

Crisis Management at Cross-Roads
Challenges facing cross-border financial institutions at the EU level

CRISIS MANAGEMENT AT CROSS-ROADS

CHALLENGES FACING CROSS-BORDER FINANCIAL INSTITUTIONS AT THE EU LEVEL

Edited by

Rym Ayadi, Frank Lierman and Morten Balling

Chapters by:

Rym Ayadi, Frank Lierman and Morten Balling

Paul Tucker

Johan Evenepoel

Francesco Papadia

Freddy van den Spiegel

Ingimundur Fridriksson

Peter Praet and Gregory Nguyen

Frank Lierman and Morten Balling

Rym Ayadi, Frank Lierman and Morten Balling

Rym Ayadi and Rosa Maria Lastra

Guy Quaden

Jaime Caruana

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Editors: Rym Ayadi, Frank Lierman and Morten Balling

Authors: Rym Ayadi, Morten Balling, Jaime Caruana, Johan Evenepoel, Ingimundur Fridriksson, Rosa Maria Lastra, Frank Lierman, Gregory Nguyen, Francesco Papadia, Peter Praet, Guy Quaden, Paul Tucker, Freddy van den Spiegel

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LIST OF AUTHORS

Rym AYADI

Senior Research Fellow, Head of Financial Institutions and Prudential Policy Unit, Centre for European Policy Studies, Brussels

Morten BALLING

Emeritus Professor of Finance, Aarhus School of Business, University of Aarhus, and SUERF

Jaime CARUANA

General Manager, Bank for International Settlements, Basel

Johan EVENEPOEL

Head of Cash and Liquidity Management, Dexia NV, Brussels

Ingimundur FRIDRIKSSON

Former Governor, Central Bank of Iceland, Reykjavik

Rosa Maria LASTRA

Professor in International Financial and Monetary Law, Centre for Commercial Law Studies, Queen Mary, University of London

Frank LIERMAN

Chief Economist, Dexia Bank Belgium, Brussels and SUERF

Grégory NGUYEN

Advisor, Financial Stability Department, National Bank of Belgium, Brussels

Francesco PAPADIA

Director General, Market Operations Department, European Central Bank, Frankfurt am Main

Peter PRAET

Director, National Bank of Belgium, Brussels

Guy QUADEN

Governor, National Bank of Belgium, Brussels

Freddy VAN DEN SPIEGEL

Chief Economist and Director Public Affairs, BNP Paribas Fortis Bank, Brussels

Paul TUCKER

Deputy Governor, Financial Stability, Bank of England, London

1. INTRODUCTION

Rym Ayadi, Frank Lierman and Morten Balling

On 16th November 2009, SUERF, CEPS and the Belgian Financial Forum co-organized a conference “Crisis management at cross-roads” in Brussels. All papers in the present volume are based on contributions at the conference and the SUERF Annual Lecture which followed the event.

In Chapter 2, *Paul Tucker*, Deputy Governor, Financial Stability, Bank of England gives an overview of the various components of crisis management packages: 1) Central bank liquidity insurance: Discount window lending against wide collateral, 2) Market Maker of Last Resort? 3) Recovery plans and contingent capital and 4) Resolution and support operations. The instruments on the crisis management menu are interlinked. The author finds it very important to find ways of distributing the costs of official sector support operations back to the system and its uninsured creditors rather than to the general taxpayer. If that can be achieved, market discipline will be enhanced.

The first session on “Provision of liquidity and lender of last resort operations: effectiveness, governance, cross-border and cross-currency issues”, contained interventions by *Johan Evenepoel*, Global Head of Treasury, Dexia Group, who in Chapter 3 describes how the group had re-organized liquidity management as a reaction to the financial crisis. Before the crisis, there was decentralized liquidity management but with a centralized follow up at the group level. During the crisis it became clear that the Treasury had to be re-organized completely. The disruption of the interbank market made it necessary to introduce a new classification of available securities for use during stress situations. A common database of all securities within the group was established and competence centres concerning central bank eligibility criteria were implemented. The group reacted to the disruption of the FX-market by implementing limits on individual currency/time zones and on the consolidated level. In the new organization, a Treasury Management Centre decides on market access principles, pricing and positions for all currencies supported by competence centres and local treasuries. The new organization makes it possible to optimize cross-border use of liquidity within the group.

In Chapter 4, *Francesco Papadia*, European Central Bank, examines fluctuations in the EuriborEonia swap rate spread from early 2007 to late 2009, using a modified traffic light metaphor to distinguish between periods with different levels of market turmoil. The months prior to September 2007 were characterised as a

‘green light period’ with modest volatility. Referring to the limited activity of the ECB in the money market, Mr. Papadia remarked that “life was rather boring in Kaiserstrasse”. From September 2007 to January 2008 there was a ‘yellow light period’. From January 2008 to September the colour was orange, and from October 2008 starting with the Lehman Brothers collapse until May 2009 the market participants experienced a ‘red light period’, where volatilities reached unprecedented heights. Since May 2009, the appropriate colour has once again reverted to orange. Mr. Papadia also describes the ECB’s money market operations and the adjustments of the lending facilities. Particularly during the ‘red light period’, the ECB carried out very big liquidity operations. Life was no longer ‘boring in Kaiserstrasse’, with a motto of ‘letting the banks get the liquidity they want’. As a consequence, the ECB balance sheet showed very large increases in deposits from banks and lending to banks. The ECB became a money market intermediary at a very large scale. Operations took place not only in Euro but in other currencies as well. Thus, the ECB balance sheet not only grew, it became also more complicated. The speaker said that the ECB in some periods operated as “the 13th district of the Federal Reserve System”. After the move back to the ‘yellow period’ in the autumn of 2009, interest rate volatility subsided and the ECB balance sheet declined again. The morale of the dramatic development is that ECB has to recourse to exceptional action during exceptional circumstances.

Also in the session, *Garry Schinasi*, visiting fellow at Bruegel on sabbatical from International Monetary Fund, provided what he called a ‘helicopter view’ of central bank reactions to the financial crisis. The speaker used a so-called scorecard to summarize his judgment of the effectiveness of central bank policies regarding liquidity provision and in their role as lenders of last resort. Liquidity policies had been effective in reducing goods price inflation, and as lenders of last resort, central banks had been effective in pulling us back from the abyss. Neither of the two approaches had been effective in solving cross-border problems. Central banks had in the view of the speaker insufficient tools to ensure stability through liquidity provision and there had been weaknesses in both micro- and macro prudential policy design and implementation. Risk management systems had failed to keep up. On the other hand, both the Federal Reserve System and the ECB had performed relatively well during the crisis considering the instruments they had. The Long Term Capital Collapse should have been understood as an early wake-up call and the authorities could have acted long time ago. According to the speaker, it is – however – a dream that we can develop an early warning system that can prevent all new crises in the future. Prevention will never work fully. Central banks must therefore demand resolution procedures. Systemic important financial institutions must be monitored closely and they must be obliged to prepare their own resolution procedures. A global economy needs global governance.

National policies are suboptimal. So, Mr. Schinasi welcomed the recent G20 initiatives for stronger international coordination.

In Chapter 5, *Freddy Van den Spiegel*, BNP Paribas Fortis Bank, points out in his introduction to Session 2 “Cross-border bank resolution” that in an integrated European financial market, it is essential that the legal framework for Central Bank resolution plans should be fully harmonized. The author argues that the development of a clear framework for managing financial crises at the EU level is very important. The EU strives for a completely open internal market and the EU has political procedures at its disposal which do not exist at the global level. Its attainment remains, however, a delicate issue because of the potential consequences for Government budgets and the society as a whole. Each crisis is a surprise for which there is no tailor-made script. The author concludes that selective harmonisation of the tools and powers of supervisory authorities in the Member states and stricter coordination of supervision and crisis management at the EU level must be implemented.

Also in Session 2, *Daniel Gros*, Director, CEPS, looked at the task of Europe. Many seem to think that cross-border banks can not go into failure. But, failures must become possible in normal times – also failures of banks with cross-border operations. Of course, efforts should be made to reduce the costs of cross-border failures. Regulation must be adapted. The EU Directive on winding-up of failed financial institutions applies up to now only to subsidiaries. Supervisory authorities should be allowed to treat also subsidiaries as branches when they request contingency planning by the subsidiaries and be authorized to say: if contingency planning is not in place, we will consider you as a branch. The need for a European Deposit Guarantee Scheme is very clear. If such a scheme had been in place, it could have saved Iceland.

In Chapter 6, *Ingimundur Fridriksson*, former Governor of the Central Bank of Iceland, explains the background of the collapse of the Icelandic banks. The Icelandic banks had easy access to global bond markets and they used it to expand their balance sheets to levels that were not sustainable. When the crisis hit, they did not have a sufficiently strong home base. The banking crisis called for cross-border cooperation, but it turned out that Iceland found it difficult to forge alliances with foreign authorities to help in the resolution of the problems.

In Chapter 7, *Peter Praet* and *Gregory Nguyen*, National Bank of Belgium look at some avenues for reinforcing the crisis resolution framework in Europe. They argue for convergence of authorities’ toolkits, which may be a precondition for burden-sharing. Improvements in cooperation procedures in normal times should focus on information exchange. Improvements in cooperation procedures in crisis times should address information exchange, assessment, fair implementation of

crisis resolution plans, and time management. Improvement is going to be a long and difficult process, requiring consistency and determination.

Chapter 8 is a summary of conference contributions by Charles Goodhart, Philipp Hartmann and Dirk Schoenmaker concerning the limits to the ‘Lender of last resort’, ‘Too big to fail’ and ‘Too big to save’ theses. *Charles Goodhart*, Emeritus Professor, London School of Economics focussed on the limits of the Lender of last resort concept. During the crisis, the relative importance of systemic important banks has increased. *Philipp Hartmann*, SUERF and ECB pointed out that there are different notions of the Lender of Last Resort Concept. National central banks, treasuries and international institutions can all potentially be called upon to provide support to financial institutions in distress. Limits to support may be explained by concerns for moral hazard, burdens on future generations and competition policy considerations. *Dirk Schoenmaker*, Duisenberg School of Finance discussed the idea to break up big banks and create several small banks in stead. The implications would probably be loss of economies of scale and scope and loss of credit risk diversification.

Chapter 9 is a summary of conference contributions by Hans Groeneveld, Maria J. Nieto, Dirk Cupei, Doris Kolassa and Robert Priester under the headline “Deposit guarantee schemes: How to re-establish clients’ confidence.” *Hans Groeneveld*, Rabobank Nederland, argued that deposit guarantee schemes should not be considered as crisis management instruments but as financial safety nets for incidental small bank insolvencies. The main objective was to safeguard the confidence of small savers in the stability of the financial system. *Maria J. Nieto*, Banco de España, described deposit insurance as the neglected dimension of the EU safety net. EU policy makers have largely neglected the interrelation between deposit insurance and prudential supervision and reorganization and winding up procedures. *Dirk Cupei*, European Forum of Deposit Insurers, argued that although existing insurance schemes for many years had contributed positively to the financial safety net, they could be improved in several ways. *Doris Kolassa*, European Commission, explains that deposit guarantee schemes should not be dealt with in isolation but as part of a broader financial safety system including capital adequacy requirements, financial supervision, consumer protection and procedures for resolution of financial institutions in distress. In an EU with 27 member states with very different deposit guarantee schemes, the Commission will probably continue to be a strong voice for more harmonization. *Robert Priester*, European Banking Federation, said that deposit guarantee schemes should act against contagion, enhance consumers’ awareness and ensure an equal level of depositor protection across Europe.

Chapter 10 contains a paper by *Rosa Maria Lastra*, Professor of International Financial and Monetary Law at the Centre for Commerical Law Studies, Queen

Mary, University of London and *Rym Ayadi*, Head of the Financial Institutions and Prudential Policy Unit, CEPS. The two authors explore the limitations of deposit guarantee schemes in the context of the overall safety net arrangements in Europe and propose concrete avenues for reforms. The authors provide an overview of the deposit guarantee literature and analyze the differences between explicit and implicit deposit insurance, the status of ‘preferred creditors’ and the mandatory nature of deposit insurance. They suggest that a single market in financial services requires a European solution with regard to deposit insurance. Europe needs better regulation, better supervision and better crisis management on a cross-border basis.

Chapter 11 is the Closing speech by *Guy Quaden*, Governor, National Bank of Belgium. The Governor observes that the various crisis measures appear to have achieved their objectives and that crisis prevention will therefore soon have to take over from crisis management. This will require both a timely exit from the exceptional measures taken to stabilise the financial system and the economy, and the implementation of fundamental reforms to remedy the structural defects exposed by the crisis. The Governor expresses his strong support to the recent proposal to set up, at the EU level, a European Systemic Risk Board (ESRB) and a European System of Financial Supervisors (ESFS), which are called upon to cooperate closely in order to bring more comprehensiveness and consistency to national and international supervision.

Chapter 12 is the 2009 SUERF Annual Lecture “Unconventional monetary policies and crisis management” by *Jaime Caruana*, General Manager, Bank for International Settlements in Basel. Unconventional monetary policies can be defined as the elevation of liquidity management operations from a passive role in the background, undertaken simply to ensure the attainment of the interest rate target in normal times, to an active role to influence broader financial conditions. It is unconventional when the underlying aim of intervention is to support market functioning by restoring both funding and market liquidity and thereby to shore up confidence in the financial system as a whole. It is a big challenge how to properly judge the timing and pace of the exit. Unconventional monetary policies can not substitute for the required fundamental restructuring of private sector balance sheets and the application of better business models.

2. THE CRISIS MANAGEMENT MENU

Paul Tucker

It is a great pleasure to be here today. The current crisis has thrown up so many lessons in so many dimensions of the ‘rules of the game’ for the financial system, that I congratulate the organisers on devoting a whole conference to crisis management. That in itself is a meaty enterprise. But a vital one.

By way of setting the scene for today’s conference, I will offer the Bank of England’s perspective on the various components of a crisis management package: central bank liquidity insurance for viable firms and markets; firm recovery plans, and contingent capital; resolution plans for winding down failed businesses, including payouts from deposit-insurance regimes; and official-sector support operations, including emergency liquidity assistance and Capital of Last Resort. Every country’s authorities need a policy on each of these components, because some day in the future our successors will find that, however good, the improvements our generation makes in the structure, regulation and supervision of the financial system will let them down.

A thread that runs through the discussion is how to preserve the core financial services provided to the economy through periods of extreme stress *without* bailing out banks’ equity holders or uninsured wholesale creditors. That is the essence of the “Too Big/Important To Fail” debate. It is not so much that the top management of banks consciously swing for the fences, but rather that wholesale credit may be systematically too cheap for banks, and perhaps other intermediaries too, unless the usual market disciplines of failure can apply. The international community is, rightly, increasingly focused on this. And, in particular, it is good news that the G20 Finance Ministers and Governors have asked the Financial Stability Board to pursue it. To quote the theme of this conference, ‘TBTF’ is probably the definitive Cross-Roads issue.

2.1. CENTRAL BANK LIQUIDITY INSURANCE: DISCOUNT WINDOW LENDING AGAINST WIDE COLLATERAL

I shall begin with the central banker’s role as lender of last resort, the one area where there was quite a lot of thinking ahead of this current crisis.

Even so, one of the things many central banks, including the Bank of England, confronted over the past two years or so was that, when conditions are bad enough, the central bank will inevitably lend to solvent and viable firms *against*

a very wide range of collateral. Since we will end up doing so, it is wise to acknowledge that in advance. But, crucially, it is also wise to set the terms so as to avoid subsidising or encouraging imprudent liquidity management by firms in normal circumstances. That is one of the principles which underpin the Bank of England's own new, permanent liquidity facilities introduced just over a year ago. The other principles are that:

- our liquidity insurance should absolutely not cut across monetary policy;
- in lending against a wide class of collateral, the central bank must apply appropriate haircuts, and must be capable of valuing the assets and of managing them in the event of a counterparty default. Our haircuts are published and include various add-ons for particular risks. And the underlying assets accepted as collateral should have a viable underlying market;
- as a means of effecting the delivery of insurance, secured loans (repo or collateral swaps) are preferable in most circumstances to outright purchases, as during the life of a loan central banks can update the value of the security, the collateral margins and other terms that control the risk to them;
- such lending against wider collateral should routinely be for sufficiently long maturities to help forestall panic by avoiding rollover risk for the firms without exposing central banks to risk by tying them in for unduly long periods;
- permanent facilities providing *bilateral* liquidity insurance should routinely be made available only to commercial banks (and other authorised deposit takers). They unavoidably need such insurance because their deposit liabilities are money, giving them a vital role, as monetary institutions, in the economy and financial system;
- but such *public* facilities should not be available to banks where in the judgment of the central bank there are serious question-marks over their viability or solvency. (As I shall discuss later, that need not exhaust our menu for providing liquidity to individual firms in support operations¹.)

But the most vital principle is to avoid creating perverse incentives for banks to take excessive liquidity risk. There are two elements to this. One is the importance of the regulatory regime: making banks hold a minimum stock of *truly* high-quality liquidity. Internationally, the Basel Committee on Banking Supervision and, in the EU, the Committee of European Banking Supervisors are working on that. In the UK, the FSA is committed to defining core liquidity as just that: inalienably liquid. Defining core liquidity in terms of assets that are eligible for rediscount at the central bank, as some have argued, is in our view a dangerous course to take. It could have the unhelpful effect of making central banks lenders of *first* rather than of last resort.

¹ In the UK, support operations can be effected under the Tripartite Memorandum of Understanding between the UK's Tripartite authorities (HMT, FSA and Bank).

The second element in avoiding perverse incentives is the *terms* on which liquidity insurance is available from the central bank. Setting the right pricing is not easy. Two approaches could, in principle, be adopted. One would be to charge an *ex ante* fee, say annually, for access to the liquidity facilities, perhaps based on how much liquidity risk individual banks had been taking. So far as I know, no central bank has done that yet, but it should not be ruled out as an idea. The other approach is, of course, to charge a premium interest rate upon the facilities being drawn on. The Bank of England has adopted a schedule for our Discount Window Facility under which the rate charged increases with the size of a drawing relative to the bank's size, and also with the illiquidity and riskiness of the collateral provided. We want to underline that banks will end up paying more to draw on the insurance line if they are overly reliant on illiquid, risky collateral – implying that their balance sheet was overly exposed to liquidity risk. These considerations have to be taken into account if central banks are to lend against very broad asset classes; for example, as we flagged earlier in the year, the Bank of England will be deciding over the coming months whether to extend the collateral eligible in our Discount Window to portfolios of loans to companies and households and of equities. The Bank of England also charges a premium rate if a bank borrows from us against assets comprising securitisations of loans *they originated themselves*. This is because there needs to be an incentive to make such securities marketable; and, more important, it can help to protect us against one of the most basic risks in banking – the correlation between the quality of a bank's underwriting standards and its solvency.

Although central banks need to be ready to lend against a wide range of collateral, we do still need to be careful about precisely what we take. To that end, my colleagues Paul Fisher and Sarah Breeden will be developing criteria for the structure and disclosures around the securitisations that will be acceptable to us in steady state. The ECB is conducting a similar exercise. Since that may have some read across to the development of the market itself, I hope we can count on active industry collaboration as we undertake that work.

Before moving on, I should pause for a moment on the Bank's principle that our *routinely available* liquidity insurance facilities should be available only to commercial banks. Now, we do of course realise that, especially in the US, a number of other kinds of financial firm or vehicle have been given access to special liquidity assistance during this crisis: finance companies, money funds, securities dealers. But in terms of the reform agenda, to our mind this underlines the importance of ensuring that a shadow banking system, running big maturity mismatches but offering capital certainty and instant liquidity to savers, does *not* grow just beyond the perimeter of bank regulation. This is not an issue just in the US. It was, after all, the suspension of redemptions by European enhanced-return money funds that triggered the money market crisis in August 2007. This part of

the reform agenda – the restructuring of the continuing shadow banking system – must not be neglected.

2.2. MARKET MAKER OF LAST RESORT?

The purpose of providing liquidity insurance to banks is well known – having been developed since Bagehot’s day and before. It serves us well to put a finger in the dyke, with a view to preventing a liquidity panic developing unnecessarily into a solvency problem through the forced-sale of assets.

But this crisis has reminded everyone that it is not only firms that can suffer liquidity runs. Markets can too.

Liquidity insurance facilities that underpin banks’ funding are obviously helpful to preserving market liquidity, as they increase the probability of bank-dealers being able to finance unwanted inventory.

But arguments have been advanced during the crisis that the authorities should be able to act more directly to preserve market liquidity, especially if bank-dealers withdraw from market-making because they become *capital* constrained. That is, essentially, the origin of suggestion that central banks should stand ready to act as Market Makers of Last Resort². As the amount of credit that gets intermediated via markets rather than via institutions grows, the need for a MMLR grows too.

This is by no means straightforward, and not only because it is not central to our inheritance. Whereas lending to a bank does with certainty give that bank more liquidity, entering a market as a buyer does not automatically enhance the liquidity of that market in a sustainable way. Also, whereas central banks protect themselves against risk in secured loans by requiring more collateral if conditions deteriorate, an outright purchase is a one-off transaction; there’s no going back to renegotiate the price afterwards.

By analogy with the more familiar ‘LOLR’ function, the following thoughts suggest themselves for debate in our community.

