topics derived from recent studies and from doctoral research.

#### DRIVERS OF FINANCIAL CRISES

One factor identified by economists as contributing to the GFC is the loose monetary policy pursued by the United States between 2003 and 2005, when its Federal Reserve slashed interest rates in response to the bursting of the dot-com stock bubble in 2001. According to the researchers, loose monetary policy may induce financiers to take risks in two ways. First, low, risk-free rates prompt fund managers – who are required to achieve a certain returns target – to shift portfolio weightings in favour of riskier assets. Second, such rates are associated with higher and less volatile asset prices, the combination of which suggests to bankers that risks have been tamed. Empirical research using data from Spain, Bolivia, and the United States confirms that loose monetary policy does indeed promote risk-taking in a domestic context.

Despite the finding, it is not obvious how US monetary policy might have spilled to other countries prior the GFC and caused their banks to take risks. After all, banks in countries that had pursued tight monetary policy also took risks. For instance, although the Bank of England had maintained a tighter monetary stance than the US Federal Reserve, the British bank Northern Rock still geared leverage to an unsustainable level, culminating in the memorable image of depositors queuing outside the bank in September 2007 to withdraw money.

To account for the global reach of US monetary policy, Professor Hyun Song Shin of Princeton University conjectures a causal link between US monetary policy and global banks' risk-taking, as follows: easy monetary conditions in the US strengthen the currencies of periphery countries relative to the US dollar; strong local currencies, in turn, reinforce the robustness of local firms and, by extension, of local bank lenders; finally, low measured risks

in these countries further attract capital inflows, and exacerbate the credit cycle.

To test the theory, the present author compiled a database of 257 banks in 26 countries. The database makes use of a default risk metric computed by researchers at the National University of Singapore. In the econometric analyses, it was estimated that an easing of US monetary policy by one standard deviation raised the default risk of banks by 4-9 per cent. Because other causal factors of default risk, such as economic conditions and investors' risk appetite, are controlled for, the inverse relationship found can be explained as the banks being enticed into taking risks by US monetary policy, thus lending support to Shin's hypothesis.

The analysis also uncovers the channel of transmission of US monetary policy. When policy is eased, global risk appetite rises, causing capital to flow to peripheral countries and raise their banks' default risk. This discovery is consistent with the

results of a study by Professor Hélène Rey of London Business School, which documented the existence of a global financial cycle across different asset classes. The present findings echo the recommendation of the International Monetary Fund (IMF), which has endorsed capital controls as a valid tool of macroprudential management.

#### CONSEQUENCES OF FINANCIAL CRISES

The recession that followed the outbreak of the GFC represented the severest economic downturn since the Great Depression of 1930s. In the US, unemployment increased at twice the average rate recorded in post-World War Two recessions. The duration of unemployment also lengthened from the previous peak of 20.5 weeks in the 1980s recession to more than 40 weeks in the post-GFC recession. Two explanations have been advanced to account for such severity. The first proposes a "cyclical"

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mechanism in which dampened house prices during the GFC constrained households' borrowing and consumption, and low aggregate demand caused firms to lay off workers. The second advances a "structural" rationale: workers who lost their jobs were mostly financiers, whose skills did not match new job opportunities. A related argument is that unemployed workers were locked into specific locations by mortgage debts, which inhibited their move to locations with job openings.

Empirical evidence has been found for both explanations – which is unfortunate, as each calls for a different set of remedies. If unemployment is cyclical, then expansionary monetary and fiscal policies should be implemented. On the other hand, if unemployment is structural, then job training or debt relief programmes would better target the problem. To reconcile the difference, the present research develops a theoretical model that synthesises the two possibilities.

The analysis is inspired by the fact that financial assets that were widely accepted as collateral before the crisis – such as mortgage-backed securities (MBS) and collateralised debt obligation (CDO) – were suddenly rendered inadmissible on the eve of the bankruptcy of Lehman Brothers, in September 2008. In this analytical framework, it is conjectured that collateral is required for the intermediation of credit between bankers and entrepreneurs. If bankers refuse a certain class of assets as collateral, entrepreneurs cannot obtain the funds to hire employees, resulting in job losses. Viewed from this angle, the boundary between "cyclical" and "structural" blurs. It is cyclical in that it is driven from the demand side of the labour market (firms). But it is also structural, because a mismatch arises – not between employers and workers, as is conventionally conjectured – but between bankers and entrepreneurs in their intermediation of credit.

