Editorial

Policy responses to the Great Financial Crisis

1. Introduction

The Great Financial Crisis has triggered an ongoing assessment of what went wrong, and what can be done going forward to prevent a similar financial crisis. This assessment has driven a broad policy response in the realms of monetary and fiscal policy and financial regulation and supervision. To date, the policy response reflects a common recognition that the numerous and far-reaching benefits of financial integration are not without risks, in particular, the risk of contagion and the possibility of a landscape of future domestic, regional and global systemic crisis. To a very large degree, policymakers have also developed these answers in common, in response to the mandate given to them by G-20 leaders at the summits in Washington in 2008 and Pittsburgh in 2009.

This special issue of the *Journal of Financial Regulation and Compliance*, "Policy Responses to the Great Financial Crisis", published in two parts (part 2 will be in issue 4) has selected a number of new articles that evaluate both the assessments made and actions taken by policymakers. In this introductory article, we briefly discuss the central banks' response to the crisis and the new prudential regulatory regime that has emerged since the crisis.

2. The central banks' response to the financial crisis

Central banks have played a key role in limiting the impact of the Great Financial Crisis on the real economy. Through timely interventions at the height of the crisis and through policy innovations, central banks together with fiscal authorities helped contain the crisis and set the stage for recovery. As a result, economists now speak of the Great Recession, rather than the Greater Depression.

Contagion effects from the collapse of Lehman Brothers on 14 September 2008 galvanised central banks and fiscal authorities into action on several fronts. Extraordinary times demand extraordinary measures in terms of both speed and scope. Central banks responded on both counts. First, they ensured together with fiscal authorities that contagion effects from the collapse of Lehman Brothers would not cause other systemic institutions to topple over. To prevent such a domino effect, the Federal Reserve (Fed) provided a lender of last resort facility to American International Group (AIG) and licensed Goldman Sachs and Morgan Stanley as bank holding companies so that these investment banks could have access to central bank liquidity facilities. In October 2008, the USA used the hastily enacted Troubled Asset Relief Program (TARP) to reinforce the capital of the largest US banks. Other countries took similar measures. In the UK, Germany, Switzerland, France, The Netherlands, Belgium, Austria and Ireland (to give a partial list), the state provided solvency and/or liquidity support to major banks. Heads of government and their finance ministers met to ensure international cooperation during the crisis, and to avert the "beggar thy neighbor" policies that had helped turn the US stock market crash of 1929 into the Great Depression.

Second, central banks flooded the market with liquidity. Led by the Fed, central banks poured trillions of dollars into their economies. With dollar liquidity in short supply in many

The views expressed here are those of the author and do not necessarily represent those of Bank of Spain or the euro system.

Journal of Financial Regulation and Compliance
Vol. 25 No. 3, 2017
pp. 230-235

1358-1988
DOI 10.1108/JFRC-05-2017-0043

countries, the Fed began arranging swap facilities with major counterparty central banks, initially the European Central Bank (ECB) and Swiss National Bank (SNB), and then much more widely. These central banks then made dollar liquidity available to institutions within their jurisdictions.

Central banks also made domestic lending facilities more freely available. They expanded the range of collateral that they would accept under normal facilities. They extended the maturity of such facilities. In addition, they enlarged the group of counterparties eligible to access such facilities. In the USA, for example, the Term Auction Facility (TAF) introduced in December 2008 extended the maturity and widened the range of acceptable collateral. The ECB introduced Long Term Re-Financing Operations (LTROs) and broadened the list of eligible counterparties.

Third, central banks not only cut interest rates but also took monetary policy into new territory. Following the collapse of Lehman, central banks around the world aggressively cut short-term interest rates.

The US Fed, unusually amongst major central banks, has a double mandate, being responsible not just for countering inflation but also for ensuring full employment. For the USA too, it is particularly difficult to operate a countercyclical fiscal policy, given the executive's limited control over the Congress. As the prospects for further fiscal expansion were increasingly problematic, the Fed turned to unorthodox policies, as did other central banks. For central banks with only an inflation targeting (IT) regime such as the ECB, policy decisions were also challenging for other reasons. IT was not initially considered a symmetric target, with stimulative measures needed if prices were going to rise less than the target, as it was felt that pressures would always be to break the target in an upward direction. At this point though, with inflation barely in the positive territory, there seemed to be scope for further monetary stimulation.

From the start quantitative easing (QE) was controversial, with respect to both the amount and the type of assets bought by the central bank. QE vastly increased the size of the central banks balance sheets. This raised concerns that the central banks soundness could suffer and its independence be threatened. Some argued that QE could ultimately be inflationary. Others argued that the policy would be ineffective: in conditions of a Keynesian liquidity trap, QE was like "pushing on a piece of string". In their view, fiscal stimulus was required, but QE was not to be used as a means to enable the fiscal authorities to avoid their responsibility.

Further controversy emerged concerning when and how central banks should end QE and put monetary policy back on a normal footing. The "taper tantrums" in 2014, when the Fed first mooted interest rate rises, and exchange rates in many emerging markets fell precipitously, showed the fragility of the world economy.

