

## **Supplementary memorandum from the Bank of England**

### **TOWARDS A MACRO-PRUDENTIAL INSTRUMENT**

At its hearing on 26 February, the Treasury Committee requested from the Bank of England a paper on counter-cyclical macro-prudential instruments (MPI).

The rationale for an MPI is well illustrated by the events over the past decade. In the UK and internationally, monetary policy was aimed at stabilising the overall level of inflation. It achieved that in part through balancing aggregate demand and aggregate supply in the economy. At the same time, financial regulation focussed on the conduct and resilience of individual institutions. For much of this decade that approach appeared to work well, with demand and inflation stable. There were also very few failures of financial institutions.

But no instrument or institution was charged explicitly with controlling overall financial conditions, except insofar as this affected inflation, aggregate demand or individual institutions. In that environment, bank balance sheets grew unchecked. Between 2000 and 2007, they roughly trebled in size. Latent vulnerabilities built-up within the financial system. The credit crisis of the past 18 months has exposed those vulnerabilities, with highly adverse consequences for both the financial system and the real economy.

With hindsight, there was a gap between the macro-economic and the micro-prudential arms of policy. The growth of the financial sector might have been moderated, and the subsequent crisis made less painful, had there been an instrument filling the gap between the macro-economic and the micro-prudential – a macro-prudential policy instrument. If implemented correctly, this might have resulted in a more stable path for both the real economy and the financial sector.

This is easier said than done. Implementation challenges for an MPI are considerable. This paper provides a preliminary assessment of some of the key operational issues involved in the design of an MPI. These include:

- Key design features of an MPI (objectives, instruments);
- Potential objectives of an MPI;
- Potential instruments for implementing an MPI;
- Practical problems in implementing an MPI.

### **Designing a Macro-Prudential Instrument**

From the second World War up until the early 1980s, various quantitative restrictions were placed on UK commercial banks in an attempt to stabilise their balance sheets and thereby the real economy. This historical experience provides lessons for the design of an MPI. MPIs are intended to curb cyclical variations in credit provision. But they may also lower average amounts of credit being provided to certain classes of borrower, thereby potentially constraining growth.

The sub-prime experience in the US is salutary. With hindsight, this is seen as a period of laxity in credit provision, with large costs for the US and global economies in general and for US home-owners in particular. But it is important not to forget that, ahead of crisis, the relaxation of credit constraints for large cohorts of previously credit-constrained US households was seen as a success story. In designing an MPI, the key is to find a balance between these factors.

At a high level, the key design features of an MPI are threefold:

- Objectives: *What* is the MPI seeking to achieve?
- Instruments: *How* is the MPI calibrated to achieve these objectives?
- Institutions: *Who* is charged with implementing the MPI?

These decisions follow a natural sequence. For example, without first defining the underlying objectives of an MPI, it is difficult to determine which instruments are most appropriate and how they should be adjusted. And decisions on the objectives and instruments of an MPI should logically precede decisions on who should operate it.

Over the past couple of months, there have been several reports from the official sector internationally and from the academic community on the design of an MPI. Several international committees are also engaged in work programmes. Annex A lists some of those reports and committees. In general, these reports have tended to focus on the “who” more than the “what” and the “how”.

A better starting point is “what” and “how”. But the choice of objectives and instruments raises difficult analytical and practical issues and potential trade-offs. The remainder of this paper focuses on those operational issues.

### **Objectives of Macro-Prudential Policy**

The current debate on MPIs has illustrated that, as yet, consensus on objectives has not been reached. To illustrate, at one end of the spectrum are a set of proposals which are essentially about making banks more resilient against cyclical variations in the economy. They are, first and foremost, about ensuring the safety and soundness of banks and their depositors and creditors. These measures have been the focus of official sector reports to date.

One example of such a policy is “dynamic provisioning”. This is a set of rules which aim to ensure banks set aside sufficient reserves for a cyclical downturn, providing an additional cushion for banks and thereby better enabling them to maintain lending during a recession.<sup>1</sup> This regime has operated in Spain for a number of years. Leverage ratios – a measure of banks’ assets relative to their equity – are a second potential counter-cyclical measure.