The model also highlights the role of information in determining banks' refusal of collateral, which is a trigger for collateral crises. It shows that the acceptability of assets depends as much on their fundamental quality, as on the intensity of banks' scrutiny of them. If bankers do undertake an examination, then flaws could be found even in high-quality assets, whereas if a blind eye is turned, then low-quality assets would become admissible. The model identifies a threshold of collateral quality, below which banks switch from unmonitored to monitored lending. The switch may account for the sharp drop in job vacancies during the GFC. A supplementary empirical exercise found a negative correlation between collateral quality and job vacancies.

A corollary of the collateral quality threshold is that a trade-off exists between the frequency and severity of a collateral crisis. The reasoning is straightforward: if an economy is settled at a low threshold, it implies that collateral quality may substantially worsen before checking is triggered,



and that a crisis is therefore less likely to break out. But when monitoring is triggered, by definition more entrepreneurs will be holding low-quality collateral, rendering them unable to obtain funds for hiring, thus causing more job losses.

### WITHDRAWAL OF MONETARY SUPPORT

At the onset of the GFC, the US Federal Reserve launched quantitative easing (QE) programmes and purchased bonds on a massive scale in order to lower the long-term cost of finance. Although the scheme succeeded in containing the crisis, it posed a challenge to the Federal Reserve's subsequent attempt to withdraw monetary support as the economy recovered. The difficulty culminated in what has been called the "taper tantrum" in June, 2013, when Federal Reserve Board Chair Ben Bernanke's carefully worded guidance to slow quantitative easing sparked a dramatic bond market sell-off by fund managers. During Bernanke's talk the credit risk premium increased by 50 per cent.

The incident is remarkable for two reasons. First, it showed that the impacts of quantitative easing could be asymmetric. Though financing costs decline gradually when monetary support is injected, they can quickly soar when it is withdrawn – and the abruptness may disrupt investment. Second, it draws attention to the financial stability considerations of asset management activities. For example, it was erroneously believed that because fund managers were unleveraged they posed a lesser threat to the financial system than their banking counterparts.

From a macroprudential standpoint, the key task lies in assessing the likelihood of another such tantrum in the future, as the inevitable "normalisation" of monetary policy takes place. On this, opinion is divided. On one hand, it is believed that the 2013 sell-off was an isolated incident that occurred because of the premature timing of Bernanke's statement. If it had been postponed until economic recovery was more robust, goes the reasoning, the financial market might have absorbed the news with ease. On the other hand, some researchers believe that the response was driven by a deeper force that was not connected with Bernanke's guidance. To avert similar incidents in the future, they say, efforts must be made to tackle the underlying friction.

Among the latter camp are Professor Stephen Morris and Professor Shin of Princeton University. They propose that the taper tantrum was rooted in competition among fund managers, in which underperformance is punished by the withdrawal of funds by investors. The aversion to such losses makes asset managers prone to herd behaviour in which they imitate the investment decisions of their peers. And although, ex ante, it is equally likely for asset managers to collectively hold or sell assets, the indication of an interest rate rise steers them towards selling, which results in an elevated risk premium.

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Another intricacy of the taper tantrum was that, just as most funds were rushing to sell bonds, a number of them entered the market, acquiring bonds at a discounted price. These managers, in effect, acted as arbitrageurs. This raises the question: did they just happen to have spare cash, or had they stored capital in anticipation of the fire-sales? Extending the work of Morris and Shin to take account of the role of arbitrageurs, the present research shows that forward guidance of the kind offered by Bernanke determines not only the likelihood of fire-sales, but also the amount of capital set aside for arbitrage purpose. If the central bank foreshadows a rate rise, agents deduce a likelier occurrence of fire-sales and store capital in the hope of profiting from them. Since capital could otherwise be deployed to production, such storage is wasteful. The analysis therefore points to a further concern of the normalisation of monetary policy, in addition to the asymmetric adjustment of financing costs.

#### **POLICY IMPLICATIONS**

This article has discussed three aspects of the GFC: the build-up of fragility amid loose monetary policy in the United States, the withdrawal of credit from employers in the wake of revised perceptions on the quality of collateral, and the market mayhem caused by taper talk. Each aspect contains implications for policy, which are collated below.