- as with LOLR, central banks should only engage in MMLR operations that do not interfere with monetary policy;
- a MMLR should aim to buy at a discount to the fundamental value of a risky asset, with the implicit bid-ask spreads unattractive relative to peacetime conditions in private markets but impliedly better than those available during the

² For example see, W. BUIJTER and A. SIBERT, 2007, “The Central Bank as Market Maker of Last Resort”, *Maverecon – Willem Buijter’s Blog* (<http://maverecon.blogspot.com/2007/08/central-bank-as-market-maker-of-last.html>).

- crisis itself. The purchase mechanism should be designed to reveal information about the state of the market and the fairness of prices paid;
- while the risk inherent in outright purchases cannot be avoided, the MMLR absolutely must stay within the capacity determined by its capital resources;
 - and crucially, the MMLR should aim to be catalytic, helping ideally to kick-start a market rather than replace it. And it should avoid propping up markets that would not be fundamentally viable once the liquidity crisis subsided. The underlying objective is, as elsewhere, to help to maintain continuity of the crucial services that the financial system provides to the economy.

In big picture terms, the Bank of England's programme of auctions to purchase small amounts of a fairly wide range of sterling corporate bonds can be viewed as one manifestation of that broad approach to MMLR. The aim has been to aid improvements in the liquidity of the market, including by reducing the inventory risk to 'market makers'.

But our community is some distance from thinking through the extent to which this kind of thing should feature as a permanent part of our armoury. While not an urgent issue, it is an important one given the increasing role of capital markets in our financial system.

2.3. RECOVERY PLANS AND CONTINGENT CAPITAL

Whether provided to individual firms or to markets, routine liquidity insurance will not always suffice. Sometimes a liquidity problem is triggered by *fundamental* problems. Sometimes a liquidity crisis creates credit problems through the effects of a fire sale of assets. Firms must plan for distress. Not only is that in the interests of the financial system and, indeed, of the economy more widely, it is in the interests of firms themselves. At not a few distressed firms around the world, at times over the past three years the leadership 'lost it' under the pressure of events. Contingency planning is essential. Regulators must make firms do it – properly. And that means for really disagreeable scenarios.

As the UK's FSA has recently explained³, the clear recommendation of the G20-sponsored Financial Stability Board is that these contingency plans need two, distinct components. A *recovery plan* for maintaining a going concern. And a *resolution plan* for firms that, however regrettably, need to be laid to rest. The objective in each case is to maintain the financial system's provision of essential services to the economy.

³ FSA DP09/4: Turner Review Conference Discussion Paper, *A regulatory response to the global banking crisis: systemically important banks and assessing the cumulative impact*.

Firms themselves need to play a leading role in drawing up ‘recovery plans’. At least two components are needed, roughly corresponding to liquidity and capital. First, a *contingency funding plan* (CFP). Too few banks of any size seem to have had one in any serious way. There was, for example, too little focus on the effects of ratings downgrades on collateral calls and on the availability of lines of credit. And too little attention was paid to core liquidity holdings: a treasury portfolio comprising the FRNs issued by other banks does not leave a distressed bank with many options in the face of system-wide stress. Banks need to know exactly what assets they hold in which securities-depository systems; how long it would take to deploy them; and which are eligible in which central banks’ routine facilities. Too few banks had that information readily to hand. Maybe they do now. They should.

The FSA has very kindly agreed to share with the Bank of England the CFPs of banks (and building societies) where relevant to our functions. As well as helping us to discharge our financial stability responsibilities more broadly, this will be useful in making sense of requests to draw from our Discount Window Facility.

Second and beyond liquidity planning, recovery can involve *derisking*. This might mean laying off risk, shedding positions or even selling businesses. Once in distress, banks absolutely must be prepared to shrink their franchise in order to sustain themselves. That may entail having businesses set up within groups in a way that would facilitate sale, if necessary. Sometimes what a group regards as its core franchise will not map exactly into what the authorities think of as the essential economic services it provides. That is obviously for discussion between firms and their regulators, who need to be ready to exercise powers to force risk-reduction and recapitalisation *where necessary* to preserve the soundness of the enterprise and the stability of the system.

‘De-risking’ is all about the capital resources of banks in the face of idiosyncratic or widespread stress. There is, therefore, a read across from the ‘Living Wills’ exercise to the question of how much capital banks should hold. Almost no amount of capital is enough if things are bad enough. Which is why *contingent capital* might potentially be an important element in banks’ recovery plans, as the Governor set out recently in Edinburgh⁴.

This would not be the kind of hybrid capital that mushroomed in the decade or so leading up to the crisis. The familiar types of subordinated debt can absorb

⁴ M. A. KING, 2009, “Speech by Mervyn King, Governor” to Scottish Business Organisations, Edinburgh, October 2009. See also P. M. W. TUCKER, 2009a, “Remarks by Paul Tucker”, Panel session at the Turner Review Conference, London, March 2009 (pp. 5) and P. M. W. TUCKER, 2009b, “The repertoire of official sector interventions in the financial system: last resort lending, market-making, and capital”, Bank of Japan’s 2009 International Conference, Tokyo, May 2009, (pp. 19). In the academic community, the idea was aired in “An Expedited Resolution Mechanism for Distressed Financial Firms: Regulatory Hybrid Securities”, Squam Lake Working Group on Financial Regulation, April 2009, Council on Foreign Relations. W. C. DUDLEY, 2009, “Remarks by William Dudley” at the Institute of International Bankers Membership Luncheon, New York City, October 2009.

losses only if a bank is put into liquidation, and so really has no place in regulatory capital requirements as we cannot rely on liquidation as the only resolution tool. It has been a faultline in the design of the financial system as a whole that banks issued securities that counted as capital for regulatory purposes, and on which they could therefore leverage up, but with institutional investors treating them as very low risk investments backing household pension and annuity savings.

By contrast, contingent capital would be debt that converted into common, loss-absorbing equity if a bank hit turbulence. It is, in effect, a form of catastrophe insurance *provided by the private sector*.

Why should long-term savings institutions and asset managers be prepared to provide such insurance? One possible reason is that if enough of them were to do so for enough banks, it might well help to protect the value of their investment portfolios more generally. If ever it needed to be demonstrated, the current crisis has surely put it beyond doubt – not only for our generation but for the next one too – that serious distress in the banking system deepens an economic downturn and so impairs pretty well all asset values. By taking a hit in one part of their portfolio by providing equity protection to banks, institutions might well be able to support the value of their investments more widely. And the trigger for conversion from debt into equity could be at a margin of comfort away from true catastrophe; say, a percentage point or so above the minimum regulatory capital ratio.

Of course, this would entail a structural shift over time in investment portfolios. But the system might be able to manage that adjustment. After all, it managed the all together less desirable adjustment to the development of the existing hybrid capital markets. But demand for contingent capital is, inevitably, uncertain at this stage. As are the terms on which it will be provided. We welcome the growing private sector focus on this.

2.4. RESOLUTION OF BANK FAILURES

If recovery plans prove wanting, then distressed banks need to be ‘resolved’ – laid to rest, but without undermining crucial economic services. Sometimes the best course will be a straightforward, whole-bank liquidation, with retail depositors receiving a payout from the insurance fund. But, alternatively, resolution can involve selling the deposit book – and so the vital payments services – to another bank. Good assets might go with the deposits, or be transferred elsewhere. Bad (or at least unsaleable) assets go into run off. Choosing the best course is central to effective resolution planning.

To split up and transfer the different parts of a bank, the authorities obviously need specific and extensive powers. The broad model is provided by the Deposit Insurance Corporations of the USA and Canada. The UK has recently introduced such powers, having learnt the hard way that we needed them. A number of other countries in the EU adapt their normal corporate insolvency regime for the special structure of banks, but do not all have the option to break up and transfer different parts of the business. This is the subject of the recent consultation paper published by the European Commission⁵.

In the UK, the Bank of England has become the Special Resolution Authority. We have been helped by the hands-on operational expertise necessary for our market operations and for running the wholesale payments system. This new responsibility has given us an interesting vantage point on the preconditions for effective resolution. In the first place, let me tell you that it is very information-intensive. It requires a lot of detail on how a bank's business is structured and run. And that information needs to be available at an early stage. Amongst many things, it includes details of netting and derivative contracts, and I am struck that, in the US, the FDIC now requires troubled banks to demonstrate that they could report each day the relevant details of derivative portfolios. The Bank of England plans to consider whether or not something like that might be warranted in the UK. More generally, the UK FSA has said that the authorities will need to be assured that firms are able to provide the necessary data to assess resolution options and to execute the authorities' chosen strategy.

But it is not just the resolution authority which needs lots of information. Potential bidders for all or parts of an ailing bank do too – of the kind typically offered to bidders in a 'friendly' M&A transaction. Banks probably need routinely to maintain such 'Data Rooms' as part of their contingency plans – something which the FSA is examining.

As will be abundantly clear from this brief review, the 'recovery and resolution plan' enterprise requires the regulators to work closely with the resolution authorities, and with central banks as liquidity providers. In the UK, wearing our 'resolution authority' hat, the Bank hopes to be able to work closely with individual banks and the FSA in helping to specify and guide what is needed in practice. My colleague Andrew Bailey will be discussing in more detail tomorrow one of the issues raised by past cases.

The enterprise also entails thinking beyond the resolution of modest-sized domestic banks. Both the US and UK authorities are exploring how to extend resolution regimes to bank holding companies and to other types of firm that could prove

⁵ Communication from the European Commission, *An EU Framework for Cross-Border Crisis Management in the Banking Sector*, 20 October 2009, http://ec.europa.eu/internal_market/bank/crisis_management/index_en.htm#overview.

systemically significant in some circumstances. As present, no one thinks that Large and Complex Financial Institutions could be resolved at all smoothly, as the rescues of the past twelve months show.

2.4.1. Cross-border Resolutions and the International ‘Living Wills’ Exercise

There is, therefore, a substantial international dimension to this work, which is being facilitated by the Financial Stability Board. Over the next few months, the top 25 or so banks and dealers in the world will be working with the authorities to produce recovery and resolution plans. The effort will involve not only line supervisors but also resolution authorities and central banks. Firms are expected to produce recovery plans. For obvious reasons, resolution plans need to be produced by the authorities, while still drawing on inputs from the firms. In the UK, the FSA has recently published how they will approach this international effort⁶.

It is a formidable task. Working with the FSB secretariat, my role, as chairman to the Cross-Border Crisis Management Working Group, will be to help colleagues to flush out the issues, so that they can be properly debated and reviewed by G20 Ministers and Governors later next year. With the European Commission on the FSB and also the resolution working group, I hope that will also help to inform work at the European level.

There will quite probably be hard questions. They could include whether something needs to be done about the complex structures and organisation of some banks. Another big issue might be which services truly need to be maintained. Whether there are conflicts between the insolvency laws and special resolution regimes of different countries that would materially impede effective resolution for some groups. And another would be whether losses can in the future credibly be made to fall on wholesale creditors. Maybe even about burden sharing amongst national authorities if fiscal support proves unavoidable when an internationally active bank fails. In all this the objective, of course, is to get to a place where taxpayers’ resources are not needed, implicitly or explicitly, to underpin the national and international credit systems. And some of those operational questions, therefore, shade into the broader debates about the structure and regulation of the financial system⁷.

Of that list of issues, I should highlight two today.

⁶ Financial Services Authority Turner Review Conference Discussion Paper, *A regulatory response to the global banking crisis: systemically important banks and assessing the cumulative impact*, FSA DP 09/4.

⁷ M. A. KING, 2009, “Speech by Mervyn King, Governor” to Scottish Business Organisations, Edinburgh, October 2009.

The first is the entanglements and conflicts that can exist between home and host insolvency and resolution laws. There is, for example, a first-order difference between, on the one hand, countries whose regime effectively permits a de facto ring-fencing of locally domiciled assets for local depositors and, on the other hand, those that treat liquidation as a joined-up, global exercise, with all unencumbered assets shared pro rata across senior unsecured creditors.

These issues are not new. They were highlighted nearly twenty years ago by the closure of BCCI's operations around the world⁸. Subsequently, in Europe, insolvency law for banks *was* improved through the Credit Institutions Reorganisation and Winding-Up Directive. There is a single-entity insolvency regime for any bank incorporated in the EEA, applying to the parent bank and also to all its branches throughout the EEA. We also have, in the Settlement Finality Directive, a sound legal basis for the integrity of wholesale payments transfers in the event of a default, without which the effects of failure could be truly devastating. And in the Financial Collateral Directive, we have an assurance that national insolvency or reorganisation measures cannot be applied to prevent or delay counterparties of a failed institution from exercising their rights to close out, net and/or enforce their security interests in order to realise financial collateral. But we do not yet have compatible bank resolution regimes, and some existing Directives were designed without resolution in mind.

We now have another chance. The Basel Committee on Banking Supervision has published an extensive review of impediments to the resolution of cross-border banks arising from national insolvency laws, resolution regimes, or supervisory practices. And the European Commission has recently launched a consultation asking what changes to the European legislative framework are needed to address these issues. We need to focus on who should take what concrete actions. I think the FSB will be picking up that issue.

2.5. RESOLUTION AND SUPPORT OPERATIONS: WHO SHOULD PICK UP THE TAB?

The second issue concerning resolution I want to say something about is the allocation of losses to creditors and to the official sector from support operations. The formal position varies between support for insured deposits and for other creditors.

⁸ Basel committee on Banking Supervision, 1992, "The insolvency liquidation of a multinational bank", Bank for International Settlements. Its key conclusions were: (1) when closing a multinational bank, supervisors should pay attention to the nature and timing of communications among themselves and of their communications with creditors, shareholders and management; (2) the nature of liquidation rules may be relevant to the manner in which multinational banks are supervised; (3) differences in liquidation rules across jurisdictions in a winding-up can affect returns to depositors and other creditors and the operations of deposit protection schemes; and 4) coordination and cooperation between liquidators can affect the returns to creditors in a liquidation and can be affected by the role of supervisors in a liquidation.

2.5.1. Deposit Insurance and Risk-based Premia

Insured deposits are, of course, insured. It is often assumed that governments stand behind such schemes. But governments do not have pick up the final tab. Such schemes are ultimately paid for by the banks themselves. Whether schemes are funded or not, governments have a legal right to make recoveries from the residual banking industry over the succeeding years.

There is, still, a question of the basis of the levy. This arises most clearly in a system which guarantees 100% repayment up to some meaningful amount (now £ 50,000 in the UK). While it has many merits, complete cover affects the dynamics of the market place in a potentially unhelpful way. It makes it easier for banks to pay up for deposits. The implied signal that a bank offering a high return would be taking greater risk than others, as it would have to, does not matter to the depositors. They are covered, and so are induced to place their money wherever they can achieve the best returns.

That is a recipe for imprudent risk taking. One possible way of addressing it would be to make such risk-taking banks pay a higher levy into the insurance scheme. The Bank of England thinks that this deserves serious consideration, and it is now the subject of debate in the UK.

2.5.2. Beyond Deposit Insurance: How Can the Industry Bear the Cost of Rescues?

During the current crisis, around the world governments have gone much further than protecting only insured depositors – *uninsured wholesale creditors* have been bailed out too. The need for such support operations was evident if complete systemic collapse was to be averted. But it does raise big questions looking ahead – of fairness and of incentives. Once more, we need some principles for what are in effect official Capital of Last Resort (CofLR) operations.

One possible *starting* point is how central banks have learned to think about bespoke *liquidity-support* operations, so called Emergency Liquidity Assistance. After explicitly recognising that occasionally liquidity support operations can end up providing de facto risk capital if the recipient deteriorates, the late Eddie George offered some thoughts on this in 1993⁹; “central banks are not in the business of providing public subsidy to private shareholders. If we do provide support, we will try to structure it so that any losses fall first on the shareholders and any benefits come first to us. And any support we provide will be on terms

⁹ “The pursuit of financial stability”, LSE lecture by the late Eddie George, *Bank of England Quarterly Bulletin*, 1997; and Mervyn King’s September 2007 letter to the Treasury Select Committee, “Turmoil in financial markets: what can central banks do?”.

that are as penal as we can make them, without precipitating the collapse we are trying to avoid... We look for a clean exit. The company may be required to run down or restructure its operations, under our surveillance, to the point where it can do without our support. We aim to protect the system, not to keep in being unviable banking capacity..." And, paraphrasing Mervyn King in 2007: "if the [authorities] underwrite any [risk] that threatens to damage the economy as a whole, it encourages the view that as long as a bank takes the same sort of risks that other banks are taking then it is more likely that their problems will be insured *ex post*."

That provides a useful context for the debate about whether the cost of bailouts can somehow be recovered from the industry. Compared with a year ago, a number of ideas are now in circulation. One possibility is to establish a fund in advance. Another is to raise a levy on the surviving banks.

An argument in favour of the former is that it would raise contributions from risky banks before they fail. And it would allow the levies to be related to the size of their uninsured creditors, as some in the US have suggested¹⁰. But I do just wonder whether it would be realistic to raise, and over the decades sustain, a sufficiently large fund.

The alternative, as I have discussed before¹¹, is to raise a levy from surviving firms after the event. This would have to be linked to a systemic-crisis threshold being passed for the deployment of public funds. And the basis for deciding how much was recovered from individual firms would need to be both clear and principled. In particular, it would be important to try to incorporate features that enabled costs of failures somehow to fall to uninsured, wholesale creditors. Those who finance the system in the good times need to have incentives to price for risk.

2.6. SUMMARY

This has been a fairly high-level survey of the instruments on the crisis management menu. They are, of course, interlinked. They also bear on the wider debates about the structure and regulation of the financial system. Perhaps most obviously, the feasibility of producing recovery and resolution plans will feed into international and domestic decisions on minimum capital requirements for banks in general and on the mooted add-ons for so-called systemically significant firms. The weaker a recovery plan and the greater the obstacles in the way of its effective resolution, the more capital (and liquidity) a bank is going to have to hold. This

¹⁰ See the recent statement by Sheila C. Bair, Chairman, Federal Deposit Insurance Corporation, to the Financial Services Committee; US House of Representatives, 29 October, 2009.

¹¹ See P. M. W. TUCKER, 2009b, "The repertoire of official sector interventions in the financial system: last resort lending, market-making, and capital", Bank of Japan's 2009 International Conference, Tokyo, May 2009, (pp. 18).

is why emerging interest in Contingent Capital instruments is so important. If CoCos could form a material part of recovery plans, the landscape might just be transformed.

And that in turn goes to the big issue. Whether our community can find ways of distributing the costs of official sector support operations back to the system and its uninsured creditors rather than to the general taxpayer. If we can achieve that, market discipline would be enhanced. We need to hang on to ‘market discipline’ as a watchword in these debates. The goal of re-regulation – of redrawing the rules of the game for the financial system – should not be to reintroduce the wisdom of the state into micro decisions about how to run businesses. But rather to put market discipline at the heart of a market economy. An effective framework for crisis management drawing on the lessons of this crisis can take us in that direction.

3. THE IMPACT OF THE LIQUIDITY CRISIS ON COMMERCIAL BANKS: THE CASE OF DEXIA

Johan Evenepoel

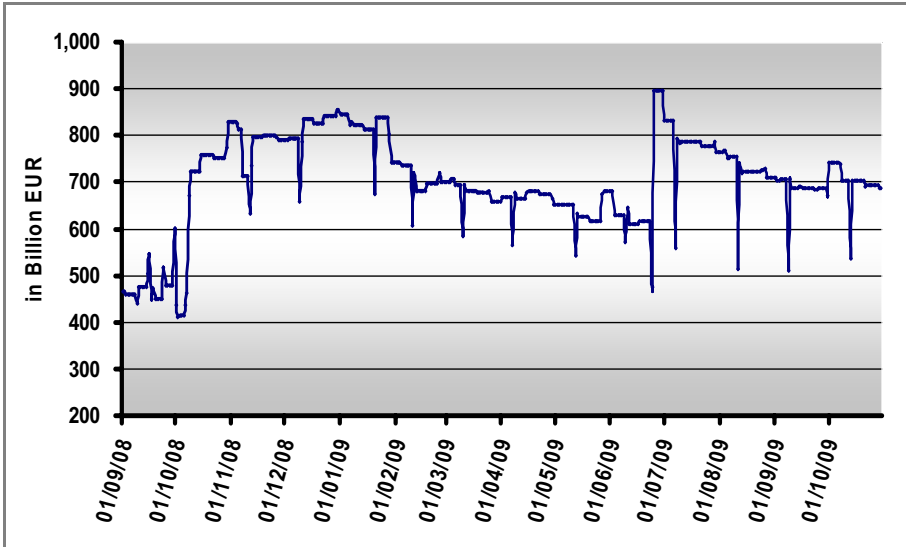
3.1. INTRODUCTION

The liquidity crisis had a particular effect on commercial banks – in particular those, like Dexia, with a network of treasury centres all around the world. The support of the central banks to the financial sector was essential in limiting the effects of the crisis – with the intervention of the ECB being necessary to ensure the survival of many banks within Europe, and the intervention of the Federal Reserve in the United States. After briefly summarising the liquidity crisis, I switch attention to the changes in the banking system precipitated by the liquidity crisis – banks were forced to implement many solutions to address the specific problems they encountered. Dexia was no exception to this and whilst solutions have been implemented to address the immediate effects of the liquidity crisis, further new challenges lie ahead.

3.2. A BRIEF OVERVIEW OF THE LIQUIDITY CRISIS

During the liquidity crisis, the role of central banks as liquidity provider was of an importance unseen in recent times. Within the Eurosystem, the ECB's liquidity provision rose substantially – the supply of liquidity being unlimited in all tenors: prior to the onset of the crisis in August 2008 the ECB provided approximately EUR 450bn in liquidity – with its liquidity provision subsequently peaking at EUR 900bn in July 2009. Had the ECB not intervened in this way, many European banks would no longer exist.