At the other end of the spectrum are proposals which are essentially about dampening the growth in credit. Policies which adjust regulatory ratios, or margin requirements, in response to excessive credit growth or asset price inflation would fall into this category. These measures have been discussed in a number of academic reports. They go beyond dynamic provisioning, which did not appear to constrain credit growth in Spain much over recent years.

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<sup>1</sup> See, for example, Box 6: Countercyclical measures, Bank of England Financial Stability Report, October 2008.

At present, both sets of policies are being captured under the “macro-prudential” umbrella. But these measures could operate in different ways, potentially requiring different instruments and placing different informational demands on the authorities. They may also have potentially different implications for the behaviour of the financial sector and the real economy.

The current UK conjuncture provides a good illustration of the potentially different objectives an MPI could serve. If the only concern at the present time was protecting banks from the downturn, the authorities would be raising capital requirements to provide an extra buffer. But on broader macroeconomic grounds, there is a case for actually lowering capital ratios, so giving banks extra flexibility to lend. Before hardwiring either approach into the design of an MPI, it will be critical to understand and evaluate these different approaches and their consequences.

### **Instruments of Macro-Prudential Policy**

There are several aspects to this, including:

#### *(a) Which instrument?*

In theory, an MPI could be used to exercise control over almost any aspect of banks’ balance sheets - for example, capital or debt on the liabilities side, or lending on the assets side. This control could also be exercised using either prices or quantities. Annex B sets out some options and provides some examples.

Choosing between these instruments involves trade-offs. It involves balancing the desire to exercise leverage over credit supply decisions on the one hand, and the desire to minimise effects on the commercial decision-making of financial institutions on the other. For example, adjusting regulatory capital ratios would be one means of operating an MPI. This would cause less interference in banks’ decision-making. At the same time, its impact on banks’ lending choices would be indirect and thereby uncertain in extent. For example, it is unclear whether lowering capital ratios for banks at present would encourage them to lend.

Instruments that act directly on the assets side of banks' balance sheets – for example, direct lending controls or prescribed loan-to-value ratios – would strike a different balance. They would, on the face of it, score better in terms of their influence on credit supply decisions. That is why, for example, the UK authorities have during this year used lending agreements to support the economy. But this would come at the expense of greater impact on, and hence potential distortion to, commercial banks' decision-making.

This is a second area where further analysis of the operational choices, and the trade-offs they present, would be essential before putting an MPI into practice.

*(b) Single v multiple and rules v discretion?*

Other dimensions to instrument choice include whether there should be one instrument or many, and whether that instrument should operate according to a pre-defined rule or be discretionary. Earlier UK experience is revealing here. Multiplying the number of restrictions on banks' balance sheets was rarely beneficial. It added complexity and thus distortion without any correspondingly greater degree of control. As in a monetary policy context, this suggests there should be a strong preference for simple, targeted measures wherever possible and we should aim to avoid a proliferation of instruments.

On rules versus discretion, a case can be made analytically for an MPI having rule-like features. Rules can reinforce the credibility of a regime, by acting as a bulwark against forbearance – for example, offsetting the inevitable incentive to avoid raising required capital ratios when a credit boom was in full swing. Rules also increase clarity and hence policy transparency.

Against that, the inflexibility of fixed rules can be a constraint in some circumstances – for example, if underlying behaviour in the economy is changing. That is one of the key lessons from history. When implementing restrictions on banks' balance sheets, whether for prudential or macroeconomic purposes, Goodhart's Law (that historical relationships are apt to change after a policy is implemented) has been an ever-present problem.

This may point towards an MPI needing to operate within a framework of “constrained discretion”, combining some rule-like features with some discretion. By analogy, this is now widely accepted internationally as the optimal framework for the implementation of monetary policy.

### **Practical Implementation**

There are a large number of potential practical problems in implementing an MPI. These arise almost irrespective of the precise operational model. Many of these practical issues hinge critically on the choice of end-objective. They include:

- Institutional scope of regulation: Historical experience suggests that there will inevitably be strong incentives to avoid regulatory rules: for example, Regulation Q in the US stimulated the euro-dollar market in London; the 1970s “Corset” in the UK encouraged disintermediation, for example through the acceptances market; and, more recently, Basel I stimulated growth in the shadow banking system. At a minimum, this calls for a degree of flexibility when determining the appropriate institutional scope of an MPI. More broadly, however, this underscores the importance of determining the appropriate objective of an MPI. If the aim is to protect depositors, this suggests a focus on deposit-taking institutions. If the focus is on credit supply, this may speak to a potentially different set of institutions.
- International scope of regulation: An important additional complication is the treatment of cross-border banks. Without consistent application of the regime internationally, there would be strong avoidance incentives – for example, by booking business in countries where the macro-prudential regime was looser or non-existent. Consider a London branch of a Swiss bank lending to a US firm expanding its operations in Germany. Who should operate the lever, to which entity should it apply and calibrated to whose credit cycle? There is no easy answer to those questions. The answers are once again importantly influenced by the objective of an MPI. If the objective is resilience of the financial system, then conditions in Switzerland and the UK become central; if the objective is stabilisation of the credit cycle, then credit conditions in the US and Germany become a crucial determinant.
- Consistency with other policy instruments: A successful MPI will support the other arms of policy – macro-economic policy and micro-prudential policy. This suggests there needs to be consistency between these arms of policy. Objectives are again key. Narrower macro-prudential tools call for consistency with micro-prudential instruments; broader macro-prudential tools for consistency with monetary policy.

- Bank-specific v system-wide calibration: Should macro-prudential tools be calibrated to individual firms' own balance sheets positions or to the balance sheet of the system as a whole? A case can be made for either and the case rests, once again, on end-objectives. The greater the orientation of an MPI towards the resilience of the banks, the stronger the case for calibrating to individual institutions' balance sheets. The greater the orientation towards dampening the credit cycle, the more important becomes the need to calibrate interventions according to system-wide financial conditions and behaviour.

## **Next Steps**

There is now a clear consensus in favour of a counter-cyclical MPI. That is considerable progress and it is important that this opportunity to reform the financial system is pursued. At the same time, if an MPI is to be implemented, it is crucial that it is robust and credible. That will require a considerable programme of work to tackle the operational issues raised above. It will also require a broader consideration of other tools to increase systemic resilience.

The experience with monetary regimes suggests that process cannot and should not be rushed. There is time to consider carefully the design of new instruments. Nor should the process be conducted piecemeal, with initiative layered on initiative without a clear sense of direction. The law of unintended consequences applies forcefully when introducing new policy instruments. The aim should be to deliver a macro-prudential regime which both matters and which lasts.