The first aspect describes the influence of US monetary policy on risk-taking attitudes of banks around the world. Given the large stakes, it would be ideal for the US Federal Reserve to take into account the implications of its actions on global financial stability. But to the extent that global considerations and the domestic mandate of the Federal Reserve cannot be fully reconciled in line with International Monetary Fund’s recommendations, small, open economies may consider imposing capital controls to fend off inflows of disruptive capital induced by US monetary policy.

In light of the global influence of US monetary policy, economists also contemplate whether a preemptive tightening of monetary policy is needed to curb credit bubbles. Donald Kohn, the former Vice Chair of the Federal Reserve Board, lists three conditions for deciding on such policy: (1) the timely detection of credit bubbles; (2) the efficacy of moderate monetary tightening; and (3) a sizable improvement in economic performance as a result of less expansive bubbles.





Recent work on the identification of credit cycles points to partial, if not complete, validation of Kohn's requirements.

A proposition for preemptive tightening may be especially relevant given recent trends in the Federal Reserve's policy setting. Not only has the US central bank refused to lean against credit bubbles, as a "risk management" measure, it has actively eased monetary policy before such bubbles burst. Viewed from the perspective of dynamic control theory, which studies the perturbation of complex systems, such an asymmetric stance is prone to resulting in ever sharper successive cycles. Balancing preemptive easing with a tightening stance cannot guarantee the perfect efficiency of the financial market, but it does aim to keep deviations from equilibrium within acceptable limits, and thus enhance the sustainability of the financial system.

The second aspect highlights the existence of a trade-off between the frequency and severity of a collateral crisis. The key insight is that monetary and macroprudential policies alike may manipulate the trade-off, but they cannot eliminate a crisis. For instance, a lowering of banks' bargaining power is shown to lessen the likelihood of a crisis, but also to increase its severity when it does occur. This raises doubts about the efficacy of efforts to limit the autonomy of banks in the wake of the GFC – for example, through the Dodd-Frank Act, which sought to improve accountability and transparency, and to strengthen consumer protection.

The third aspect describes the allocative inefficiency stemming from a reversal of

loose monetary policy. Such inefficiency results from agents' storage of capital in anticipation of a fire-sale, triggered by the tightening of monetary policy. Two approaches may be used to mitigate the inefficiency. First, central banks may raise interest rates without prior notice – if a fire-sale is not anticipated, agents will not store capital in advance. Second, exit fees may be imposed on investors, which would reduce their sensitivity to short-term fund performance. Damage to the reputation of central banks constitutes a major shortcoming of the first measure, and the reluctance of the fund management industry to be labelled as destabilising, let alone to be regulated, poses obstacles

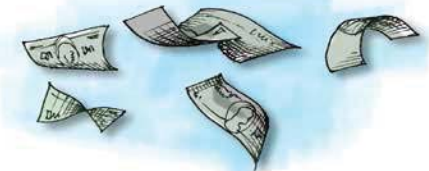
to the second. Further work is therefore needed to assess the practicality of these suggestions.

Taken as a whole, a consensus among researchers and policymakers is that monetary and macroprudential policies – such as capital controls, exit fees, and limits on the bargaining power of banks – should be used in a complementary way to foster financial stability. Given the intricate relationship between monetary policies and agent incentives, however, individual policies should not be confined to the goals of price and financial stability. Furthermore, in case of conflict, it may well be preferable to prioritise financial stability over price stability. ■



**Eric Tong** is a Doctoral Researcher in the University of Auckland Business School's Department of Economics, and is a recipient of an NZAE Education Trust Graduate Study Award. His research applies ideas from international finance and game theory to understand the causes and consequences of financial crises. He also lectures at the Hang Seng Management College in Hong Kong.

[e.tong@auckland.ac.nz](mailto:e.tong@auckland.ac.nz)



## KEY TAKE-OUTS

- Balancing preemptive easing with a tightening of monetary policy promotes the sustainability of the financial system.
- A trade-off exists between the frequency and severity of collateral crises.
- Contingent on its usage, central banks may either cause or curb 'fire sales' through forward guidance.
- Monetary and macroprudential policies should be used in a complementary way to foster financial stability.