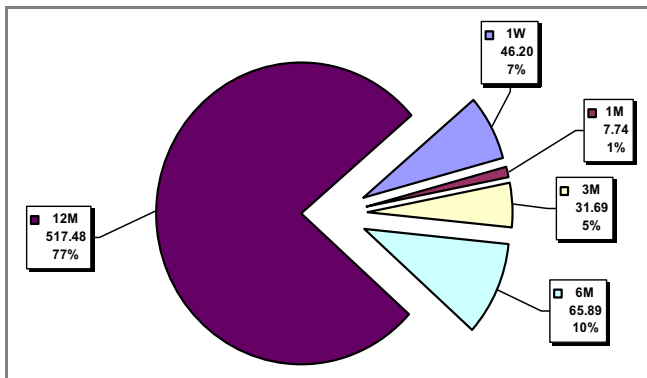
Figure 1: The ECB as a Liquidity Provider (September 2008 – November 2009)



Source: ECB.

Examining the liquidity-providing operations of the Eurosystem during the crisis, there has also been another substantial change. In previously normal conditions, the Eurosystem had conducted weekly and three-month liquidity-providing operations. During the crisis, however, this range has been extended by euro operations with maturities of (around) one month, six months and one year, as illustrated in figure 2. Further operations also provide US dollar and Swiss franc liquidity, and the Eurosystem has also launched a programme for purchasing euro-denominated covered bonds.

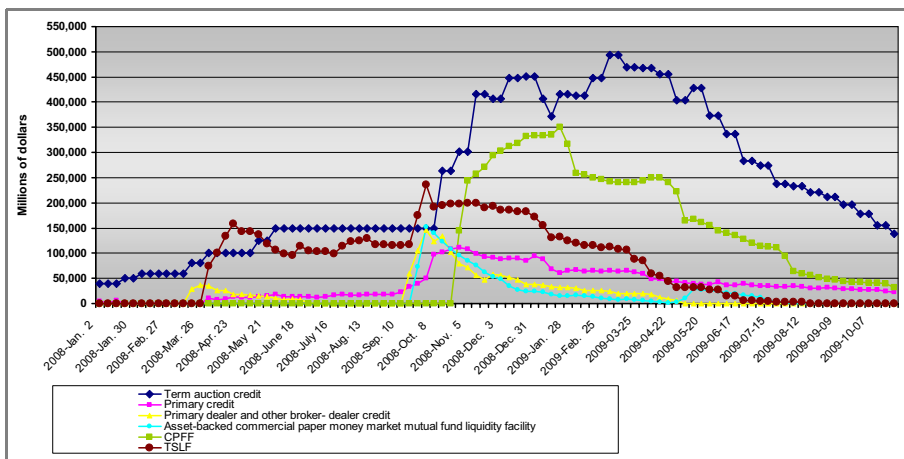
Figure 2: Outstanding Open Market Operations of the ECB (at 11 November 2009)



Source: European Central Bank.

Other Central Banks also took far-reaching measures. In the United States, for example, the Federal Reserve supported the financial sector heavily by introducing a number of innovative instruments in order to ensure the efficient management of the USD short-term supply. As illustrated in figure 3, the innovations included the Commercial Paper Funding Facility (CPFF), Primary Dealer Credit Facilities (PDCF), Term Securities Lending Facility (TSLF), in the course of 2008.

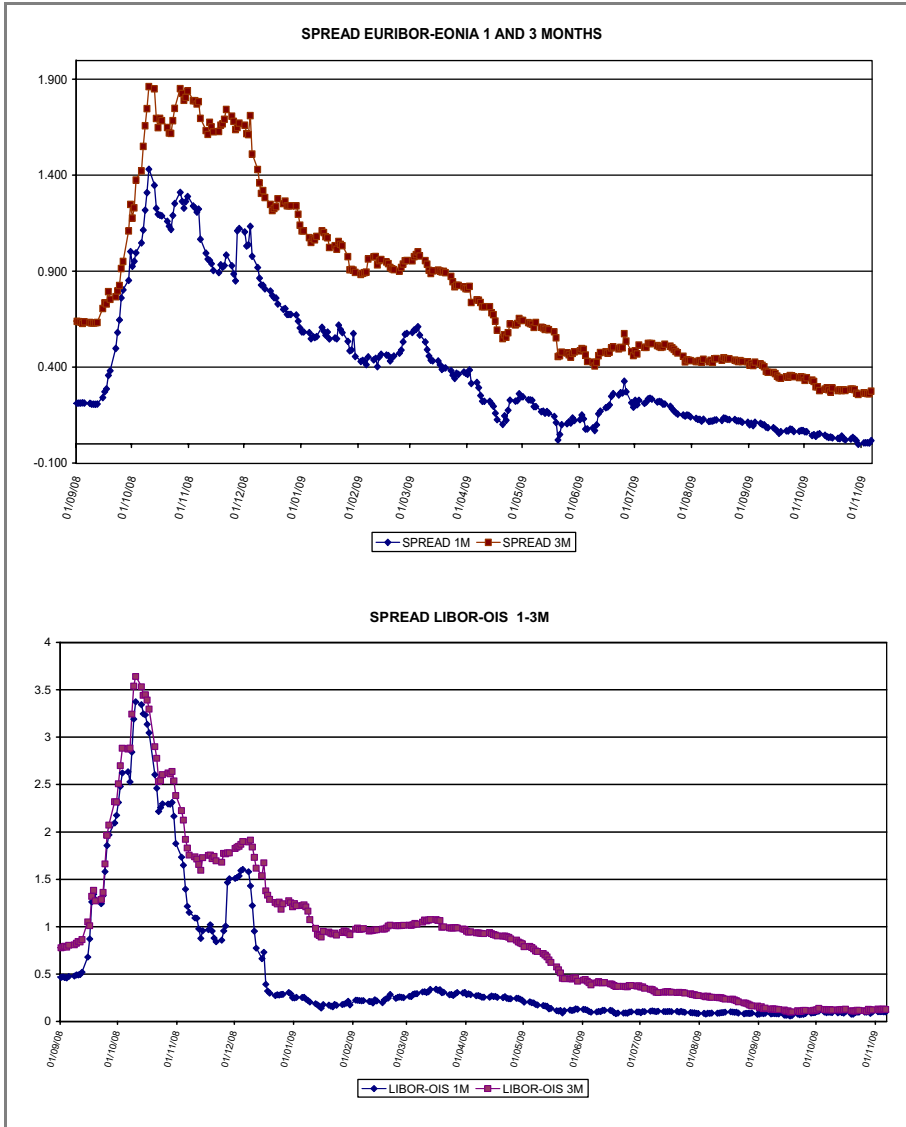
Figure 3: US Federal Reserve Liquidity Facilities (January 2008 – November 2009)



Source: Federal Reserve Bank of New York.

The announced discontinuation or scaling back of such facilities (e.g. the Fed’s TSLF and CPFF facilities) has led many people to ask whether the crisis is now over. In trying to provide an answer, many market participants refer to the spread between Euribor and Eonia.

Figure 4: Cash-OIS Spreads for EUR and USD in 1 Month and 3 Months Time Brackets



Source: Bloomberg.

In EUR, on a 3 months basis, the spread in November 2009 stood at around 30 bp, which was much lower than the spread seen during the height of the crisis in October and November 2008. Similarly the LIBOR-OIS 3M spread, peaked at 364 bp in October 2008, at the height of the crisis. In my opinion, we will continue to keep an important spread because liquidity has a price.

Having examined the recent spread, we might be tempted to reach the conclusion that the crisis is over. To make such a declaration, however, would be premature as there is future uncertainty about how the market will react, and about how the liquidity premium will evolve, once central banks exit strategies are implemented.

3.3. HOW DID THE CRISIS AFFECT DEXIA'S LIQUIDITY MANAGEMENT?

3.3.1. Disruption of the Interbank Market

The failure of Lehman Brothers in September 2008 led to the complete collapse of the unsecured market, while simultaneously greatly reducing liquidity in the secured market. As a consequence many market participants found it very difficult, if not impossible, to raise cash even against government bonds.

This necessitated a scrupulous review of the repo business, with several questions needing to be re-assessed with great urgency:

- the rating of a security became less important than the liquidity of a security, while concepts like the 'quotation age' of assets have increasingly gained in importance in assessing liquidity risk;
- a haircut of 20% for AA rated securities is not always enough;
- what if you have offered EUR 250m in cash via tri-party repo and you received 300 pieces of collateral? How quickly can you sell your collateral in the case of stress?
- do you have sufficient expertise within your team and a framework to hedge the interest rate risk and credit risk of all bonds you receive once the event of default materializes?

The liquidity squeeze in the repo markets illustrated the fact that banks had over-estimated their liquidity buffers. Dexia implemented a completely new definition and classification of what the bank considered 'available securities': only securities which may be used in prime bilateral repo or central bank operations can be taken into account to calculate the liquidity buffer. Dexia defines prime bilateral collateral as securities which may be used via one of the two major European Central Repo Counterparties (CCP) – LCH and Clearnet – as the crisis made it clear that repos via a CCP were always possible. Furthermore the eligibility criteria for tri-party repo have changed completely: sufficient haircuts and strict rules concerning quotation age and concentration limits have become crucial.

3.3.2. Disruption of the Foreign Exchange (FX) Market

During the first days of the liquidity crisis, the FX market came to a complete halt. Already by August 9, 2008 it had become impossible to create USD funding via the FX swap market. During the crisis, banks had real problems financing liquidity positions in some specific currencies – in particular positions held in Canadian dollars (CAD) and Mexican peso (MXN).

In order to protect the bank from the occurrence of such FX market meltdowns, Dexia has set very strict liquidity limits per currency and per geographic time zone. An important parameter of a business continuity procedure is not only to have a solid limit structure but also to have full understanding of the different clearing systems, such as CLS, and their respective limit architecture.

3.3.3. Adequate Reporting on Available Central Bank Eligible Securities within the Group

Adequate reporting both on available central bank eligible securities and the positions that may influence collateral requirements has become essential, but caution must be exercised, in particular to avoid overestimates or underestimates. For example, it is important to correctly reflect off-balance sheet commitments, such as Guaranteed Investment Contracts (GICs) which had to be included, in order to avoid a downgrading which in turn could lead to the triggering of margin calls. Moreover, transactions under Credit Support Annexes (CSAs) must be included as market moves will trigger margin calls which would be linked to our derivatives business. Moreover, since European entities have no direct access to the FED monetary policy instruments; the focus on available FED eligible collateral may consequently be less intensive.

Dexia adopted the following architecture to achieve this:

- establishment of a common database of all securities in the Group, with no interlinking of the many different systems;
- implementation of Competence Centres in regard to central bank eligible securities. For example: Front Office / Back Office / Middle Office in New York are responsible for a daily follow-up of all FED eligible securities available in the Group regardless of where the securities are located;
- modelling of collateral needs for GICs, CSA contracts as well as of securities ‘at risk’ (securities scoring low in eligibility criteria).

This strategy is supported by the bank’s experience that, even at the high of the liquidity crisis, Dexia was never confronted with operational problems relating to the transfer of securities from one entity to another, within Europe, to the US or

even to Tokyo. Intra-day deliveries from DBB and Luxembourg to DCL NY never encountered any problems.

3.3.4. Adequate Tools to Follow up Consolidated Liquidity Positions Intra-day and to Realize Liquidity Projections

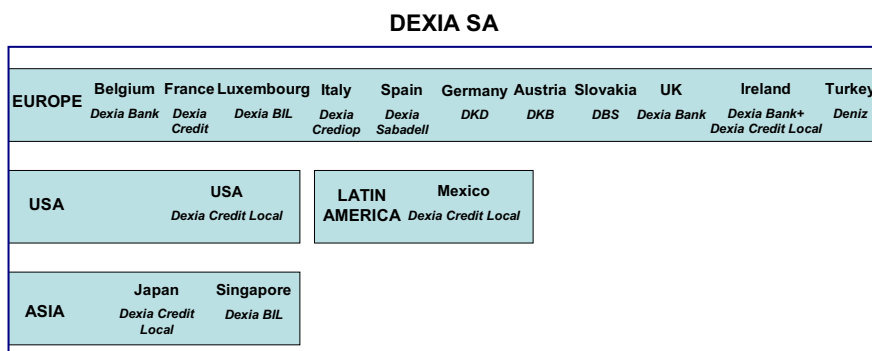
The right tools are paramount in order to monitor and manage all liquidity positions of the Group on a real-time basis and facilitate the projection of liquidity positions in the near and medium term. During the crisis we organized up to 6 conference calls a day, with all entities attending, in order to obtain the latest liquidity position in each currency. The crisis highlighted the critical role of solid reporting tools, therefore making the Cash and Liquidity Management architecture project the highest priority. This architecture includes the development of the required reporting and the acquisition of an efficient tool.

Dexia had already acquired a multi-company tool, Aleri. All entities are interfaced to this system, making it possible to have real-time liquidity position management and to realize liquidity projections of the consolidated liquidity position.

3.4. LESSONS LEARNED FROM THE CRISIS

As the liquidity crisis unfolded, Dexia's Cash and Liquidity Management (CLM) was in the process of reviewing its overall treasury structure, which operated using decentralized liquidity management with centralized monitoring at Group level. A new organisational structure and operational guidelines had already been scheduled, but had not yet been fully implemented.

Figure 5: Dexia's Pre-Crisis Cash and Liquidity Management Structure



In light of the number of treasury centres within the group, it became apparent that our initial plans needed to be adjusted in order to organize our liquidity management in such a way that it would be able to withstand liquidity crises and their subsequent problems. Subsequent reassessment of the project led to several conclusions being reached. Across the Group a considerable number of independent, noninterfaced IT systems were existing to follow up the different liquidity positions and available collateral for secured transactions (*i.e.* central bank tenders, bilateral repo, triparty repo, etc.). It was also apparent that there had not been a sufficient definition of market access principles, a lack of both guidelines for the distribution of liquidity within the Group and adequate consolidated reporting at Group level, as was the Group's consolidated reporting.

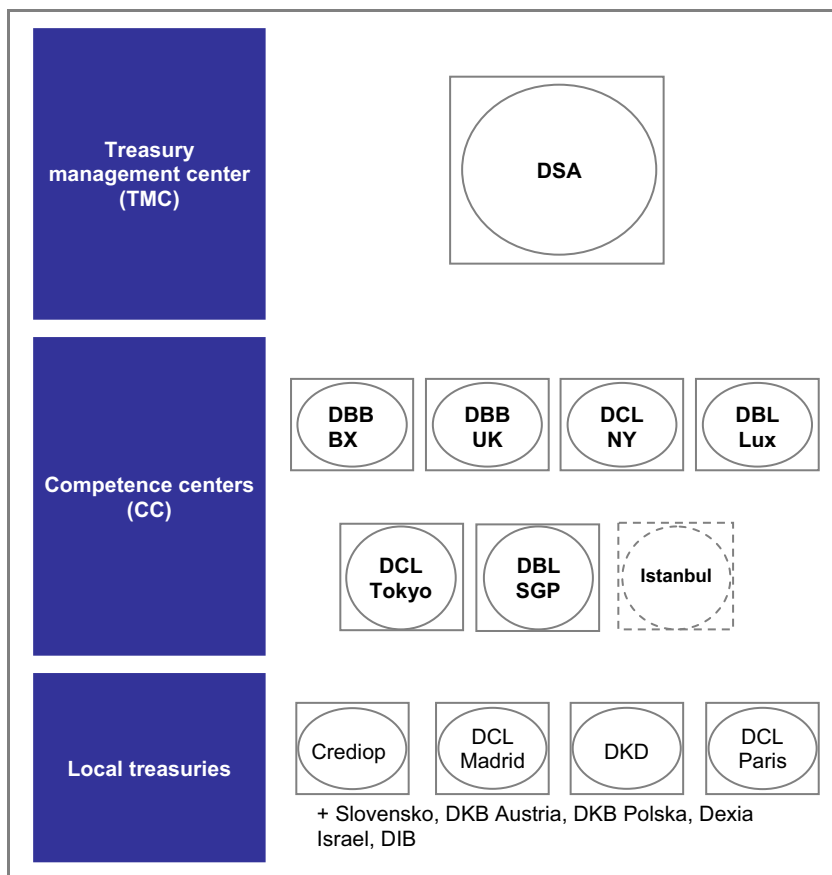
A management decision was taken to run off activities in countries completely where no access to domestic funding was available. It was necessary to adopt another organisational set-up in order to enhance our projected architecture. This adjusted organisational set-up consisted of 3 major steps. By implementing an enhanced treasury organization, which in turn would evolve towards an even more centralized and integrated organization, market access and price setting principles were also redefined, with all entities managing cash transactions being integrated. The new treasury governance structure was formalized following the establishment of new guidelines. Finally support and reporting tools were optimized in order to facilitate the real time follow up of liquidity positions and available collateral.

3.4.1. Implementation of a Completely New Treasury Organization

3.4.1.1. A Centralized and Integrated Organization

Even though the centralisation principle had already been adopted by Dexia CLM, the liquidity crisis further emphasised the more pronounced role that the Treasury Management Group would have to play. On a Group level, the Treasury Management Centre now decides on market access principles. The TMC is supported by Competence Centres, sub-divided according to their main currency, which are responsible for the liquidity gaps and end-of-day squaring for their competence currency. A number of treasury centres were shut down, some of them instead becoming captive treasuries, working together on the matched funding principle with the competence centres.

Figure 6: Dexia's New Centralized Treasury Organization



3.4.1.2. Redefined Market Access Principles

Market access principles at Dexia have now been redefined, being organized dependent on the type of client. While some types of client use a local access model, other types of client have a single target model conducted through a specific Competence Centre. For foreign exchange swaps with a term of under one month, all competence centres can conclude the swap, whereas where there is a term of longer than 1 month then only the competence centres are able to conclude foreign exchange swaps in their competence centre currency. One exception is the local treasury in Paris who has market access for FX swaps under 1 month.

Table 1: Redefined Market Access Principles

TYPE OF CLIENT	TARGET MODEL
Secured deposits	
Bilateral Repos	Main: Brussels; limited for Rome, Berlin, Luxembourg
Tri-party Repos	Main: Brussels; limited for Luxembourg
Central bank tenders	Local access
Unsecured deposits	
Fiduciary deposits	Luxembourg
CD/CP: Certificate of Deposits/ Commercial Papers	Local access
Non bank client deposits	Local access
Interbank deposits	Local access
Central bank/Supranational deposits	Main: Brussels; limited for New York, London, Paris, Luxembourg
Derivatives	
FX Swaps	<ul style="list-style-type: none"> - All competence centres can conclude FX swaps < 1 month in all currencies - Competence centres conclude FX swaps > 1 month in their competence currency - DCL Paris market access for FX swaps < 1 month
Others	Local access

3.4.2. Treasury Governance

Treasury governance was completely reviewed and a new organisational structure implemented. Mandates have been drafted by the legal department to describe which powers are delegated from the entities to the Treasury Management Centre, also taking into account the rules of the domestic regulators.

3.5. NEW CHALLENGES FOR INTEGRATED LIQUIDITY MANAGEMENT

The implementation of the complete new treasury organization within Dexia will allow various operational, organizational and governance issues to be addressed. In so doing crossborder use of liquidity will also be optimized. However, this throws up a number of new challenges that will also need to be addressed.

Within the eurozone, it will be necessary to implement different liquidity ratios. On the one hand there is no uniform time horizon, with a different time horizon of up to 1 week in some countries whilst the time horizon is at least 1 month in other countries. On the other hand there are also differing definitions of liquidity reserves, and some securities may be eligible in one country but not in another.

The execution of intragroup security swaps allows this problem to be addressed to a certain extent, although the regulatory framework of some countries places heavy restrictions on the use of intragroup transactions, even on a secured basis. It is clear that these challenges can negatively impact a centralized liquidity management.

4. A TRAFFIC LIGHT ILLUSTRATION OF THE ACTION OF THE EUROPEAN CENTRAL BANK DURING THE 2007-2009 CRISIS

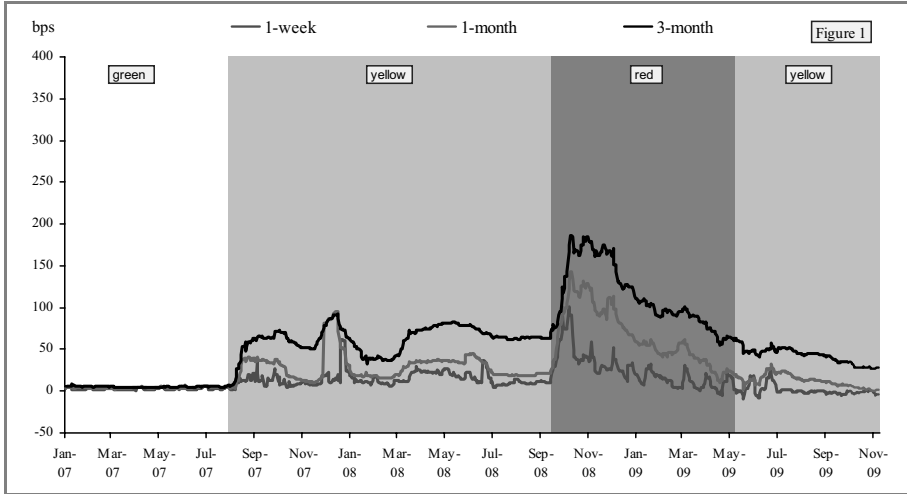
*Francesco Papadia*¹

This paper uses a traffic light metaphor to illustrate the different phases of the 2007-2009 financial crisis and, in particular, the action of the European Central Bank to deal with the liquidity component of this crisis. As colours can not be reproduced in this article, shadings in white and varieties of grey distinguish the different phases. Still a green, yellow, red, yellow sequence will be referred to in the paper. The traffic light metaphor is, as any metaphor, a tool aiming to help the communication of a concept, not something to be interpreted mechanically. In particular, unlike with a real traffic light, in the real world there is no deterministic pattern in the sequence of phases and it is not at all granted that a 'green' phase will follow the yellow one with which this article ends.