Bank of England

*9 April 2009*

## ANNEX A

## Selected Reports and Committees on Macro-Prudential Instruments

<b>Table: Selected reports and committees on macroprudential instruments</b>
<b>Official sector reports</b>
IMF: "The Perimeter of Financial Regulation" (2009) available at: <a href="http://www.imf.org/external/pubs/ft/spn/2009/spn0907.pdf">www.imf.org/external/pubs/ft/spn/2009/spn0907.pdf</a>
IMF: "Lessons of the Financial Crisis for Future Regulation of Financial Institutions and Markets, and for Liquidity Management" (2009) available at: <a href="http://www.imf.org/external/np/pp/eng/2009/020409.pdf">www.imf.org/external/np/pp/eng/2009/020409.pdf</a>
IMF: "Lessons of the Global Crisis for Macroeconomic Policy" (2009) available at: <a href="http://www.imf.org/external/np/pp/eng/2009/021909.pdf">http://www.imf.org/external/np/pp/eng/2009/021909.pdf</a>
G30: "Financial Reform: A Framework for Financial Stability" G30 Report (chaired by Paul Volcker) (2009) available at: <a href="http://www.group30.org/pubs/recommendations.pdf">www.group30.org/pubs/recommendations.pdf</a>
FSF: "Report of the Financial Stability Forum on Addressing Procyclicality in the Financial System" (2009) available at: <a href="http://www.fsforum.org/">http://www.fsforum.org/</a>
FSF: "Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience" (2008) available at: <a href="http://www.fsforum.org/list/fsf_publications/tid_110/index.htm">http://www.fsforum.org/list/fsf_publications/tid_110/index.htm</a>
Basel Committee, Speech by Chairman Wellink: "Basel Committee initiatives in response to the financial crisis " (2009) available at: <a href="http://www.bis.org/review/r090330a.pdf">www.bis.org/review/r090330a.pdf</a>
EU: "Report by the High-Level Group on Financial Supervision in the EU (chaired by Jacques de Larosiere) (2009) available at: <a href="http://ec.europa.eu/commission_barroso/president/pdf/statement_20090225_en.pdf">ec.europa.eu/commission_barroso/president/pdf/statement_20090225_en.pdf</a>
FSA: Turner Review and DP 09/ 02: "A Regulatory Response to the Global Banking Crisis" (2009) available at: <a href="http://www.fsa.gov.uk/pubs/discussion/dp09_02.pdf">www.fsa.gov.uk/pubs/discussion/dp09_02.pdf</a>
US: The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure ("Paulson plan", 2008) available at: <a href="http://www.treas.gov/press/releases/reports/Blueprint.pdf">www.treas.gov/press/releases/reports/Blueprint.pdf</a>
US: Framework For Regulatory Reform (Geithner's "outline for regulatory reform", 2009) available at: <a href="http://www.ustreas.gov/press/releases/tg72.htm">http://www.ustreas.gov/press/releases/tg72.htm</a>
The Tripartite Review Preliminary report (2009) by James Sassoon available at: <a href="https://www.tripartitereview.co.uk/">https://www.tripartitereview.co.uk/</a>
<b>Academic reports</b>
"The Fundamental Principles of Financial Regulation" (2009) by Brunnermeier, Crockett, Goodhart, Persaud & Shin available at: <a href="http://www.voxeu.org/index.php?q=node/2796">http://www.voxeu.org/index.php?q=node/2796</a>
"Restoring financial stability: how to repair a failed system" (2008) edited by Viral Acharya and Matthew Richardson. See: <a href="http://whitepapers.stern.nyu.edu/home.html">http://whitepapers.stern.nyu.edu/home.html</a>
"New Ideas for the London Summit" (Chatham House and Atlantic Council) (2009) available at: <a href="http://www.chathamhouse.org.uk/publications/papers/download/-/id/727/file/13733_r0409_g20.pdf">www.chathamhouse.org.uk/publications/papers/download/-/id/727/file/13733_r0409_g20.pdf</a>
<b>International Committees with work underway</b>
Financial Stability Forum (Working Group on Market and Institutional Resilience)
Basel Committee on Banking Supervision
EU Economic and Financial Committee (Working Group on Procyclicality)
European Banking Committee / Committee of European Banking Supervisors (Joint working group on supplementary measures)
Committee of European Banking Supervisors (Expert Group on Prudential Requirements and Working Group on Cyclicity)

## ANNEX B

## Examples of Bank Balance Sheet Instruments

Side of the balance sheet affected	First variable affected	Policy tool	Comments
Liability side	Quantities	Capital Requirements (floor)	These requirements could take many different forms. For example, a discretionary counter-cyclical buffer, or non distributable cyclical reserves (“dynamic provisioning”).
		Core funding requirement (floor)	Liquidity regulation could impose constraints on the extent to which banks can use less stable sources of funding to grow rapidly. The FSA’s proposed ‘core funding ratio’ is an example of this.
		Margining requirements (floor)	Broad-based collateral arrangements or a margin-setting authority could enforce margining rules.
		Controls on the growth of banks’ IBELs [interest-bearing eligible liabilities] (ceiling)	For example, the ‘Corset’ (used in the UK during the 1970s). This scheme penalised banks whose IBELs grew faster than the prescribed rate.
	Prices	Deposit rate ceiling (ceiling)	A deposit rate ceiling could be used to constrain banks’ ability to expand rapidly, funded by high-paying retail deposits.
Asset side	Quantities	Lending controls (ceiling)	Direct controls on the quantity of bank lending were in place prior to the introduction of Competition and Credit Control in 1971. Between 1965 and 1971, ceilings were used to target a specific rate of lending growth.
		Loan-to-value / Loan-to-income ratios (ceiling)	This approach was used in Hong Kong in the 1990s. The HKMA had a recommended maximum LTV ratio in 1991 of 70% for property lending.
		Cash reserve requirements (floor)	Requirements to hold government bonds or cash reserves deposited at the Bank.
	Prices	Loan rate control (floor or ceiling)	If used as a ceiling, loan rate control would choke off lending, because it would hamper banks’ ability to lend to higher risk customers. If used as a floor, control of the loan rate could act directly on the demand for credit.