But perhaps the greatest controversy in connection with QE arose where central banks used QE to acquire new categories of assets. In the USA, the new asset class was mortgage-backed securities. In the Eurozone, the ECB introduced its Securities Management Program (SMP) to buy Eurozone bonds in the secondary market. For the ECB, the issue seemed more difficult with legal prohibition on primary market purchases of government debt. In 2012 – in line with President Draghi's statement that the ECB would do "whatever it takes" to preserve the Euro – the ECB supplemented the SMP by drawing up plans for Outright Monetary Transactions (OMTs). This would allow the ECB to buy government bonds of specific Member States, so that the ECB became a buyer of last resort. In fact, the ECB never had to act in this capacity – the announcement itself sufficed to compress yields and reduce pressure on heavily indebted Member States and on the banks, which had invested heavily in the bonds of such Member States.

More recently, with an evident need to continue monetary easing in Europe, there was debate about putting interest rates into negative territory. Some saw this as urgent to avert incipient price deflation, while others saw a whole range of economic distortions likely if interest rates were negative. Negative interest rates would also be counter to Taylor-rule prescriptions. In the event, negative interest rates were deliberately introduced by Switzerland to offset the continuing upward pressure on the exchange rate. With negative interest rates no longer seen as problematic *per se*, and inflation hovering around zero, the ECB too lowered its benchmark rates below zero.

3. Regulatory reform

The financial crisis also laid bare shortcomings in the regulation and supervision of banks. Prior to the crisis academics, banks and their supervisors largely shared the view (based on the rational expectations hypothesis) that monetary policy had tamed the business cycle and (based on the efficient markets paradigm) that markets could tame or discipline the banks. This spawned "light touch" approaches to regulation. There is also a tendency for approaches to regulation to be based disproportionately on recent events (the availability heuristic) with risk-averse regulators under pressure to make decisive responses to a recent problem but gradually to ease off, as judgments are made that perhaps the initial reaction was excessive.

The radical change in the post-crisis regulatory regime has been both *incremental* (substantial revisions within the existing framework [e.g. banks' capital]), and *strategic* in that its scope has been widened and has been designed not only to lower the probability of bank failures, but also to limit the social costs of those failures that do occur (e.g. through resolution plans). Clear fault-lines in the previous regulatory regime became apparent, not the least being that little attention had been given to resolution arrangements for failing banks.

Broadly speaking, the post-crisis reform programme has three components:

(1) strengthening banks' global capital framework and bolstering liquidity;

(2) dealing with moral hazard and Too Big to Fail (TBTF) policies; and

(3) making markets robust.

3.1 Strengthening banks' global capital framework and bolstering liquidity

Banks, particularly globally systemically important banks, were at the heart of the Great Financial Crisis. Limiting banks probability of default was therefore a primary objective for the post-crisis reform programme. To accomplish this, policymakers revamped prudential regulation and strengthened supervision. Both tasks are still in progress.

The prudential regulatory agenda aims to strengthen solvency and bolster liquidity. To do so, the Basel Committee agreed that jurisdictions should improve the quality and increase the amount of capital that banks are required to keep. Henceforth, the capital regime would be based on Common Equity Tier I (CET1) capital, effectively a tangible net equity measure immediately available to absorb loss.

In addition to improving the quality of capital, the new regime significantly increases the quantity of capital banks are required to hold. First, the minimum required CET1 capital ratio rose from 2.0 to 4.5 per cent of risk-weighted assets (RWAs). Second, banks have to hold various buffers, if they wish to be able to pay dividends or make distributions to shareholders. These buffers include a capital conservation buffer (2.5 per cent CET1/RWAs) for all banks and a surcharge of up to 3 per cent of RWAs for global systemically important banks (G-SIBs), so that the effective capital ratio for the G-SIBs at the core of the banking system is of the order of 9 per cent of RWAs.

Reforms also increase the level of RWAs against which banks must hold capital. To date, these revisions cover operational risk, as well as risks resulting from securitisation and counterparty risk and those from positions in the trading book. Further increases would result, if the Basel Committee adopts proposals to revise the standardised approach to credit risk in the banking book and to impose a floor (relative to the revised standardised approach) on the level of RWAs that would result from the use of models in the IRB approach.

Finally, policymakers have introduced a leverage ratio as a backstop to the risk-weighted regime, as well as expanded disclosure requirements. In addition, they have set standards for "gone-concern" capital in connection with resolution reform (see below).

With respect to liquidity, regulators have set for the first time a global liquidity standard. The liquidity coverage ratio (LCR) aims to ensure that banks have an adequate buffer of liquid assets to offset short-term funding shortfalls, whilst the net stable funding ratio (NSFR) aims to prevent excessive maturity transformation.