There is one indicator (Figure 1) that has been widely used to measure the intensity of the crisis: the difference between the interest rate on interbank unsecured lending (Euribor) and the interest rate on interest rate swaps of the same maturity (Overnight index Swap – OIS). This indicator, the behaviour of which is very similar to that of the spread between unsecured and secured (repo) lending, reflects the compensation which banks require to bear the risk of not receiving back the money lent (credit premium) and the risk of needing it before the maturity of the transaction (liquidity premium).

¹ European Central Bank. The views expressed are personal and do not necessarily represent those of the institution to which the author is affiliated. The help of Dimitrios Rakitzis in preparing the statistical material is gratefully acknowledged.

Figure 1. Euribor-Overnight Index Swap Spread. 1 Week, 1 Month And 3 Month Maturities. Basis Points. January 2007-November 2009

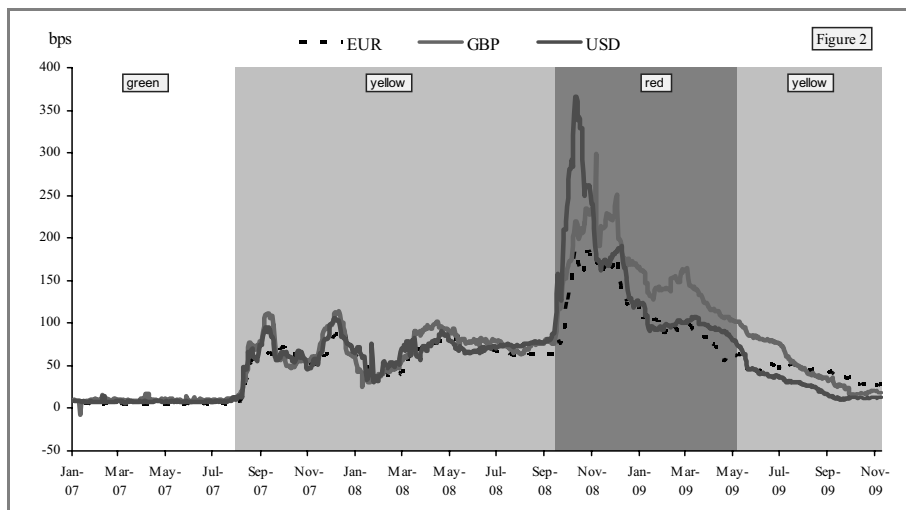


This indicator is used to identify four phases in the crisis:

- the green phase before August 9th 2007;
- the yellow phase between that date and the failure of Lehman Brothers in mid September 2008;
- the red phase after September 2008; and
- a second yellow phase after May 2009.

These phases apply equally well to the euro as to the dollar and the British pound, as shown in figure 2.

Figure 2. Euribor/Libor – Overnight Index Swap Spread. 3 Month Maturity for Euro, US Dollar and British Pound. Basis Points. January 2007–November 2009

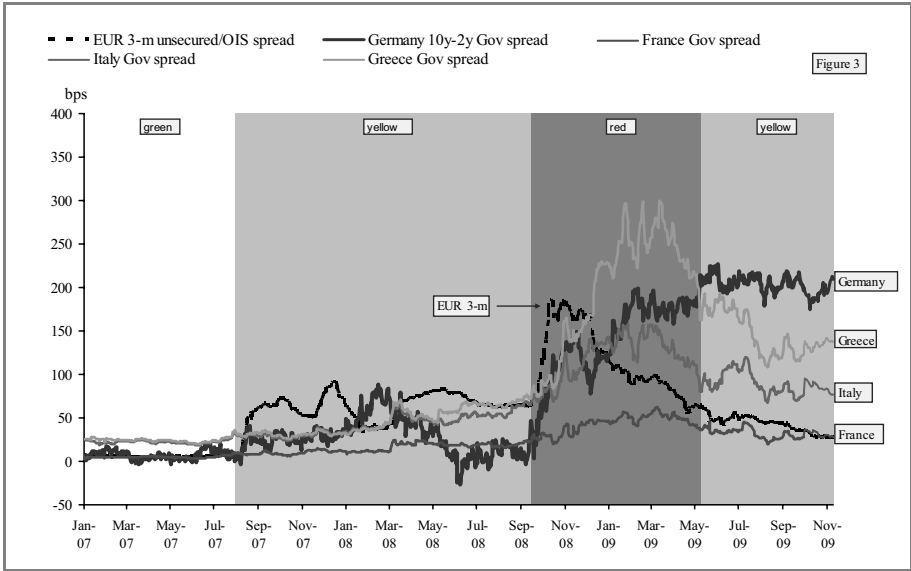


In the green phase the compensation for both the liquidity and the credit risks was very low, largely contained within 10 basis points, in the euro area as well as in the United Kingdom and the United States. On 9 August 2007, when the first yellow phase started, the required compensation for these two risks grew by a factor of 7 to 12, reaching in some cases the 100 basis points mark. Then, with the red phase after mid-September 2008, the joint effect of the liquidity and of the credit risk spread literally exploded, reaching a peak of 300 basis points in the case of the British pound and more than 350 for the dollar. It was only in spring 2009 that the spread returned to the region of the yellow, pre-Lehman phase, with a gradual further narrowing in the subsequent months.

Of course, the term compensation evokes a positive welfare connotation, but one's compensation is another person's cost and, in this case, it was the economy which was asked to pay much more for the intermediation function carried out by banks. These, in turn, had much higher credit and liquidity risk as well as great losses on their existing positions, which vastly exceeded the benefit of a higher return on the flow of new lending. As a consequence, both the real and the financial sector of the economy suffered grave consequences from the crisis.

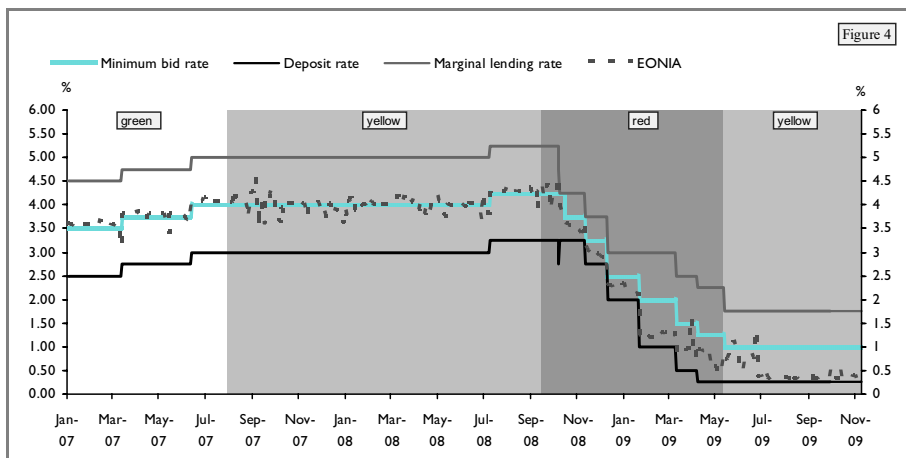
A similar pattern can be seen in other indicators, such as the spread between the yields of different sovereign issuers in the euro area and in the spread between long term and short term government yield on representative German securities (Figure 3).

Figure 3. Spread between the Yield on Italian, Greek and French 10 Year Bonds to German Bonds with the Same Maturity; Euribor-Overnight Index Swap Spread, 3 Month Maturity; Spread between Yield on 10 Year and 2 year German Bonds. Basis Points. January 2007-November 2009



Also the ability of the European Central Bank to keep the overnight rate of interest close to its policy rate, which defined the precision of its implementation of monetary policy, deteriorated significantly during the crisis, albeit to different degrees in its course.

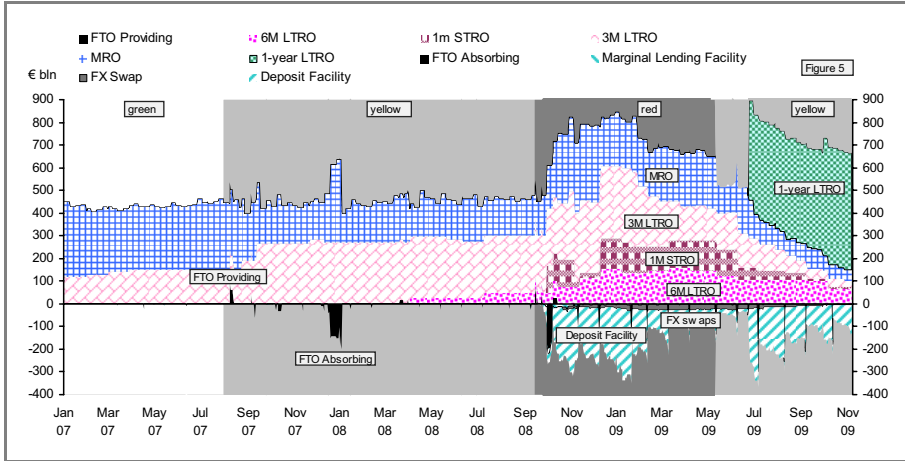
Figure 4. Overnight Interest Rate (EONIA); Marginal Lending and Deposit Rates and Minimum Bid Rate on Main Refinancing Operations. January 2007-November 2009. Percentage Points



While in the green phase the overnight rate remained consistently close to the policy rate, in the yellow phase the overnight rate deviated significantly from the policy rate, especially at its beginning, when the stabilizing effect of reserve requirements became much weaker and the European Central Bank found it difficult to offset, by means of changes in the supply of liquidity, the sharp changes in its demand from banks. Then, in the red phase a new phenomenon appeared: the overnight rate was systematically lower than the policy rate, which the European Central Bank cut sharply from 4.25 to 1.00 per cent between October 2008 and May 2009. This was the effect of counterparties, which now could have as much liquidity as they wished at the low policy rate, asking for far more liquidity than was needed to satisfy reserve requirements and the effect of autonomous factors. Eventually, in the second yellow phase, the stability of the overnight rate was regained, but at a level closer to that of the deposit facility, *i.e.* 25 basis points, than to that of the policy rate, *i.e.* 100 basis points given that liquidity continued to exceed by far reserve requirements and autonomous factors.

The effects of the crisis were dramatic also on the liquidity provision of the Eurosystem.

Figure 5. Liquidity Provision and Absorption by the Eurosystem. Euro Billion. January 2007-November 2009



In the green phase, the liquidity provision of the Eurosystem was very simple: banks were offered two refinancing opportunities, in addition to the standing facilities: one-week maturity operations, so called Main Refinancing Operations, offered every week, and three-month maturity operations, so called Longer Term Operations, offered on a monthly basis. Faithful to their names, the Main Refinancing Operations covered about two thirds of all the liquidity needs of banks, with the complement being covered by Longer Term Operations. In the green period, the so called Fine Tuning Operations with an overnight maturity were infrequent and carried out only in very special circumstances.

In the yellow phase, the refinancing operations of the Eurosystem became somewhat more complex. A new maturity, of six months, was added to the Longer Term Operations. Together with a larger volume of three month operations, the introduction of six month operations contributed to invert the proportion between liquidity provided by Longer-Term Operations – now two thirds of the total – and that provided by the (by now misnamed) Main Refinancing Operations, reduced to one third. Fine-tuning operations became more frequent and, in some circumstances, liquidity provision, still under the control of the European Central Bank, exceeded the needs created by reserve requirements and autonomous factors. As a result, banks placed the excess liquidity in the deposit facility of the Eurosystem. Another quite extraordinary development was the provision by the European Central Bank of liquidity in foreign currency, specifically US dollars and Swiss francs, in agreement with the Federal Reserve of the United States and the Swiss National Bank respectively². This move, which is not found in any textbook on monetary policy implementation, was made necessary by the

impaired ability of the market to provide foreign currency liquidity to banks needing it.

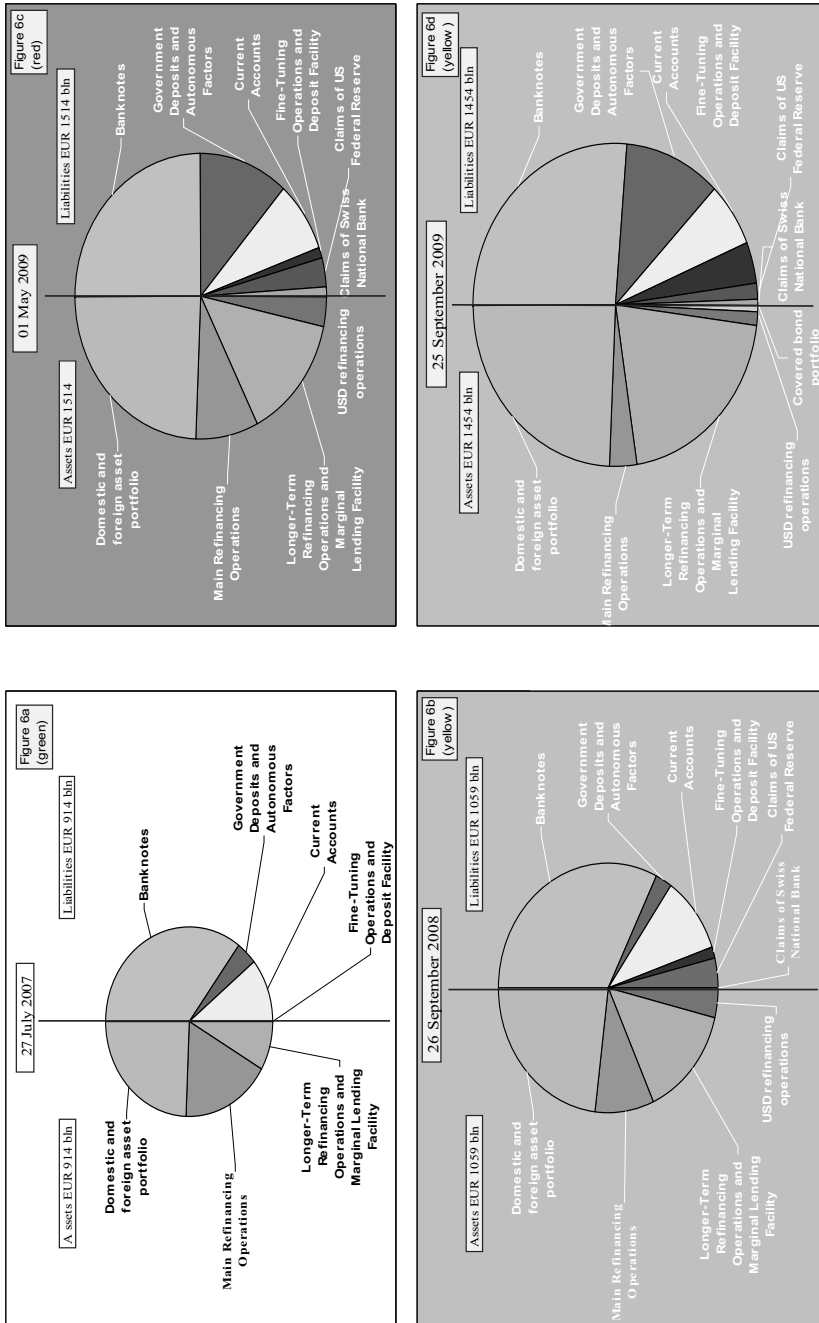
In the red phase, liquidity provision and absorption from the Eurosystem became both much larger and more complex. These two phenomena resulted from the interaction between the policy changes decided by the central bank and the behaviour of banks. The most important policy change by the European Central Bank in this respect was the move from a situation in which it controlled the amount of liquidity granted to banks, to one in which the choice is left to banks. In fact in October 2008, to fight the inordinate level achieved by the liquidity risk – which was one very important factor in the explosion of the spread between the Euribor and the Overnight index swap rate seen above (Papadia and Välimäki 2009) – the European Central Bank changed the tender modality of its refinancing operations to a so called fixed-rate full allotment approach, in which banks can have all the liquidity they want at the policy rate of interest. This move of the central bank was accompanied by the addition of another maturity (1 month) to Longer Term Operations (actually called STRO: Special Term Refinancing Operations) and by a much more frequent offering of longer term operations (up to 4 per maintenance period). The behaviour of banks strongly interacted with the new refinancing opportunities offered by the European Central Bank: the demand for liquidity far exceeded what was needed to fund the needs stemming from reserve requirements and autonomous factors and the excess was placed at the deposit facility of the Eurosystem. In economic terms, what happened is that banks became much less willing to trade liquidity among themselves, because of the much larger liquidity and credit risk, and so the central bank had to intermediate funds between the banks which had an excess of liquidity and those which had a dearth of it. To some extent, banks wanted to lend liquidity only to the central bank and this was the only institution willing to fund certain other banks.

In the second yellow phase, which started in spring of 2009, another important innovation took place, as the European Central Bank decided to add a one year maturity to its Longer Term Operations. This proved extremely popular with banks, so much that, in November 2009, the two operations conducted with this maturity covered a dominant share (85%-90%) of the liquidity provision by the central bank.

A more complete view of the balance sheet of the Eurosystem and of its evolution during the crisis is given in Figure 6.

² In chart 5, only the effect of the Swiss Franc operations can be seen, as these affected the liquidity in euro, being provided in the form of swaps from the Eurosystem. The effects of the dollar operations, which did not affect euro liquidity as they were offered in the form of repurchase operations, can only be seen in the subsequent chart 6.

Figure 6. Total Size and Composition of the Balance Sheet of the Eurosystem on 27 July 2007, 26 September 2008, 1 May 2009 and 25 September 2009



In the green phase, the total size of the balance sheet of the Eurosystem is already quite large, slightly above 900 billion euro, but its composition is relatively simple: The liability side is dominated by banknotes, followed by banks' current accounts, or reserves, and then by government deposits and other autonomous factors. The asset side is nearly equally split between domestic and foreign assets portfolios, on one hand, *i.e.* financial assets held mostly by national central banks, and refinancing operations, in the form of Main Refinancing Operations and Longer Term Refinancing operations, on the other hand. Fine tuning operations and standing facilities are either absent or too small to be visible.

In the first yellow phase, the balance sheet of the Eurosystem grows to more than one trillion (€ 1059 billion) and it gets more complex: on the liability side, one now sees the effect of Fine Tuning Operations, the deposit facility and the claims of the Federal Reserve and the Swiss National Bank, corresponding to the US dollar and Swiss francs lent to the European Central Bank for further distribution to Eurosystem counterparties in need of foreign liquidity. On the asset side one sees, in addition to the different proportion between Main Refinancing Operations and Longer Term Refinancing operations, already mentioned, the provision of liquidity in foreign currencies.

In the red phase of the crisis, the balance sheet of the Eurosystem grows by nearly 50 per cent, to nearly 1.5 trillion, as the central bank took on itself the intermediation function that the impaired banking sector was not capable of carrying out any more (Papadia 2009). In terms of composition, one sees a further increased share of Longer Term Refinancing Operations.

In the subsequent yellow phase, the size and the composition of the balance sheet remains largely unchanged because of the effect of the very large one year operations, while the only easily discernible change is the further reduction in the size and share of Main Refinancing Operations. On the asset side one can also now see the – relatively small – effects of the purchases of covered bonds by the Eurosystem.

Traffic lights regulate traffic. They do not support a moral, but there is a moral to this traffic light story: the European Central Bank took exceptional actions to deal with an exceptional crisis, but it did not need to carry out radical changes to the framework of its market operations, which proved robust, able to easily accommodate exceptional measures and effectively fend the Eurosystem from exceptional market conditions. Liquidity tensions have subsided and there is, at least, a timing sequencing to indicate that this is because of the action of the European Central Bank. Will the success on the liquidity front be followed by success in the real economy? It is too early to tell, but the omens are favourable.

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5. CRISIS MANAGEMENT IN THE EUROPEAN UNION: EXPERIENCE SHOWS THAT THE EU NEEDS AMBITIOUS PROGRESS

Freddy van den Spiegel

The cost of the worldwide financial crisis is huge. The need for a global review of financial regulation, in order to avoid future crises is generally recognised. However, the reality is that crises can happen at any time and that regulatory reform – no matter how efficient and necessary – will not be able to rule them out altogether. As such, a debate is also needed on how to minimise the consequences of any future crisis. This mainly relates to creating the optimal structures, instruments and decision-making powers to allow efficient crisis management, in order to prevent a crisis from acting like a virus and infecting the entire financial system.

That debate takes place on various levels: nationally, regionally – more specifically European – and globally within the G20. It is repeatedly pointed out that financial markets are integrated worldwide and there is accordingly a need for crisis management to be globally coordinated, even though the actual decisions must be taken, by definition, by countries within their national legislative framework. That approach creates a specific challenge for the European Union as the European level is an intermediate one whose role in connection with crisis management is still not defined. Most telling in this regard is that the EU's key role in the current crisis is being played by DG Competition, even though competition is only of secondary importance during a crisis that is potentially life-threatening to the entire social fabric. Developing a clear framework for managing financial crises at EU level is therefore essential, for two reasons:

- the EU strives for a completely open internal market. Every power given to a member state to avoid or manage crises may lead to nationalistic responses that can undermine the internal market. The idea of an open market also features at global level, but is not such a priority there. An open internal market is the very essence of the EU;
- the EU has political procedures at its disposal which do not exist at global level: harmonisation of the legal framework, or transfer of political powers to a supranational level are negotiable at EU level, but globally unfeasible to date.

Regardless of how necessary an effective crisis management system is at EU level, its attainment remains a delicate issue because a serious financial crisis can have far-reaching consequences for society as a whole, not in the least because of the

potential extent of the damage that will have to be recouped through taxes. Pragmatic action therefore needs to be taken, making sure that the right priorities receive the most attention. This crisis has at least highlighted a number of impediments to progress, which will be dealt with below.

5.1. NEED FOR FULL HARMONISATION OF A NUMBER OF STATUTORY AND REGULATORY ASPECTS WITHIN THE EU

Full harmonisation is often the EU's solution to promote or protect the integration of the internal market. The same applies here. Harmonisation is always a complex political process because it involves member states amending their legislative framework. In view of the versatility of crisis management, full harmonisation of all aspects is probably not feasible: after all, it affects the foundations of a country's entire legal system. Priorities must therefore be determined. Achieving 'must have' is already a challenge and 'should have' and 'nice to have' are best left aside.

Crisis management is usually a chaotic process with constantly unexpected twists and turns, forcing crisis managers to push the limits of legality. Some ambiguity can help in this regard but it must at least be clear who is authorised to make decisions and what instruments are available. The crisis has shown that decisions which cannot be based on a clear statutory footing may give rise to a legal entanglement that is reported on widely by the media and potentially leads to a political crisis. Sloppy crisis management can contribute in that way to a further erosion of trust. A special crisis resolution system for banks is essential within this statutory framework, without having to follow the normal, time-consuming legal proceedings for bankruptcy or takeover.

Creating this clear framework is the duty of the member states, but must to a large extent be coordinated at European level, so that there is at least a viable platform for cross-border cooperation between supervisory authorities in times of crisis. Although full harmonisation is perhaps difficult to achieve, inconsistencies in the crisis management tool box of the different member states must be eliminated.

5.2. CRISIS MANAGEMENT IN PRACTICE: WHO, WHEN AND HOW?

Harmonising the tool box for crisis management between member states is not enough: the discretionary decision about how and when these tools are used is as

important. By definition, each crisis is a surprise for which there is no tailor-made script. As such, it is impossible to organise crisis management according to strict legislative texts because creative solutions are essential during a crisis. Crisis management in a cross-border situation is thus not obvious because the solution deemed best for one member state is not necessarily optimal or acceptable to other member states. The EU must therefore make every effort to avoid paralysing friction among member states during a crisis. Some of the rules to be elaborated include the following.

- there must be clear arrangements on crisis management among supervisory authorities (including central banks and treasuries) of the member states in which a specific financial group has significant activities. Those arrangements must be made in good times and lead to binding agreements, preferably including burden sharing. For reasons of speed, knowledge and involvement, it indeed seems appropriate to make such arrangements multilaterally for each financial institution among the member states concerned. EU institutions should only play a facilitating role;
- it must be guaranteed that all supervisory authorities obtain the necessary information in time during a crisis. The European Supervisory Authority should be able to guarantee this;
- when deciding which instruments to use (guarantees, nationalisation, etc.) for specific banks, consultation must be compulsory and member states must at least be obliged to objectively take into account the effects of their actions on other member states. Obviously, a burden-sharing agreement which spreads the cost of the crisis of a bank among the member states involved would be ideal. However, if this is not feasible, considering the consequences objectively would already bring more discipline into the decision-making process;
- a clear distinction must be made with regard to cooperation depending on the type of crisis: a crisis of one specific bank relating to an endogenous problem requires a totally different approach to a cross-border systemic crisis. A cross-border systemic crisis would have to be recognised formally by EU institutions and lead to far stronger EU coordination.

All these elements are present to a certain degree in the proposals put forward by the Commission regarding the new supervisory framework, but should be made more explicit.

5.3. THE SYSTEMIC BANKING PUZZLE MUST BE RESOLVED

The debate surrounding the future of systemic banks rages on with great intensity, but leads to disagreements and confusion. Basically, it seems to be simple: banks that can incapacitate the financial system upon bankruptcy are defined as systemic and must be subject to more stringent rules.

The practical problems start in determining which banks are systemic: size seems to be an obvious criterion, yet complexity and interconnectedness are just as important. The extent to which a bank plays an irreplaceable role in one or other essential financial infrastructure is also important. In addition, the crisis has shown that the extent of systemic relevance also depends on timing: a crisis is driven by mass psychology, that can sometimes cause chain reactions in case of minor incidents. Identifying individual banks as systemic will therefore always be controversial.

Even if the list of systemic banks is defined, the question remains as to which specific measures to adopt. Imposing additional capital requirements is a very drastic measure that can compromise the competitive position of systemic banks without necessarily limiting their systemic character. Limiting permitted activities (narrow banking) will lead to those activities being developed by other – unregulated – operators, without making the system healthier.

It appears to be more appropriate to include in the capital requirements of all banks complexity, interconnectedness and intransparency as risk factors. The credibility of so-called contingency plans or living wills, together with a scenario analysis and stress tests, can help in the diagnosis. Additional capital requirements for these risk factors will encourage simplicity and transparency as the capital cost of complexity will automatically be taken into consideration in the internal decision-making.

While developing the appropriate regulatory framework for systemic banks, the EU must also take into account the specificity of its banking system compared, for instance, to the United States: banks in the EU play a significantly greater role in financing the real economy. The economic cost of higher capital requirements for banks will be bigger in the EU than in the US. Furthermore, financial integration automatically means that banks within the EU engage in far more cross-border activities. If the EU wants to continue to encourage financial integration, it is essential that cross border banking within the EU is not considered as a factor of complexity. Therefore it is necessary that the analysis of the complexity of banks takes place at the EU consolidated level, involving all the supervisory authorities concerned and under the control of the European Supervisory Authorities.

5.4. CONCLUSION

The experiences of this crisis clearly point to where EU framework for crisis management must be urgently improved. The conclusions are not even surprising: selective harmonisation of the tools and powers of supervisory authorities in the member states, stricter coordination of supervision and crisis management at EU

level, and excluding unilateral decisions by member states. If the EU is not able to achieve this limited agenda, the financial integration project within the EU will logically be questioned. That would be an expensive decision, not only for the financial sector but even more for the real economy.

6. THE COLLAPSE OF ICELANDIC BANKS AND CROSS-BORDER COLLABORATION

*Ingimundur Fridriksson*¹

I thank the organizers for inviting me to participate in this seminar to share with you some reflections on aspects of the banking crisis in Iceland and related cross-border issues. This session is titled *Cross-border bank resolution*. I will provide some background to the Icelandic banking developments and then turn to cross border collaboration from a broader angle than just resolution. I should mention that I have not been involved in Iceland's crisis management nor resolution since early February of this year and thus do not have privilege to any information beyond that which is publically available regarding developments since then. Additionally, I have been employed outside Iceland since the middle of the year.

6.1. BACKGROUND

Once Iceland's state owned banks were fully privatised after the turn of the century, they began to expand at a rapid pace, with the primary focus outside Iceland. They acquired financial companies in other countries, established branches, and expanded their operations from headquarters in Reykjavik. Their rapid growth was facilitated by Iceland's membership in the European Economic Area (EEA) through which Iceland is a participant in the *single market* of the European Union (EU). Accordingly, Iceland was obliged to create for its financial system a legal and regulatory framework rooted in the directives of the EU. Operating licences granted to Icelandic financial enterprises extended not only to Iceland but to all other EEA states. They were accorded a 'European passport' and were thus permitted to open and operate branches anywhere in the EEA. They had the same rights and responsibilities as banks in all of the other EEA states. The Icelandic Financial Supervisory Authority based its activities on the domestic application of European laws, regulations and procedures. Subsidiaries were regulated and supervised by supervisory authorities in the countries where they were located while branches were mainly supervised from the home country.

¹ Presentation prepared for a SUERF, CEPS and Belgian Financial Forum Conference on *Crisis Management at Cross-Roads* held in the National Bank of Belgium in Brussels, November 16, 2009. An abbreviated oral version was delivered at the conference. The author is a former member of the Board of Governors of the Central Bank of Iceland. He is currently Senior Adviser in the Central Bank of Norway (Norges Bank). The content of the presentation is completely unrelated to the author's assignments in the Central Bank of Norway. The author is thankful for the comments of Eiríkur Guðnason, Jón Þ. Sigurgeirsson, Lilja Alfreðsdóttir, Sigríður Logadóttir and Tryggvi Pálsson on the draft of the presentation. The author alone is responsible for errors and views expressed.

The European regulatory environment was not the only factor permitting the banks to expand as they did. Conditions in the global financial markets were quite exceptional: Virtually inexhaustible supply of credit at interest rates lower than they had been in a hundred years. *There is a wall of money out there* was the common refrain of international bankers. To quote the Central Bank of Iceland's *Financial Stability* report from October 2009, "the banks were participants in a global sequence of events that were shaped by extraordinary circumstances"². In their search for yield, international investors were hungry for attractive bonds, including those issued by Iceland's banks. The banks were thoroughly scrutinised by international credit rating agencies and their favourable ratings greatly facilitated their foray into the bond market. In early 2007, Moody's raised their rating to Aaa for a while. Given their ratings, the banks had virtually unlimited access to credit in the international bond markets in the period when they grew the fastest. Their bonds became popular in various structured products.

The banks became a vital part of the national economy, their expansion and that of other Icelandic companies garnered widespread domestic support, they offered handsome salaries, and brought the Treasury sizeable tax revenues, directly and indirectly. As noted by Kaarlo Jännäri, the Finnish banking supervisory expert commissioned in 2009 to review the Icelandic regulatory framework and recommend changes, "consecutive Icelandic governments with different political compositions – and opposition leaders as well – had underlined the importance of the financial sector and declared their support for its continued growth. Those who criticised the banks were not taken seriously or paid much attention. The bankers were virtually considered national heroes; they were lionised by the media, and the nation was proud of the banks' success. Had the supervisory authorities tried to intervene and forcefully tried to stop this development, they would in all probability have failed, as they lacked the legal authority to intervene. The nation, up to its highest echelons, supported and admired the banks, and many are still in a state of denial regarding their own part in this tragedy. The CBI and the FME tried to raise words of caution, but it was too little and too late, and it is doubtful whether they could have stopped these developments even if they had had the power to do it"³.

The Icelandic banks operated in many foreign countries, mainly in the other Nordic Countries, the UK and Luxembourg. By the end of 2007, the combined balance sheet total of the three largest banks had grown to the equivalent of roughly 10 times Iceland's GDP. In 2007, the last full year of their operations, they derived more than half of their income from operations in other countries. The largest

² Central Bank of Iceland, *Financial Stability*, October 26, 2009, p. 13.

³ K. JÄNNÄRI, *Report on Banking Regulation and Supervision in Iceland: past, present and future*, March 30, 2009, pp. 14 and 20, respectively. Available on the website of the Icelandic Prime Minister's Office (www.forsætisraduneyti.is/media/frettir/KaarloJannari__2009.pdf).

bank derived more than three quarters of its income abroad. The home market had declined commensurably in significance. The share of foreign subsidiaries in the consolidated balance sheet totals of the banks ranged from 27% to 54%, and roughly 60% of their total loans were to foreign borrowers. No foreign banks operated in Iceland.

Very briefly on the macro economic background, the Icelandic economy grew rapidly before the crisis. From 2002 to 2007, real GDP grew by 31%, private consumption by 41%, investment by 105%, and real disposable income by 50%. Macroeconomic imbalances, which became more pronounced in this period, originated in large scale investment in the aluminium sector and associated investment in power generation⁴. On top of that came sudden structural changes in the domestic financial market, at least in part inspired by government policy⁵, which substantially boosted the borrowing ability of households, reductions in taxes, both direct and indirect, and generous wage settlements which in addition to the tax reductions led to unprecedented increases in the disposable incomes of households. All of this led to sharply increased private consumption. Monetary policy had since 2001 been based on an inflation targeting framework. Given insufficient support from others, both the public finances and the wage settlement side, the monetary policy task of the Central Bank became extremely difficult, and despite very high interest rates, serious imbalances developed, a large current account deficit emerged and inflation rose eventually to several times the official target. Thus, financial system weaknesses were accentuated by macro-economic imbalances and instability. Partly, Iceland's macroeconomic predicament stemmed from its cyclical position being significantly out of line with other economies which, given the domestic economic policy mix, required a large interest rate differential between Iceland and other countries.

I do not need to say much about the background to the global crisis. It came about as a result of intensified global imbalances, the emergence of bubbles, mispricing of and failures in assessing risk, lack of transparency, underestimation of liquidity risk, greed through misplaced remuneration and incentive schemes, insufficient attention to liquidity of markets, limitations of the global framework in a national and cross border context; there was little impact of early warnings in terms of action – and most early warnings were feeble anyway; the process was a dynamic one and the lack of market transparency combined with the sudden downgrade of credit ratings, and the US Government's decision not to save Lehman Brothers led to a wide-spread breakdown of trust and a crisis of confidence

⁴ See for example I. FRIDRIKSSON, *The Icelandic economy and financial system in April 2008*, presentation at a meeting of the Board of Directors of the Norwegian financial Supervisor, Kredittilsynet, in Reykjavik, April 24, 2008. Available on the website of the Central Bank of Iceland.

⁵ The decision of the government to expand the activities of the public Housing Finance Fund which enticed the commercial banks to enter into head-on competition with the Fund. See for example Central Bank of Iceland, *Financial Stability*, May 4, 2006, p. 34.

in autumn 2008, practically shut down inter-bank money markets, thus creating a large scale liquidity crisis⁶.

These were the conditions under which the global financial conditions fermented into a poisonous brew. The Icelandic banking system expanded in this environment which shaped it, the flaws in the global system applied equally to the Icelandic banks as others, as developments have clearly shown. This is *inter alia* borne out in the report of the Finnish banking supervisory expert already cited when he states that “when judging the reasons for the Icelandic banking crisis and the events leading to it, one should not forget the international setting in which it happened and which made it possible. It would not have been possible without the overall laxity in the global financial markets and the bubbles it produced, which were bound to burst at some point in time. When greed gave way to fear and the bubbles started bursting, there was no way the Icelandic banks could have been saved. This is not to say that Icelandic banks were innocent victims of the circumstances. They made the gravest mistakes themselves by going along with the global euphoria and forgetting that conquering the world is not possible without a strong home base and own resources”⁷.

Much has been written about the Icelandic financial system, its expansion after privatisation and then its subsequent collapse⁸. The banks depended heavily on easy access to the global bond markets and, aided by favourable credit ratings, tapped them for significant amounts. Following a period of critical international attention and scrutiny in the first half of 2006, which resulted in tighter access to credit, and urgings of rating agencies and various analysts that they increase the relative share of deposits on the liabilities side of their balance sheets, they embarked upon aggressive retail deposit collection in other countries, particularly in the UK, mainly through internet accounts booked in branches but also in subsidiaries.

In its concluding statement after the 2007 Article IV Consultation, the IMF mission stated the following: “The financial system withstood the market stress in early-2006 admirably, but new risks may be emerging. Banks have taken important steps over the past year to reduce vulnerabilities and increase resilience. Short-term liquidity management has been strengthened. Ownership structures have been made more transparent with sell-down of some cross-shareholdings, which is important for maintaining investor confidence. As banks continue to

⁶ See for example the *Report of the high-level group on financial supervision in the EU*, chaired by Jacques de Larosière, Brussels, February 25, 2009, pp. 7-12.

⁷ K. JÄNNÄRI, *o.c.*, pp. 19-20.

⁸ See *inter alia* Central Bank of Iceland: *Financial Stability 2009, o.c.*, as well as earlier issues; K. JÄNNÄRI, *o.c.*; IMF, *Staff Report on Iceland's Request for Stand-by Arrangement*, Washington, November 15, 2008; I. FRIDRIKSSON, *The banking crisis in Iceland in 2008*, presentation dated February 6, 2009; available on the website of the Central Bank of Iceland (www.sedlabanki.is) and I. FRIDRIKSSON, *The banking crisis in Iceland: The rise, fall and restructuring of Iceland's financial institutions*, presentation at a seminar on Financial Rehabilitation arranged by Arctic Securities in Oslo June 25, 2009, unpublished but available on request from the author.

expand rapidly and the complexity of their operations increases, risk management practices must develop and improve commensurably”⁹.

After the temporary setbacks in the first half of 2006, the banks were able to tap bond markets anew on the basis of their ratings¹⁰, albeit probably at a premium compared to their rating. They became successful in attracting retail deposits by offering favourable terms and they strengthened their capital and liquidity positions.

Following the swift turn in the global financial markets in mid 2007, the access of the banks to the bond markets virtually closed. Their CDS spreads rose sharply as doubts seemed to grow about their future viability, partly at least due to the large refinancing of outstanding debt that waited on the horizon, and apparent uncertainty about one of the banks’ ability to consummate its latest acquisition of a foreign bank. Subsequently, for two of the banks, retail deposits became an increasingly important source of liquidity while the third primarily securitised and liquidated assets. Acquisition plans were soon abolished or cancelled and all the banks began to downsize in increasingly strained markets. Moreover, with the widespread crisis of confidence in international markets and interbank markets more or less dysfunctional, like other banks, the Icelandic banks increasingly resorted to central bank financing.

By 2008, the banks had outgrown the Central Bank’s ability to realistically serve as a lender of last resort. Their favourable credit ratings were at least partly the result of the ratings agencies’ assessment that the government would support the banks as needed and have the ability to do that¹¹. Neither the Treasury nor the Central Bank had ever given such guarantees or declarations to this effect to agencies responsible for Iceland’s sovereign and banking sector ratings, as explicitly stated for example in the Bank’s *Financial Stability* in 2007¹².

In late summer 2008, the subsidiarisation of an Icelandic bank branch in London was under preparation and expected to be concluded before the end of the year, plans were for the same elsewhere at the beginning of 2009, work was apparently progressing reasonably well in at least two of the banks in attracting new international equity investors, thus widening and strengthening the ownership base, large asset sales were in the pipeline, serious consideration had started in at least one of the banks on possibly moving headquarters to another country, and so on.

⁹ IMF, *Iceland-2007 Article IV Consultation, Concluding Statement*, June 11, 2007. Available on the websites of the IMF and the Central Bank of Iceland.

¹⁰ Following a rise in their CDS spreads at the end of 2005 and in early 2006, the banks shifted their funding to new markets, in particular in the US.

¹¹ See for example Moody’s *Global Sovereign Special Comment: Iceland’s Aaa Ratings at a Crossroads*, January 2008.

¹² Central Bank of Iceland, *Financial Stability*, April 25, 2007, p. 46.

Then came September and the collapse of Lehman Brothers. At the end of September and in early October, the situation in the international markets was extremely precarious. Many banks teetered on the brink of disaster, among them large banks in Europe, which required extraordinary governmental support¹³. Global financial markets were essentially frozen, liquidity had evaporated, assets could not be sold and credit ratings were being downgraded, potentially activating repayment triggers in various financial contracts. “With the collapse of Lehman Brothers, uncertainty turned to outright panic, and economic activity started to collapse”¹⁴. The Icelandic banks crumbled in early October, entailing the collapse of nine tenths of the banking system. It thus became a financial crisis of extraordinary proportions; a systemic collapse requiring a response commensurate to the task at hand. The Parliament passed emergency legislation which enabled the government to respond promptly. The first priority was to ensure continued and uninterrupted functioning of domestic banking operations and preventing a complete collapse of confidence.

Had Lehman not failed, it is difficult to say what might have happened. One may as a minimum think that the collapse of the Icelandic banks would at least have been delayed and that the initiatives under way at the end of the summer would have softened the blow if not ensured continued viability of the banks. That would of course have depended on how promptly they and subsequent measures had progressed and on how the global markets had evolved if Lehman had not collapsed.

It has also been suggested by some observers that perhaps it might have been possible to get authorities in other countries to pressure their banks to take over one or two of the Icelandic banks in early October. It is unlikely that this was a realistic option. Everyone was occupied with saving their own banks, and I doubt that anyone would have seen it in his own interest or that of his domestic banks to extend a helping hand to Icelandic banks at that time.

The response of the Icelandic authorities to developments in the period until October 2008 is not the subject of this presentation. It is documented elsewhere¹⁵. Very briefly, the authorities had activated and intensified their contingency mechanisms well before the collapse and were at a very heightened level of alert in 2008.

¹³ In an interview with the BBC, Bank of England Governor Mervyn King said: “Two of our major banks which had had difficulty in obtaining funding could raise money only for one week then only for one day, and then on that Monday and Tuesday <October 6 and 7> it was not possible even to be confident that they could get to the end of the day.” Reported on Bloomberg.com, September 24, 2009.

¹⁴ D. STRAUSS-KAHN, *Economic Stability, Economic Cooperation, and Peace – the Role of the IMF*, speech in Oslo, October 23, 2009.