Stricter supervision supplements more rigorous regulation. Supervisors have become much more forward-looking and pro-active. In particular, supervisors now subject banks to frequent and detailed stress tests. These introduce a forward-looking dimension into capital and liquidity requirements. The tests enable the supervisor to determine whether banks will continue to comply with regulatory capital and liquidity requirements, even if macroeconomic and market conditions deteriorate markedly. If the bank is unlikely to be able to do so, the supervisor will require the bank to submit a remediation plan, and may require the bank to cease paying dividends or making distributions to shareholders. For extreme shortfalls, the supervisor may require the bank to raise more capital immediately.

3.2 Dealing with moral hazard and too big to fail policies

A feature of the post-crisis regulatory reform agenda led by the G20 is to address moral hazard and too big to fail (TBTF) problems when government authorities perceive themselves to have no other option than to bail out, given their size and importance, to the functioning of the financial system, its complexity and its interconnectedness with other institutions. The regulatory approach to TBTF encompasses both, the assessment of systemic importance of financial institutions at the global level (designation of G-SIBs) and the regulatory approach to deal effectively with the crisis resolution of these G-SIBs. To this end, policymakers developed under the aegis of the Financial Stability Board a set of key attributes for resolution plans to be effective, i.e. to ensure the continuity of critical economic functions without the need for taxpayer support. Over time, all principal jurisdictions have enacted these attributes into legislation or regulation.

The new resolution regime is based on the public policy objective that investors, not taxpayers, should bear the cost of bank failures. To this end, banks will be required from January 2019 to maintain total loss-absorbing capacity (TLAC) at a minimum of 16 per cent over risk-weighted assets (excluding buffers) of which a minimum of one-third must be in the form of "gone-concern capital" that the resolution authority can "bail-in" (write down or convert into CET1 capital) at the point at which the bank enters resolution. The bail-in serves to recapitalise the failed bank and set the stage for the bank to continue to perform its critical economic functions.

In concept, therefore, resolution plans are akin to a "pre-pack" bankruptcy with the resolution authority as the initiator and administrator of the plan. The role of the bank is to supply the resolution authority with data and analysis, perhaps even suggestions for how the plan might work, but the resolution authority has to take and implement the ultimate decisions with respect to resolution: whether and when to put the bank into resolution, what resolution tools to use and how to manage the bank whilst it is in resolution. These are complex issues, and the authorities have formed crisis management groups to discuss among themselves, as well as with the bank, the issues that may arise, if they had to resolve the bank in question.

In theory, this approach has many benefits. It puts investors at risk, and therefore creates an incentive for them to monitor banks more closely. This approach should therefore more closely align banks' funding costs to risk, enhance market discipline and reduce moral hazard. That, in turn, will limit the claims that could be put on taxpayers.

In practice, open bank bail-in will pose challenges to implement, particularly for systemic firms that are active in many markets around the world through many different legal vehicles. Resolution authorities are generally concerned with (and in some cases explicitly mandated to consider) financial stability within their own jurisdiction, not global financial stability.

That has led to requirements that global banks make their operations separable; i.e. they put some or all of their activities in a particular jurisdiction into a separate legal vehicle. For example, the USA requires foreign banking organisations to place their subsidiaries in the USA into an intermediate holding company. The EU will prospectively impose a similar requirement for the EU subsidiaries of third-country institutions. In the UK and Switzerland, banks have to place their domestic retail business into a separate bank and ring fence this from portions of the group dealing in securities or having foreign branches. Such separation enables each resolution authority to prioritise preserving critical economic functions in its own jurisdiction.

However, separability is not sufficient to ensure resolvability. Continuity of critical economic functions can only be maintained if the recapitalised bank has access to liquidity when it reopens for business. Further work is needed here, by both the banks and the authorities (including the central banks).

3.3 Making markets robust

The third element of the reform programme is to make markets robust. The main focus is on derivative markets, specifically on ending the contagion that could arise via closeout of bi-lateral OTC derivatives contracts. Central counterparties offer a way to reduce this risk, and policymakers have instituted mandatory clearing for standard derivatives.

However, there is a residual risk that the CCP itself could fail. If one did, it could disrupt financial markets and harm the economy at large. Consequently, policymakers have required that CCPs be able to withstand the failure of their largest participant and insist that CCPs develop effective resolution plans. Those CCPs which do so may be designated as "qualified CCPs", and banks' exposures to such CCPs carry lower capital requirements.

4. Conclusion

In summary, policymakers have not let the crisis go to waste. The measures taken by central banks have contributed significantly to the containment of the crisis and to the recovery that ultimately commenced. However, this success (as well as the crisis itself) has called into question the paradigms on which monetary policy had been based prior to the crisis.

Furthermore, it has highlighted the importance of the macro-prudential policy dimension of central bank policy.

Policymakers have also used it as the basis to revamp regulation and supervision of banks, as well as to make markets more robust. This reduces the probability that banks will fail and increases the likelihood that, if a bank were to fail, it could be resolved without taxpayer support and without significant disruption to financial markets and the economy at large.

It remains to be seen whether these measures will be enough to prevent another crisis or to cope with a new crisis, should one develop.

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