¹⁵ See for example Central Bank of Iceland, *Financial Stability 2009*, o.c.; I. FRIDRIKSSON, *The banking crisis in Iceland: The rise, fall and restructuring of Iceland’s financial institutions*, o.c. and K. JANNÄRI, o.c.

As for asset quality in the Icelandic banks, the responsibility of management and the role played by principal shareholders, the jury is still out. Indications have emerged of questionable practices and potential legal offences in the banks that are now the subject of investigation by a special prosecutor. Other pertinent issues may be addressed by the Special Parliamentary Investigative Commission due to deliver its report in early 2010.

In retrospect, and as global financial markets evolved, it is clear that the Icelandic banks had become too large; they did not have a sufficiently strong home base. Moreover, their rapid growth and relative size rendered them sensitive to adverse developments in global financial markets. The Icelandic Government did not have the financial means to rescue them in the manner which other governments have so far been able to with their respective banks. Their collapse might not have been avoided, but the question remains whether better international collaboration both prior and after their collapse might have led to lesser overall damage or losses than seems likely to become the result. I say *overall* losses since indications are that some may have made strong gains from the collapse of the banks and the subsequent liquidation of their assets.

6.2. CROSS-BORDER COLLABORATION

As mentioned, Iceland is a member of the EEA and thus belongs to the single market of the EU which entails that Iceland had adopted the EU financial market legal and regulatory framework. Through its membership in the EEA, Iceland had participated and continues to participate in various EU committees, including the Committee of European Banking Supervisors (CEBS) and the Banking Supervisory Committee (BSC), and followed the cross border crisis management preparatory work in the EU. In mid 2008, Iceland along with Norway, declared its interest in joining the EU MoU on cross-border financial crisis situations which had been signed by the EU countries earlier in the year and the EEA countries that are not members of the EU were invited to join.

The five Nordic central banks signed an MoU in 2003 *on the management of a financial crisis in banks with cross-border establishments*¹⁶ setting out how they would cooperate among themselves in the case of a liquidity shortfall in an institution with cross-border operations. The MoU replaced swap lines among the Nordic central banks that had a long history but were at the time considered to have run their course.

In addition to the MoU of 2003, the Nordic central banks have a long history of comprehensive and fruitful collaboration in practically all areas of their activities,

¹⁶ Dated June 2003 and available on the websites of all the Nordic central banks.

perhaps most intensely in recent years in the field of financial stability. In September 2007, there was a path-breaking crisis management exercise in the Nordic and Baltic countries spanning three days and involving finance ministries, financial supervisory authorities and central banks in all the Nordic countries and the central banks in the Baltic countries, altogether 18 institutions in eight countries¹⁷.

The Icelandic Supervisory Authority participated in international cooperation of supervisory authorities and cooperated with its sister institutions in other countries. It had signed MoUs with several of them and was in 2008 preparing to set up supervisory colleges with some of them.

The increasingly tight global financial markets and intensifying liquidity difficulties in 2007 and 2008 warranted a response entailing cooperation across borders. In the first half of 2008, the Central Bank of Iceland sought cooperation with other central banks and the BIS. This was a part of the Bank's contingency work at that time. In particular, it requested swap arrangements with other central banks, the Nordic ones, the Bank of England, the ECB, the US Federal Reserve, and later the Bank of Japan. It also requested a credit line with the BIS. Among the motivations behind the Icelandic authorities' request for increased collaboration and support was that the operations of the Icelandic banks were becoming ever more important in the financial systems of other countries. Cross-border collaboration was thus felt not only to be in Iceland's interest, but also that of the other countries, *i.e.* it was not only in Iceland's interest to enhance confidence in the ability of Iceland to effectively respond to developments.

Initially, the response from some of the other central banks was rather favourable, even to the extent that work had commenced in April in at least two of them on drafting the necessary documentation. Some requested that the IMF assess the situation in Iceland and specifically that of the banks. That was done promptly in early April 2008 and the IMF's assessment made available to the Governors of the central banks that had been contacted along with material specifically requested from the Icelandic central bank. Broadly, the conclusion of the IMF was that the position of the Icelandic banks was tight but manageable and it endorsed the strategy of the Icelandic authorities, *i.e.* to negotiate swap agreements with other central banks in order to enhance confidence and allow the government to subsequently tap the international capital market to further strengthen its external liquidity position. Financial stability experts from the Swedish central bank also visited Iceland in April (and again in September) to assess the position of the banks. Their conclusions were broadly similar to those of the IMF. In May the Icelandic authorities requested a follow-up FSAP exercise from the IMF which

¹⁷ See for example Central Bank of Iceland, *Financial Stability* 2008, pp. 46-47.

was promptly conducted in June with the report being published later in the year¹⁸.

After the relatively promising initial responses from some of the central banks, however, something happened in the latter half of April and into early May which caused some of them to retract. In the end, only three Nordic central banks, the Danish, Norwegian and Swedish ones, agreed to set up swap arrangements with the Central Bank of Iceland (the Bank of Finland being a euro area central bank could not participate). They were concluded in May. No drawings were made until October 2008, after the collapse, when partial drawings were made under two of the arrangements amounting to just over a quarter of the total size of the arrangements. The three arrangements were renewed after the adoption of an IMF program in November and partial drawings made under all of them in December 2008, amounting to 30% of their overall size. Further drawings have not been made.

Evident during this period was increasing collaboration among other central banks on their position vis-a-vis Iceland from late April 2008. Some of the major banks suggested at the time that an IMF program would be a precondition for their consideration of a swap arrangement with the Icelandic central bank. An example of their contacts is that one central bank's insistence on an IMF program as a condition for potential support was quickly corrected by another central bank explaining that an assessment by the IMF would be sufficient for both of them, of the type undertaken in April, involving a brief visit by IMF experts to Iceland. All of them appeared to share the view that the Icelandic banks had become too big and needed to be downsized, which was becoming rapidly more problematic in difficult markets. It was also suggested that to be effective, the amount of the swap arrangements would have to be larger than was possible to commit.

Later in the year, the Icelandic government initiated contacts with the Russian authorities concerning potential financing and received in due course a relatively favourable initial response. In the end, that did not result in agreement.

In late September, in a period of acute US dollar shortage in international markets and shortly before the collapse of the Icelandic banks, the US Federal Reserve made swap arrangements (largely at its own initiative) with several central banks outside the major industrial countries, including three Nordic ones. Iceland's subsequent request for a similar agreement was turned down twice. It was inferred *inter alia* that an IMF program would be a precondition for the Fed to consider the matter. Following the collapse of the banks, the Icelandic government soon agreed with the IMF on a Stand-By Arrangement. Expectations that the IMF pro-

¹⁸ IMF, *Iceland: Financial System Stability Assessment – Update*, Washington, December 8, 2008. The IMF had also conducted an FSAP in Iceland 2000/2001 and a follow-up in 2003.

gram would allow for financing arrangements with other countries and central banks which had earlier made an IMF program a precondition, evaporated quickly. Other countries, except notably the Nordic ones, had been unresponsive to Iceland's requests for assistance earlier in the year and they continued to be unresponsive after the collapse and the efforts to gain control of developments with the assistance of the IMF, including the resolution of the old banks, and the restoration of a new and viable banking system. In addition to the financial commitments from the Nordic countries, Poland and the Faeroe Islands offered loans to Iceland at their own respective initiatives, and agreements were concluded with both.

The Icelandic banks operated in many countries. One of them, Kaupthing, is taken as a case study in a recent Basel Committee Consultative Paper which states that Kaupthing was active through branches and subsidiaries in thirteen jurisdictions¹⁹. One of the issues that remains to be studied after the collapse of the banks is the response of the authorities in the countries where they operated. A tentative observation, and one yet to be confirmed by closer study, is that despite all the talk about cross border cooperation in the resolution of financial crises in order *inter alia* to minimize or contain the resulting damage or losses, it was often national considerations that prevailed in the approach of individual authorities. Very damaging was the decision of the UK authorities on October 8, 2008 to issue a freezing order on Landsbanki under the Anti-Terrorism, Crime and Security Act – an order that originally also referred to the Icelandic government, Central Bank, and Financial Supervisory Authority²⁰. No bank wants to run afoul of anti-terrorist legislation and, needless to say, there were serious disruptions in the flow of payments through what had been routine channels to Iceland, including ordinary transfers to the Central Bank. Others than Landsbanki were soon removed from the freezing order, but the damage was done. It required extraordinary interventions over an extended period from the Central Bank with other central banks, supervisory authorities and individual banks to unfreeze – or thaw – payments, even individual ones, destined for Iceland²¹. Landsbanki remained subject to the freezing order and on the sanctions list until June of 2009, *i.e.* for more than eight months, in the company of the likes of Al-Qaida and the Taliban and others.

Questions have also been raised about the actions in various other countries to liquidate assets of the Icelandic banks in their jurisdictions. This was referred to in the Governor's Foreword to the Central Bank of Iceland's recently released

¹⁹ Basel Committee on Banking Supervision, Consultative Document, *Report and Recommendations of the Cross-Border-bank Resolution Group*, BIS, September 2009, pp. 12-13.

²⁰ HM Treasury, London (www.hm-treasury.gov.uk); *Financial Sanctions Notice: The Landsbanki Freezing Order*, October 8, 2008.

²¹ For further elaboration see Central Bank of Iceland: *Financial Stability 2009 – Payments intermediation during the financial crisis*, pp. 22-37.

Financial Stability 2009 where he stated *inter alia* that “rescue efforts were also carried out in Iceland in connection with the banks’ failure. They were somewhat different in nature, however, as the Icelandic authorities did not have the strength to protect the banks on their own, and international support was not forthcoming, even though it could be argued that the three banks concerned were systemically important because of the possibility of a domino effect throughout Northern Europe in the event of their collapse. On the contrary: the response to Iceland’s crisis was characterised by ring-fencing and hostility, yet it is well known that such an approach creates a worse outcome in the aggregate”²².

Informal information gathering, mainly from contacts directly involved in the resolution process, revealed that, generally, the authorities in most countries seemed to give little thought to the interests of Iceland. Nevertheless, the responses of the authorities in individual countries differed. In some countries, the authorities appear to have been very anxious to liquidate the assets of Icelandic banks quickly. In these countries, assets were sold at fire sale prices and in all likelihood yielded considerably less than they would have if the process had been more composed. In these countries, there appeared to be limited interest in attempting to minimize the losses of the Icelandic banks. Creditors sometimes confiscated collaterals and sold at fire sale prices. In isolated cases, those involved in the administration of the failed banks managed to stop large asset sales at the last minute and in these cases, the value of the respective assets is today many times that which they would have been sold for a year ago. In one instance, it was reported that within weeks of an important asset sale the buyer booked the value of his new asset at up to ten-fold the purchase price. It may have risen significantly since.

In other countries, the process was more orderly; the authorities or banks provided short term financing in order to allow for a prompt settlement of certain claims, particularly deposits, and there were no or hardly any untimely asset sales. In these cases, there is no doubt that the assets of the banks will yield much more than the fire sale prices available in the immediate aftermath of the collapse of the banks. In these cases, cooperation across borders seems to have been smooth.

In most cases, the overriding concern of the different authorities appeared to be to protect deposits, in branches and subsidiaries alike; they obviously had priority over everything else. The concern for the importance of protecting deposits seems also to have been reflected in a recent court decision in the UK²³.

²² M. GUDMUNDSSON, *Rebuilding after the financial crisis*; Foreword to the Central Bank of Iceland’s *Financial Stability 2009*, October 26, 2009, p. 4.

²³ England and Wales High Court Decisions Case No: CO/129/2009; *The Queen (on the application of Kaupthing Bank hf) and H.M. Treasury*, October 20, 2009.

Apparently, the authorities in other countries rarely initiated contacts with those involved in the resolution of the banks in Iceland. The initiative generally had to come from Iceland. In some cases, however, the authorities in other countries initiated contacts after unsuccessful attempts to immediately liquidate assets.

There may not have been any direct cooperation among the different countries in how they treated the assets of the Icelandic banks and their liquidation in their respective territories, but the impression among those engaged in the resolution of the banks is that the different authorities knew very well what others were doing.

From the limited and informal information that I have cited, it can be at least tentatively concluded that there seems to have been relatively limited cooperation with Iceland, and that in at least some cases, assets of the Icelandic banks were sold at a very low price under considerable pressure from the local authorities. There is also evidence of ring-fencing of the assets of the banks by the various authorities, even before the collapse of the Icelandic banks in October and the subsequent collapse of some much smaller institutions in March 2009. Decisions on the liquidation of assets seem mainly to have been taken on the basis of national interests or local concerns and not with a view to limiting overall loss. Thus, it seems inevitable that the cost or losses stemming from the collapse of the Icelandic banks will in the end be greater than they needed to be and, perhaps in particular, they will be more costly for Iceland. This, however, remains to be thoroughly studied.

I referred earlier to the Nordic-Baltic crisis management exercise. Cross-border MoUs were generally not remembered in the exercise and only one country, Iceland, used the recommended analytical tool, the systemic assessment *heat map*. Possibly this experience was reflected in real time responses in Europe in 2008. Not only was this possibly the case, but when, in contacts in 2008, the authorities in some countries were reminded of obligations under EU directives, their response was essentially that they could not care less if their actions might be at variance with them. Iceland could of course lodge a complaint with the appropriate authority, but judgment would not be handed down for several years and was of no concern in 2008. Everything was permissible in the time of great tensions.

The collapse of the banks in October 2008 unveiled flaws in the European regulatory system and will, in conjunction with other events in Europe and elsewhere, lead to changes. This was specifically referred to both in the report of the de Larosière Group²⁴ and in the Turner Review²⁵. Both referred to passporting rights and both to failures in cross-border banking supervision, regulation and cooper-

²⁴ Report of the de Larosière Group, *o.c.*

²⁵ *The Turner Review*, "A regulatory response to the global banking crisis", Financial Services Authority, London, March 2009.

ation and in deposit guarantee regulation: “The crisis has demonstrated that the current organization of DGSs in the Member States was a major weakness in the EU banking regulatory framework”²⁶. Again, I refer to the Governor of the Central Bank of Iceland’s Foreword in the Bank’s *Financial Stability 2009* issued late last month where he stated that “the crisis revealed clearly the contradiction between the internationalisation of finance, on the one hand, and national supervision and safety nets, on the other. The problem was particularly prominent in the case of the EEA regulatory framework, which had gone farther in lifting restrictions on cross-border banking activities than was the case in many other parts of the world”²⁷.

In a paper from June 2009, Garcia, Lastra and Nieto refer to studies which argue that insolvent banks are resolved efficiently when the sum of their aggregate credit and liquidity losses is at or close to zero and that the public policy objective of resolving banks should be to reduce costs, both public and private²⁸. They call attention to various deficiencies in the European regulatory framework. In many areas it differs in important respects among individual countries. “The strong national orientation of the EU safety net suggests that in the face of a cross-border crisis, national authorities would have a strong tendency to put their own national interests first since the present structure of supervision, deposit insurance coverage and bank resolution largely follows the national legal structure of banking groups. The lack of incentives to cooperate (including sharing of information) has been highlighted by a number of authors...”²⁹. In their conclusions they state that “the financial crisis is highlighting the importance of an integrated approach to the EU safety net: prudential supervision, deposit insurance, reorganization and winding up and lender of last resort”³⁰.

The EU directive on deposit guarantee schemes obliges the member states to set up a guarantee scheme. The schemes do not have to be pre-funded and many are not. The directive apparently does not directly address the issue of government responsibility for the schemes’ commitments, and not in the event of a system-wide shock. “It is accepted that deposit guarantee systems are neither meant nor able to deal with systemic banking crises...”³¹. The Icelandic system fulfilled the requirements of the directive. In Iceland, as in many other countries, the scheme is a private foundation, with limited capital, and with an obligation for the banks to come up with money if needed.

²⁶ Report of the de Larosière Group, *o.c.*, p. 34.

²⁷ M. GUDMUNDSSON, *o.c.*, p. 4.

²⁸ G. G.H. GARCIA, R. M. LASTRA and M. NIETO, “Bankruptcy and reorganization procedures for cross-border banks in the EU – towards an integrated approach to the reform of the EU safety net”, *Journal of Financial Regulation and Compliance*, Vol. 17, No. 3, 2009, pp. 246-247.

²⁹ G. G.H. GARCIA, R. M. LASTRA and M. NIETO, *o.c.*, pp. 252-253.

³⁰ G. G.H. GARCIA, R. M. LASTRA and M. NIETO, *o.c.*, p. 259.

³¹ Banque de France, *The functions and organization of deposit guarantee schemes: the French experience*, Commissions bancaire 2000 Annual report (June 2001), pp. 179-180.

Garcia, Lastra and Nieto find various deficiencies in European Commission proposals to revise the deposit insurance framework and point out among other things that they make no attempt to ensure adequate funding in a crisis and that they make no attempt to harmonize the different roles of the deposit guarantee schemes. “Two thirds of EU deposit insurance schemes have very limited roles... and they lack the authority, structure and resources to resolve banks in crisis”³².

The settlement of deposit related claims in foreign branches of Icelandic banks proved in some cases to be a particularly difficult aspect of the collapse of the banks. An agreement was reached with the UK and Dutch authorities in June 2009 (under civil law as opposed to international law) on the settlement of deposit claims in Icelandic bank branches in the UK and the Netherlands, presumably within the existing parameters of EU deposit guarantee directives, but with the Icelandic government having to guarantee settlement by the Icelandic deposit guarantee fund. This agreement is notable as it means that not only was Iceland obliged to set up a deposit insurance scheme on the basis of the directive, but under the agreement with the Dutch and the UK authorities it had to provide a government guarantee on the scheme’s commitments as well, even in a systemic crisis. The chairman of the Icelandic negotiating committee said in an interview following the completion of the agreement in June that had it not been made, the entire system of deposit insurance in Europe might have collapsed³³.

The issue is extremely contentious in Iceland and Parliament, during its debate on the necessary supporting legislation, set additional conditions which led to further negotiations with the Dutch and the British governments and a subsequent amended agreement in mid-October. In it, Iceland reaffirms its binding guarantee of the obligations of the Icelandic Deposit Guarantee Fund to compensate UK and Dutch Icesave depositors, but without admitting any pre-existing legal obligation to provide that support.

It might also be noted that reviews under Iceland’s IMF Stand-By Arrangement were held up because of opposition within the Executive Board to its endorsement while the issue of the deposit guarantees remained unsettled. Thus, the IMF became in a way an instrument in bringing about the deposit guarantee settlement with the UK and Dutch governments. The first review which was initially scheduled for February of 2009 was not completed until late October, eight months behind schedule. The recent agreement with the Dutch and the UK authorities cleared the way for the completion of the review, as confirmed in statements from the Icelandic government. Virtually all other external financing was contingent upon the completion of the IMF review, which was understandable in itself, so no disbursements took place from any source while the deposit guarantee matter

³² G. G.H. GARCIA, R. M. LASTRA and M. NIETO, *o.c.*, p. 258.

³³ The Icelandic daily newspaper *Morgunbladid*, June 8, 2009.

remained unsolved with the only and notable exceptions of the Polish and Faeroese loans and that partial drawings under the swap arrangements between the Icelandic Central Bank and three Nordic central banks were regularly renewed on rollover dates.

6.3. CONCLUSION

The collapse of the Icelandic banks in October 2008 entailed a financial crisis of extraordinary proportions. Its seeds were sown in the period of the very rapid growth of the banks in exceptional conditions in global financial markets and within the European financial market framework. These seeds grew alarmingly in the crisis which engulfed the international financial system after the middle of 2007 and climaxed in late September 2008. In retrospect, the Icelandic crisis might possibly have been averted, or at least softened, but – even with the benefit of hindsight – it is not clear what exactly the authorities should have done at any particular moment, other than to delay or restrict at the outset the implementation of EU/EEA financial market laws and regulation. It is debatable whether that would have been politically feasible at the time or in line with obligations under the EEA agreement. Radically downsizing the banks under the increasingly difficult global financial market conditions of 2007 and particularly 2008 would have been problematic at best. Developments have shown that within the EEA framework, it is necessary to have the means to put breaks on expansion and ceilings on relative size of banks. Small countries will necessarily have to restrain their financial systems, and that is not just a lesson for Iceland. As far as the Icelandic banks themselves are concerned, they seem to have been overambitious in their expansionary policies, too aggressive and too willing to take risks and they became more sensitive than many other banks to adverse developments in global financial markets. Subsequent to their fall, information has also emerged indicating questionable practices in the banks, even illegal activities.

The banking crisis called for cross-border cooperation, not just after the collapse of the banks but earlier as well. The picture which I have drawn is one of insufficient or unsuccessful cross-border collaboration in the face of crisis. Iceland found it difficult to forge alliances in the period before the collapse of the banks, and in the resolution of the banks, cross-border cooperation appears to have been limited, despite noble intentions. The liquidation of the assets of Icelandic banks in other countries appears in some cases to have taken place at fire sale prices, much below true value, and below what the assets would have commanded if the process had been composed in all the countries concerned. The authorities in some of the countries proceeded without consulting those in Iceland concerned with the administration of the failed banks. And, there were instances of very damaging responses to the collapse.

It might not have been possible to save the Icelandic banks, but the end result may entail greater overall loss than was necessary.

I have given you a perspective of the cross-border collaboration efforts as viewed from the Icelandic vantage point, particularly the Central Bank. I am sure that others have their own story to tell.

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7. IMPROVING CROSS-BORDER BANK RESOLUTION IN EUROPE: A FOCUS ON BURDEN-SHARING

Peter Praet and Gregory Nguyen

7.1. INTRODUCTION

Concrete plans to strengthen the European framework for crisis prevention are currently being discussed, with the creation of the European Systemic Risk Board and the European Supervisory Authorities among the key outcomes so far. However, even the best crisis prevention structure is no guarantee against a crisis, which suggests that Europe also needs to reinforce its crisis management framework. This is all the more important since the current crisis may prompt national authorities to try to limit future risks arising from banks' cross-border activities, and this may lead to regulations that ultimately create what the financial services industry calls fragmentation risk (see, for example, Institute of International Finance, 2009).

Although it possibly makes each domestic financial system individually safer, the industry argues that such segmentation could also be costly as it would limit the potential benefits of financial market integration in Europe. The European model of integration is based on the single passport, thanks to which financial institutions have the freedom to determine where they want to be established, and under which legal form. Over time, many financial institutions have expanded their operations across national borders, through branches and subsidiaries. Despite the transnational feature of these financial institutions, and the fact that they were supervised by different domestic authorities, these institutions were able to develop as a group, rather than as a collection of individual entities, partly thanks to favorable treatment by supervisory authorities. For instance, many of them were allowed to adopt an integrated approach where some key functions – including risk and liquidity management, back office, IT, etc. – are centralised. In parallel, large cross-border banks have often benefited from lighter capital requirements thanks to the recognition of cross-border and cross-activity diversification effects. In addition, the composition of boards of directors of subsidiaries, which were often composed almost exclusively of representatives from the group, gave the impression that the interests of these subsidiaries and of their group were fungible.

The swing of the pendulum, triggered by the financial crisis which clearly fuelled the tension between the existence of cross-border banks on the one hand and the attribution of crisis management responsibilities to national authorities on the

other hand, may question the sustainability of this business model in future. If the benefits associated with this business model are judged substantial enough to be preserved, then the alternative left to authorities is to better coordinate prevention and crisis management policies, at EU level, rather than retreating into domestic interests.

In that context, the Ecofin Roadmap has singled out as one of its priorities the strengthening of the EU-wide crisis resolution framework. It provides for enhanced policy coordination between authorities responsible for crisis management in Europe and development of procedures for common approaches to solving crises. However, authorities may lack the incentives to cooperate in crisis resolution. There is thus a need to investigate, in parallel, ways to reconcile misaligned interests – including burden-sharing.

Section 2 of this short paper first suggests some avenues for reinforcing the crisis resolution framework in Europe. One of them is the convergence of authorities' toolkits, which may be a precondition for burden-sharing¹. The other sections focus on burden-sharing mechanisms and on the impact they could have in the functioning of a cross-border crisis framework. Section 3 clarifies the different objectives that a burden-sharing mechanism could pursue. Indeed, it is difficult to define a burden-sharing mechanism without first determining its objective. Clarifying this objective is by no means a trivial task, as it may require making a choice between several potential goals that may be mutually exclusive. Section 4 discusses the *ex ante vs. ex post* distinction and argues that a burden-sharing mechanism is never entirely *ex ante* or *ex post*. It is important to determine which features can be determined in advance and which can not, such as the final cost allocation. In addition, the section argues that, given the uncertainty associated with any crisis episode, a burden-sharing mechanism cannot be too prescriptive. Section 5 lists some pragmatic steps that could be investigated to facilitate cross-border crisis management and burden-sharing negotiations. A key proposal in this respect would be to appoint a third party authority that would be involved in the negotiations, as an observer, a facilitator or even as a mediator. This authority would represent the collective interest, and would be there to reduce the risk of authorities acting non-cooperatively, as this could generate negative externalities. Finally, section 6 concludes.

¹ See also Nguyen (2008) or Praet and Nguyen (2008) for a discussion of preconditions for burden-sharing agreements.

7.2. GENERAL APPROACH: STRENGTHENING THE RESOLUTION FRAMEWORK

In response to the crisis, authorities in Europe have initiated substantial reforms to strengthen simultaneously the three pillars of financial stability, namely surveillance, crisis prevention and crisis management. Given their interrelationship with crisis management, initiatives aiming at strengthening the surveillance or the crisis prevention frameworks cannot be ignored. For instance, any attempt to alter the existing balance between the rights and duties of home and host authorities will not only have an impact on how supervisory authorities cooperate in normal times, but also on their incentives in times of crisis. Similarly, because they pave the way for an orderly exit in times of crisis, initiatives relating to living wills drawn up by banks definitely influence the crisis management framework. Living wills aim at determining in normal times not only which actions large and complex financial institutions can take if they face a major crisis but also how the company can be wound up if these actions are not successful (see *e.g.* FSA, 2009). This would enable either a private sector solution to be found or to liquidate the ailing company in an orderly way.

However, in order to be credible, plans to wind up cross-border institutions will inevitably have to address the problems resulting from the different powers that each national authority has. Indeed, there is currently no single regime in Europe to wind up a cross-border institution and, in addition, each domestic authority has a different toolbox. Some convergence of authorities' powers may be required to make sure that they can act quickly and decisively, without running the risk of a group solution being blocked because one particular authority might lack the legal power to implement it.

The ideal toolkit should be based on a gradual approach. Its primary objective would be to allow the implementation of a private sector solution. Authorities should have the capacity to act as a broker to facilitate such a solution, without being exposed to any legal uncertainty. When a private sector solution can not be found, authorities should have the capacity to intervene more radically in order to preserve the stability of the financial system. An orderly crisis resolution would require authorities to be able to act along four different lines:

- control of the institution: authorities should be able to seize an ailing institution or to temporarily take control of it, either to facilitate a subsequent merger or an acquisition by a private sector participant or to momentarily nationalise the bank in order to restructure it;
- structure of the liabilities: authorities should be able to restructure liabilities, so as to ensure that equity holders, as well as investors holding subordinated and hybrid capital do bear some of the costs of the rescue operation. Purchase

- and assumption transactions (see, *e.g.*, FDIC, 1998)², where part of the assets of an ailing bank are transferred to a healthy counterpart, together with a share of its insured deposits, also require authorities to be able to modify the structure of banks' liabilities;
- structure of the assets: authorities should also be able to restructure the assets side of a bank. This may be required if, for instance, authorities want to transfer some activities to a good bank, whose objective would be to ensure the continuity of systemically important operations. Alternatively, authorities may also want to transfer illiquid or risky assets to a separate vehicle (bad bank) to isolate problematic assets from the rest of the structure;
 - definition of strategy: throughout the rescue operation, authorities may want to influence the strategy of an institution, its future risk appetite, should be able to close the non-viable parts of the business and engage in a profound restructuring.

Obviously, the exercise of such powers should be severely restricted, and subject to certain conditions. The fulfilling of these conditions should, however, not become a source of legal uncertainty. One condition, for instance, should be that the institution requiring aid presents some systemic risk. However, the difficulty of distinguishing between what is systemic and what is not – especially as the systemic nature of an institution may very well be context-dependent – may constitute a difficulty that will need to be overcome. Secondly, the threshold at which authorities are allowed to resort to these special powers should also be clearly defined. The difficulty is to find a balance between type 1 error (authorities intervene too early in a still sound institution) and type 2 error (authorities do not intervene as early as they should and consequently the cost of the crisis increases).

Aligning authorities' powers would ensure that they are all able to intervene in the same way to implement a group-based solution. However, this does not necessarily ensure that authorities will apply the same treatment to all groups presenting similar problems. That is why this levelling of powers should also be backed up by a strong cross-border coordination framework at the European level, that would reduce the risk of creating distortions in the level playing field.

7.3. DETERMINING THE OBJECTIVE OF THE BURDEN-SHARING MECHANISM

A special dimension in cross-border crisis management is the fact that the costs of the rescue may be borne by different authorities/countries. How to share this burden is a key question that needs to be addressed. The debates on burden-

² A Purchase and Assumption Transaction is one in which part of the assets of the ailing bank are sold to a healthy institution which in parallel also assumes some of its liabilities, such as insured deposits.

sharing have sometimes been passionate. There are many reasons why the discussion of burden sharing has been difficult in the past. They include for instance the fiscal nature of burden sharing agreements or the impact of these agreements on moral hazard. On the latter point, the first thing to note is that the current crisis management framework – in which the bail out of cross-border banks may sometimes be the only credible option – is already a source of moral hazard. Tackling issues that make cross-border bank resolution more difficult, as suggested in section 2, would contribute to reduce moral hazard. Secondly, the burden sharing is not a commitment to intervene in a troubled bank or to bail out its shareholders and uninsured creditors and in that sense it preserves the ambiguity on when and how states would intervene to rescue an ailing institution. Finally, the burden sharing agreement should be seen in a process in which authorities do *ex ante* investigate the different avenues that could be pursued to wind down a bank, should a problem occur. As part of this process, well designed burden sharing agreement should contribute to reduce moral hazard already present in the system. Some reflections on how to design burden sharing agreements are presented in the next sections.

7.3.1. Possible Objectives

The first thing to recall is that a burden-sharing mechanism should be considered as a tool – that is part of a wider framework – and not as an objective in itself. A key element of setting up a burden-sharing mechanism is, therefore, the definition of its own objective. Indeed, burden-sharing mechanisms could be used to achieve different goals. Clarifying the objective pursued by such a mechanism is certainly not easy, but is nevertheless essential as it influences its key features and introduces more rationality into what has sometimes become an emotional debate.

Three categories of primary objective could be defined:

1. *objectives carving out authorities' incentives before the crisis*: the burden-sharing mechanism is used to give authorities an incentive to carry out their crisis prevention duties correctly, through a cost allocation that would be based exclusively on responsibilities;
2. *objectives carving out authorities' incentives during the crisis*: the objective of burden-sharing mechanisms in this case would be to seek a cost allocation that would help align authorities' incentives to act to resolve a crisis in a way that minimises any potentially harmful economic impact at the lowest overall collective cost (globally cost-minimising resolution policy);
3. *other objectives aiming at reallocating costs on the basis of a set of arbitrary criteria*: the objective of these burden-sharing mechanisms would be to determine the final cost allocation on the basis of a set of predefined normative factors, such as for instance fairness or solidarity.

Up to now, the different attempts to set up burden-sharing mechanisms, such as the 2008 EU Memorandum of Understanding (MoU) or the Scandinavian cooperation agreement, have not entirely clarified the primary objective pursued. A ranking between these objectives is necessary as the final cost allocation will be different if, for instance, authorities seek primarily to align incentives during the crisis or if they prefer to base the cost allocation in first instance on responsibilities. In addition, some objectives may be mutually exclusive. As explained in section 3.2, in certain cases, a cost allocation primarily based on responsibilities or on other arbitrary criteria may misalign incentives to minimise the global cost. This calls for the determination of the primary objective of the mechanism.

7.3.2. Choice of Objective: Theoretical Elements

In a game-theoretic setting, domestic authorities' incentives are eventually determined by the cost of the crisis they expect to bear. Given the large uncertainty that prevails in the management of a crisis, the assessment of expected costs is extremely difficult so authorities do also take account of potential unexpected costs.

When there is no burden-sharing, domestic authorities' incentives to opt for the globally cost-minimising crisis resolution policy may not be aligned. If the burden is not shared, domestic authorities, which are responsible for the management of a crisis, may act non-cooperatively to keep their own domestic cost down. For instance, ring-fencing can be used by a country to minimise the domestic cost of the crisis, even if this would imply higher total costs. The absence of a burden-sharing mechanism may thus preclude the emergence of a cooperative solution that could be more favourable to everyone.

On the other hand, when burden-sharing is possible, perfectly informed authorities will have a natural incentive to opt for the least-cost solution. This is because the least cost solution, by definition, is less costly than any other solution and thus generates an economic surplus (in the form of lower costs). In theory, the allocation of this surplus among all the different countries could reconcile their incentives to implement the least-cost solution.

In such a case, however, a cost allocation *primarily* based on responsibilities or arbitrary criteria, bears the risk of misaligning the incentives for implementing the globally cost-minimising crisis resolution policy. A simplified example, provided for illustration purposes only, is presented in Appendix 1. If the burden-sharing mechanism is used in the *first* instance to align authorities' interests, responsibilities could nevertheless be used as a *secondary* criterion to determine the final cost allocation. Indeed, in theory, there are several cost allocations that align authorities' interests, depending on how the surplus from the cooperation effort is

shared out. Formal responsibilities could be used in the second instance to determine which of these allocations should be used.

Note, finally, that there is a direct link between the way decisions regarding crisis resolution policy are made and the objective of the burden-sharing mechanism. For example, the existence of a central authority in charge of applying the globally cost-minimising crisis resolution policy would automatically fulfil the objective described above. The cost allocation resulting from the burden-sharing mechanisms could, in this case, be designed so as to satisfy alternative objectives.

7.3.3. Choice of Objective: Feasibility

Aligning the incentives to adopt the least cost resolution has several advantages. First, it is anchored in a practical consideration that could benefit everyone and builds on the already agreed *common principles for crisis management* defined in the 2008 MoU. It could therefore be acceptable for everyone. Second, it implies that the cost allocation cannot be determined *ex ante* as it strongly depends on the nature of the crisis.

The feasibility of this objective could nevertheless be questioned. Indeed, it should be noted that, even with a burden-sharing mechanism, aligning the interests of authorities may prove difficult in practice. First, because crises are highly uncertain events and authorities may not have the capacity to fully assess the economic consequences of the full set of actions they could take to manage a crisis, in particular when time is limited. The management of a crisis may to some extent resemble more closely a trial and error process than a fully deterministic one. Second, because even if they were able to do so, they could have a different assessment of the situation³. Finally, authorities' incentives could be influenced by concerns that are not directly related to the cost of the crisis (including industrial policy concerns or even political considerations).

Therefore, if the second objective is chosen, which from a collective point of view may seem desirable, ways of addressing these issues should be explored. Better structuring the crisis management process could help mitigate these problems, reduce potential mistrust and would consequently facilitate crisis management. Very pragmatic solutions could help achieve a better structure. For example, the presence of a third-party authority, as suggested in section 5, may help authorities to focus on economic costs rather than on other considerations.

³ The assessment is a continuous process that may necessitate continuous discussions, exchanges and adjustments between authorities. In a period of high uncertainty, it cannot be guaranteed that authorities from two different countries will share the same opinion throughout the process.

7.3.4. Choice of Objective: Is There a Need to Align Incentives?

One of the assumptions that may seem to underlie the choice of the primary objective is that the cooperative solution minimises the global cost of the crisis. In fact, two cases should be distinguished:

- *the non-cooperative solution is not the global least-cost solution*: In this case, the incentives of the authority which has the power to take final decisions regarding crisis management are not aligned on the incentives of other countries. For instance, the authorities of the home country manage the crisis without taking into account important externalities on other countries. The burden-sharing can be used to reach a solution in which authorities do cooperate to implement the globally cost-minimising resolution policy;
- *the non-cooperative solution is the global least cost solution*: In certain cases, the non-cooperative solution may be less costly for each of the authorities and their interests are perfectly aligned to implement this solution (home and host countries agree on the solution). An agreement between all the authorities (home and host) is actually not necessary for the non-cooperative solution to be the least-cost solution. Indeed, the non-cooperative solution can be the least-cost solution if the authorities responsible for crisis management take the decisions that are globally optimal (this is the case when the home-country authority has the correct incentives to implement the globally least-cost solution, for instance when the home country assumes the whole burden, such as in many operations observed during the recent crisis). The interests are such that the globally-minimising cost resolution policy is also the policy that keeps the home country's domestic costs to a minimum. In this case, it is not necessary to align authorities' interests.

Determining which case is most likely is very difficult as it depends on a number of factors that are specific to each crisis situation. The first thing to establish is which authority has the real power to take decisions to manage the crisis. In general, even though the home authorities play a key role, several authorities intervene in the management of a crisis affecting a cross-border bank. Some countries may have the power to block a decision taken by the home country, though *e.g.* ring-fencing or information retention. The probability of the interests of all authorities intervening in crisis management being aligned may be smaller when the optimal decision is to wind down the troubled bank. When the home country recapitalises the bank and assumes the full burden, host authorities are less likely to complain.

Even though it is not possible to determine *ex ante* whether a burden-sharing agreement will or will not be necessary to align authorities' incentives, the benefits of cooperation should be acknowledged from the beginning. Indeed,

acknowledging that the non-cooperative solution is preferable would have an important impact on how authorities behave in normal times. If they know that they will not cooperate in crisis times, they will have an incentive to refuse cooperation in normal times as well, with important implications on the effective control of cross-border banks or the exchange of information.

Finally, it should also be recognised that, because it takes time and effort, cooperation in crisis times is still difficult in practice and therefore may be sub-optimal. Authorities acting alone may, in some circumstances, be better able to manage a crisis more efficiently. Cooperation is costly. These costs may render the cooperative solution more costly than another non-cooperative solution. Facilitating cooperation is thus essential.

7.4. ESCAPING THE BINARY CHOICE BETWEEN EX ANTE AND EX POST

The *ex ante vs. ex post* question is often presented as a binary choice that has tended to polarise burden-sharing debates. However, a burden-sharing mechanism is never entirely *ex ante* or *ex post*⁴. Yet, some of its features can be, and it is therefore important to define what can be agreed upon *ex ante* and what cannot, keeping in mind that the ex-post behaviour of authorities, their choices and preference for certain solutions will be strongly influenced by their perception of the cost they will have to bear. The different components of a burden-sharing mechanisms could include:

- a commitment to share the cost of the crisis;
- a cooperation procedure in normal times (including a procedure for information exchange and allocation of supervisory tasks);
- a cooperation procedure for crisis times (from the alert, to the actual crisis management, this procedure could also include ways to mobilise funds);
- general non-binding principles on how to share the costs; and
- a mechanism to determine the final cost allocation.

It is interesting to note that the legislative framework, existing MoUs and other cooperation agreements already contain most of these elements. In the 2008 MoU, authorities have indeed committed themselves to sharing the cost of the crisis, “on the basis of balanced and equitable criteria, which take into account the economic impact of the crisis in the countries affected and the framework of home and host countries’ supervisory powers”⁵. The 2008 MoU establishes a

⁴ An example is some of the guarantees jointly granted by several member states (e.g. in the Dexia rescue). The schemes were discussed at the height of the crisis (*ex post*) and had never been discussed in normal times. However, no one knows what the final cost allocation will be and even if this is going to be expensive.

⁵ Note to that extent that the MoU has not made any choice between the objective to align interests in normal times and the objective to align them during a crisis.

procedure for cooperating in the event of a crisis. Previous MoUs as well as the legislative framework, including the CRD, deal with cooperation in normal times. The only element that is not yet foreseen in the current framework is the mechanism that determines the final cost allocation. However, as argued above, it is not desirable to define this mechanism *ex ante*, as a rigid and unsound ex-ante specification of the cost allocation can lead to inappropriate incentives.

Does that mean that nothing can be done? No. Authorities could focus on the procedures for cooperation in normal times and cooperation in crisis times. Since they have not been entirely satisfactory, one should further investigate pragmatic steps to improve them and facilitate crisis resolution as well as burden-sharing negotiations. Some examples of such steps are listed in section 5.

7.5. FACILITATING THE RESOLUTION OF THE CRISIS AND THE ALLOCATION OF ITS COST

Improvements in cooperation procedures in normal times should focus on information exchange. Improvements in cooperation procedures in crisis times should address information exchange, assessment, fair implementation of crisis resolution plans, and time management. Indeed, at least three assumptions need to be fulfilled before authorities can agree to share the cost of a crisis. First, they need to be adequately informed regarding the nature of the crisis, its knock-on effects for their own economy and for other economies, and be able to assess the impact of each possible crisis resolution mechanism. Otherwise, they may find it difficult to determine the optimal resolution mechanism or could disagree on it. Secondly, they need to trust each other and to be able to monitor how other authorities are managing the crisis. Third, they need to be able to manage time, which is of the essence in crisis resolution. The ex-ante features of the burden-sharing mechanisms should thus focus on these three axes.

Information: Authorities will be more reluctant to contribute to crisis resolution if they are not kept adequately informed. Setting up colleges of supervisors contributes to information exchanges. As they are closely involved in crisis management, central banks and finance ministries should also benefit from information exchange. The cross-border stability groups proposed in the 2008 MoU were designed to contribute to the dissemination of information between authorities. Getting these groups up and running may help but it is probably not a panacea if domestic authorities' reluctance to share information, for fear of potential leaks, ring-fencing or inappropriate use of information, cannot be resolved. In addition, information flows should be organised both in normal and in crisis times. The difficulty of organising information flows in times of crisis may be even more acute. Finally, although the authorities have agreed on a framework for systemic

assessment, there is currently no mechanism ensuring that they can agree on the least-cost solution. Authorities that do not agree on the solution to be implemented are not likely to agree to share the cost of the crisis in the first place.

Trust: Authorities should trust each other, and be able to monitor how they respectively manage the crisis. The presence of an authority not directly involved in the case, that would take part in negotiations, could facilitate fair cooperation. It is also justified by externalities arising from potential misbehaviour. This third party, who could for instance be a representative from the EBA, the European Commission, or the ESRB, could have a passive role as observer, or, if parties agree and if need be, could be given a more active role either as facilitator or even mediator. The presence of a third-party authority should help reduce the risk of authorities acting in bad faith, or non-cooperatively.

Time: Crisis management is also a race against the clock. The ex-ante features can therefore not be too prescriptive and should be flexible enough to leave the authorities room for manoeuvre. To that extent, different ways of speeding up crisis management in a cross-border context should be explored, concerning for instance the common assessment or the decision-making process, the best way to circulate information and mobilise funds to manage the crisis.

7.6. CONCLUSIONS

Improving the cross-border crisis resolution framework is going to be a long and difficult process, requiring consistency and determination. Some elements of improvement have been briefly sketched here. They relate to the need to strengthen authorities' toolkits, to implement a cross-border coordination framework, as well as to reconcile authorities' interests, through burden-sharing agreements, for example.

How policy proposals in this regard will influence crisis management is certainly difficult to determine, as many other factors could influence the final outcome. However, their impact should be carefully reviewed. A practical proposal to evaluate the merits of any new proposal is to use case studies. Recent experience has provided many interesting cases. In some of them, purely domestic banks were affected by the crisis and it was resolved by the home authority. Other cases have involved cross-border banks. Crises were then managed by the home country, which sometimes assumed the full burden. In certain cases, the home-country authorities managed the crisis in close cooperation with the host authorities and ex-post burden-sharing mechanisms have even been successfully negotiated. Reviewing how the proposed modifications would have changed the ultimate outcome in each of these cases means delving into very practical issues, and illustrates how the burden-sharing mechanism would work and what its benefits

could be. In that sense, it could help to gather further support for the proposal or help identify potential weaknesses or perverse side effects that would need to be resolved.

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APPENDIX 1. EXAMPLE: OBJECTIVE AND COST ALLOCATION

Imagine an ailing bank that is active in three countries, A (home), B (subsidiary) and C (branch). The three countries have two options for managing the crisis. A cooperative solution in which the total cost of the crisis amounts to 18, divided as follows: A: 10, B: 8 and C: 0. If the various national authorities do not cooperate, the cost of the crisis amounts to 21, where the cost for countries A, B and C is 11, 5 and 5 respectively. Under the cooperative solution, the cost is lower but distributed differently, due to the fact that country A and B need to recapitalise the bank up to an amount of 10 and 8 respectively (country C does not directly participate as the bank entity active in country C is a branch). If countries do not cooperate, the bank is liquidated, and each of the countries has to bear the cost associated with the winding-up (for instance, cost for the deposit insurance, impact on the financial sector, etc.). The cost of the non-cooperative solution is higher in country A and C but lower in country B which is able to ring-fence some of the assets in the subsidiary. In other words, interests are misaligned and countries A and C have an interest in co-operation, but not country B which can ring-fence assets. In this example, interests are clearly misaligned. The case in which interests are aligned is dealt with in sub-section 3.4.

Three burden-sharing allocations could be envisaged when authorities cooperate. In the first case, the cost of the crisis is divided according to responsibilities. Country A, the home country, bears 2/3 of the costs and country B, which hosts a subsidiary, one-third. Country C, in which the bank is incorporated as a branch, does not contribute at all. In this case, both countries A and B will prefer the fallback non-cooperative solution as it is less costly for them. The second allocation is designed to make sure that the least-cost solution is profitable for everyone. One-third of the surplus ($1 = 1/3 (21-18)$) is allocated to each authority. After the burden has been shared out, each country is better off under the cooperative solution. Finally, the third allocation distributes the cost of the crisis according to an arbitrary criteria, as each country has to bear one-third of the total cost. In this case, both countries B and C are better off under the non-cooperative solution. Consequently, the first and third allocation formulae do not give authorities any incentive to adopt the global least-cost resolution policy.

Table 1. Costs According to Different Scenarios

	Country A	Country B	Country C	Total Cost
<i>Non-cooperative solution</i>	11	5	5	21
<i>Cooperative solution</i>	10	8	0	18
Allocation 1: Responsibilities	12	6	0	18
Allocation 2: Least-Cost Solution	10	4	4	18
Allocation 3: Equal contribution	6	6	6	18

If the burden-sharing mechanism is used in the *first* instance to align authorities' interests, responsibilities could nevertheless be used as a *secondary* criterion to determine the final cost allocation. Indeed, in theory, there are several cost allocations that align authorities' interests, depending on how the surplus from the cooperation effort is shared out (in this case, one-third for each authority). Formal responsibilities could be used in second instance to determine which of these allocations should be used (for instance, it could be A: 11; B: 5 and C: 2 if the surplus from cooperation is given in full to country C).

8. LIMITS TO THE ‘LENDER OF LAST RESORT’, ‘TOO BIG TO FAIL’ AND ‘TOO BIG TO SAVE’ THESES

Frank Lierman and Morten Balling

Charles Goodhart, Emeritus Professor, Financial Markets Group, London School of Economics focussed in his presentation in Session 3 on the Limits of the Lender of Last Resort concept. During the crisis, central banks have lent to a wide range of borrowers and accepted a broad set of collateral and with increasing maturities. As a consequence, banks now know that they are going to get central bank financing, if they need it. The development of large financial institutions has been enhanced during the crisis. The relative importance of systemically important banks has increased. It is a difficult exercise to distinguish between narrow banks and broad banks. There are some differences between the views on market efficiency and regulation in the US and in Europe. Many European authorities favour more macro-prudential regulation while the views on regulation are more sceptical in the US. Such differences and battles over responsibilities of home and host country regulators make international agreements more difficult.

Philipp Hartmann, Vice President of SUERF and Head of the Financial Research Division, European Central Bank, talked about the Lender of Last Resort, its limits and what he called the ‘2X2 Fail Issues’. He pointed out that there are different notions of the Lender of Last Resort concept. National central banks, treasuries and international institutions can all potentially be called upon to provide support to financial institutions and systems in distress. Central banks can provide emergency liquidity assistance to individual institutions, they can lend to the general market and they can conduct traditional monetary and interest rate policy. Their capacity to lend is theoretically almost unlimited but concerns about credit risk, the potential implications of fiscal guarantees for central bank independence, reluctance to have central banks replacing the private money markets mean that there are limits to such operations.

During the crisis, many governments have given support through guarantees, injection of equity capital and by taking over impaired assets. There are, however, also limits to such fiscal Lender of Last Resort operations. Some bank rescue packages imply direct government ownership of banks, and this is in most jurisdictions considered to be undesirable as a permanent arrangement. Theoretically, the capacity for treasury bailouts of banks in difficulties is very large, but concerns about the potential burden on future generations, moral hazard and level

playing field considerations constrain such rescue operations. In small countries with large banking operations, there might also be a fear of a possible sovereign crisis if fiscal support goes too far. At the international level, the IMF has expanded its facilities and encouraged the establishment of new central bank swap-lines.

In a slide, Mr. Hartmann provided an overview of national stabilization programs with ceilings for respectively capital injections, guarantees, asset purchases and swaps. The sum of the ceilings divided by the country's GDP was used as a rough measure of the relative importance of the stabilization programs. Amounts actually paid out were significantly lower by the time of the conference, averaging around 10% of GDP with significant differences across countries.

The 'Xs' referred to in the headline of the presentation were respectively size, complexity and interconnectedness. The 'Xs' are related but not identical. Mr. Hartmann gave an overview of different innovative ideas from various authors who had suggested solutions to the 2X2 fail issues. The list included arrangements where capital and/or liquidity requirements were dependent on 'X', private capital insurance, access to pool of funds against a Pigou or Tobin tax, compulsory contingent capital, compulsory equity issuance in response to CDS spreads, living wills, a strengthened competition policy in banking and breaking up of large banks. The Financial Stability Board works on proposals how to reduce risks posed by systemically important institutions. They can be classified under three headlines: prudential measures, failure resolution and resilience of infrastructures to failures.

Dirk Schoenmaker, Dean, Duisenberg School of Finance, posed the question: Is it a good idea to break up big banks and create several small banks instead? The answer is no. The crisis has hit both countries with large banks and countries with small banks. If a big bank is broken up, there will be a loss of economies of scale and scope and loss of credit risk diversification. In a table the speaker showed for a sample of big banks in 14 countries the ratio between the value of their equity capital and the GDP of the country in which the headquarters is located. The ratios could give an impression of the potential costs of bail-out. If the ratio is over 4%, the country is classified as a country with large bail-out costs. United Kingdom and the Netherlands belong to this group. Relevant policy options for countries with large banks are: Stronger independence and accountability of supervisors, prompt and corrective action when problems arise, burden sharing with other countries and an end to the too-big-to-fail doctrine.

9. DEPOSIT GUARANTEE SCHEMES: HOW TO RE-ESTABLISH CLIENTS' CONFIDENCE

Rym Ayadi, Frank Lierman and Morten Balling

In Session 4, the first presentation was given by *Hans Groeneveld*, Senior Advisor to the Executive Board, Rabobank Nederland. The speaker started by describing the recent runs on Northern Rock in the UK and DSB Bank in the Netherlands. During the financial crisis, guarantees for deposits had been expanded in most countries. The main objective was to safeguard the confidence of small savers in the stability of the financial system and to protect them from incurring large losses due to bank failures. Retail depositors are unable to monitor and assess the riskiness of the institutions that are holding their deposits. A deposit guarantee scheme should – according to the speaker – not be considered as a crisis instrument but as a financial safety net for incidental, small bank insolvencies. It should be clear and transparent for the public and contain the right incentives for depositors and banks to discourage moral hazard and abuse. Feasible policy options are regulatory limitations on banks with risky or one-sided business models, capping of the funding contribution by individual participants in the scheme and risk weighted contributions with significant differences.

Maria J. Nieto, Advisor to the Director General of Banking Regulation, Banco de España, described deposit insurance as the neglected dimension of the EU safety net. Because bank failures have imposed large losses on tax payers, an objective for prudential supervisors could be to minimize the cost of bank failures. According to EU rules, the objectives are to ensure compliance with relevant laws and regulations, to promote financial stability, to promote confidence and encourage efficiency in the banking system and to protect consumers and depositors. These objectives can be pursued in ways that do not significantly raise expected losses of banking crises. EU rules call for prudential measures to be applied promptly. The principle of early intervention is thus established but it does not significantly reduce supervisory discretion as to when to intervene or establish minimum supervisory actions. The speaker concluded by saying that EU policy makers have largely neglected the interrelation between deposit insurance and prudential supervision and reorganization and winding up procedures.

Dirk Cupei, Director, Association of German Banks, and Vice Chairman, European Forum of Deposit Insurers, started with some remarks about the EFDI. Then he gave a survey of what has already been done during the financial crisis. Coverage levels had been increased temporarily, several National schemes had been amended, the level of protection had been increased to EUR 100,000 by 14

of the 27 EU member states, and the Basel Committee had published new core principles on deposit insurance. The speaker next discussed how deposit guarantee schemes can contribute further to re-establishing depositors' confidence. Among the possible steps he mentioned speed, in particular a shorter timeframe for compensation, adequate financing, refinancing facilities, level and scope of coverage (protected deposits and depositors) and abolition of co-insurance. The EU Commission is currently working with proposals containing several of these steps and with proposals concerning cross-border harmonization and standardization of the scope of protection and of the information to depositors. A long-term perspective is a Pan-European deposit guarantee scheme but before such a scheme can be implemented it is essential to strengthen cross-border cooperation between the National authorities.

Robert Priester, Head of Department for Banking Supervision, Financial Markets, Global Banking Issues, International Affairs, European Banking Federation, started by saying that it is the task of EBF to ensure that the voice of the banks is heard when reforms of the financial safety net are discussed. To maintain a level playing field environment is an important objective. Deposit guarantee schemes should act against contagion, enhance consumers' awareness and ensure an equal level of depositor protection across Europe. Crisis prevention, crisis management and crisis resolution are now on the reform agenda. Things need to change and supervisors need to act together.

Doris Kolassa, DG ECFIN, European Commission, said that deposit guarantee schemes are part of a broader picture. Capital adequacy requirements, strengthened supervision, consumer protection and resolution of financial institutions in distress all contribute to a sound financial system. We should not deal with these issues in isolation. The new EU Commission will decide how to proceed. In an EU with 27 member states with very different deposit guarantee schemes, the Commission will probably continue to be a strong voice for more harmonization. To aim for one scheme for the whole of EU implies a considerable level of solidarity regarding burden sharing. The design of future deposit guarantee schemes will probably be linked to a new investor compensation directive.

10. PROPOSALS FOR REFORMING DEPOSIT GUARANTEE SCHEMES IN EUROPE

*Rym Ayadi and Rosa Lastra*¹

The global financial crisis has woken up the European authorities, prompting them to review the existing frameworks to manage the crisis both domestically and on a cross-border basis. In view of the series of events in the autumn of 2008, the established public safety net arrangements, designed to create safeguards for depositors, investors and policyholders, failed to ensure market confidence in the midst of a long-lasting systemic crisis. This paper explores the limitations of deposit guarantee schemes in the context of the overall safety net arrangements in Europe and proposes concrete avenues for reforms.

Initiated in the US in the summer of 2007, the financial crisis worsened and became global in 2008. The collapse of Lehman Brothers, the rescue of AIG and the bail out of Fannie Mae and Freddie Mac in September 2008 were seismic events in financial history. The crisis of Fortis, Dexia and the crisis in Iceland, to cite a few relevant European developments, evidenced the international nature of the crisis, which has been rightly characterized as the most severe one since the Great Depression. The period of September/October 2008 will be remembered as the time in which the financial system was reshaped and when previous assumptions about the nature of markets and the benefits of government intervention were questioned again, given the unprecedented scale of the actions undertaken by the authorities to combat the crisis. Many national responses ranging from liquidity assistance to deposit guarantee schemes' activation and other state aid measures (guarantees, recapitalization plans and others) were poorly coordinated, showing the limits of the current arrangements for European supervision and crisis management.

After the run on Northern Rock in September 2007 (see picture 1) and the likely spread of such a threat (a looming banking crisis) to other EU member states, the Irish government, acting alone, was leading² the scene by guaranteeing 100% of the deposits of the six major Irish banks and increasing statutory limit for the scheme for banks and building societies from € 20,000 to € 100,000 per depositor per institution. This triggered a series of similar actions by other governments. The UK authorities increased deposit insurance coverage to £ 50,000

¹ The authors wish to thank Ole Bus Henriksen, Gillian Garcia, Daniel Gros, Karel Lannoo and Maria Nieto for their valuable comments on previous drafts.

² Action announced on 30 September 2008 and passed in legislation by the Irish Parliament on October 2, 2008.

(from £ 35,000). Other European governments followed suit (in Greece, Spain, Germany...) (See graph 1).

The protection of private savings generated a debate in the EU about the effectiveness and, the appropriate design of deposit insurance (See Table 1). Triggered by these individual member states' actions, European finance ministers decided during a meeting in October 7, 2008 to increase Europe-wide deposit insurance, for an initial period, of at least one year to a minimum of 50,000 euro, which could be raised to 100,000 euro to contain the competitive distortions that such actions could generate in the future.

However, these actions did not succeed to calm the disquiet of the market nor in some cases halted the depositors from queuing in front of their banks. Indeed, governments needed to resort to many other measures, including massive injections of liquidity, fiscal stimulus, and quantitative easing to restore confidence.

It is in this context of safeguarding and restoring confidence where our analysis comes into place. Notwithstanding the importance of other components of the safety net ranging from lender of last resort (LOLR), emergency liquidity assistance, bank insolvency proceedings to early intervention measures (such as the new Special Resolution Regime introduced in the UK by the Banking Act 2009)³, this paper focuses on explicit **deposit protection**, which is one key element that – if properly designed – and supported by effective bank supervision greatly contribute to maintaining or restoring the confidence of individual depositors in banks and the confidence of the general public in the banking system at large.

10.1. THEORETICAL CONSIDERATIONS ON DGS IN A BROADER CONTEXT OF SAFETY NET ARRANGEMENTS⁴

Since the banking industry is inherently unstable, the authorities always need to be prepared to confront the possibility of crises or problems. Over the years, a number of preventive and remedial instruments have been devised to strengthen the banking system and to defend it against any negative contingencies. *Ex ante* measures comprise better banking regulation and supervision, transparency and disclosure. *Ex post* mechanisms, designed to “steer the boat through a rowing

³ The [UK] Banking Bill was introduced into Parliament on 7 October 2008 and received Royal Assent on 12 February 2009. The Bill is now an Act of Parliament, the Banking Act 2009, available at www.opsi.gov.uk/acts/acts2009/ukpga_20090001_en_1.

⁴ This section of the paper draws upon Chapter 4 of Lastra, *Legal Foundations of International Monetary Stability* (Oxford University Press, 2006).

sea⁵”, include the suspension of convertibility of deposits into cash, the lender of last resort role of the central bank, deposit insurance schemes, bank insolvency proceedings and government policies of implicit protection of depositors (both insured or uninsured) or banks (the ‘too-big-to-fail doctrine’ and the multiple variants of this doctrine during the crisis: too interconnected to fail, too many to fail, too big to save, etc.).

Deposit insurance has been the subject of much debate in the literature. In 1959 Milton Friedman expressed a widely held view when he asserted that the introduction of US federal deposit insurance after the bank crisis of 1929-33, as part of the New Deal legislation under President Franklin D. Roosevelt, was “the most important structural change in our monetary system in the direction of greater stability since the post-Civil War tax on state bank notes”⁶.

Though deposit insurance has been adopted by law in many jurisdictions around the World, particularly in the last two decades, its very existence has been much debated in the literature⁷, though those that opposed deposit insurance in the past may have changed their views on this subject in the light of the crisis.

10.2. STRUCTURE OF DEPOSIT INSURANCE

The structure of deposit guarantee schemes varies greatly from country to country, with differences with regard to their funding, coverage and administration⁸. In this paper we do not analyze the specific policy and structural features of deposit insurance, but rather some of the issues that are most relevant from the point of institutional design. The first issue is the difference between explicit and implicit deposit insurance, the second issue is the status of ‘preferred creditors’ that insured depositors have under an explicit deposit guarantee scheme. The third issue is the mandatory nature of deposit insurance, as opposed to the contingent nature of the lender of last resort role of the central bank.

⁵ The use of this ‘transportation analogy’ is borrowed from Joseph Stiglitz, who wrote an article on “Boats, planes and capital flows” published by the *Financial Times* 25 March 1998. In that article he eloquently stated: “Although one cannot predict when it [a crisis] might happen, the chances of their [the boats] being broadsided by a wave are significant, no matter how well they are steered. Bad steering, though, increases the chances of disaster and a leaky boat makes it inevitable”.

⁶ M. FRIEDMAN, *The Control of Money. A Program for Monetary Stability*, New York, Fordham University Press, 1959, 21.

⁷ Asli Demirgüç-Kunt and Enrica Detragiache conducted a study of banking crises around the world, covering the period 1980-94 and concluded that “the presence of an explicit deposit insurance scheme tends to increase the probability of systemic banking problems”. See A. DEMIRGÜÇ-KUNT and E. DETRAGIACHE, *The Determinants of Bank Crisis in Developing and Developed Countries*, 45(1) IMF Staff Papers, 104, 1998. In a more recent publication, Asli Demirgüç-Kunt and Edward Kane have come to a similar conclusion: “[c]ross-country empirical research on deposit insurance strongly supports the hypothesis that in institutionally weak environments, poorly designed deposit-insurance arrangements tend to increase the probability of future banking crises”. See A. DEMIRGÜÇ-KUNT and E. KANE, *Deposit Insurance Around the Globe, Where Does it Work?*, Washington DC: World Bank, World Bank Paper No. 2679, 2001, 24.

⁸ For a study of these issues, see *inter alia*, R. DALE, “Deposit Insurance in Theory and Practice” 8(1) *Journal of Financial Regulation and Compliance* 36, 2000; G. GARCIA, *Deposit Insurance: A Survey of Actual and Best Practices*, Washington DC, IMF Occasional Paper No. 197, 2001.

10.3. EXPLICIT VERSUS IMPLICIT DEPOSIT INSURANCE

Explicit deposit insurance is the formal creation of a deposit guarantee scheme by law, with specific rules concerning the extent of the 'insurance' or protection, the operation of the scheme and the type of deposits/depositors protected. Explicit deposit insurance can be useful as an instrument of protective bank regulation. Explicit deposit insurance has traditionally served two purposes: consumer protection and the prevention of bank runs, as well as the broader objective of contributing to financial stability. The rationale behind depositor protection is the presumed inability of ordinary depositors to monitor the riskiness of banks in which they place their funds as well as the potentially severe cost of deposit losses to individual savers provide. The rationale behind the prevention of bank runs is the inherent fragility of the banking system. Because of the first-come, first serve nature of bank liabilities, and because loans (unless securitized) are highly illiquid, and worth less at liquidation than on a going concern basis, depositors have a rational propensity 'to run' at the first sign of trouble. Bank failures become highly contagious, thereby exposing the financial system to the risk of depositor panics. We argue that a third rationale of explicit deposit insurance (in addition to consumer protection and prevention of bank runs) is that it allows the public authorities to close banks more easily, as it becomes politically acceptable to liquidate insolvent institutions, in the knowledge that unsophisticated depositors are protected.

Under an explicit deposit guarantee scheme, depositors are only paid once the bank is closed. Thus, there can be no deposit insurance if the bank remains open. Therefore, explicit deposit insurance presupposes that a bank has failed and, hence, it is not compatible with the 'too big to fail'-doctrine.

The European Shadow Financial Regulatory Committee⁹ took the view in 1999 that explicit deposit insurance can and should play a key role primarily in facilitating the liquidation of insolvent banks without the need for implicit deposit protection. The ESFRC argued that the practice of bailing out insolvent institutions (implicit protection) creates expectations of official support beyond deposit insurance limits, thereby distorting market incentives and undermining financial discipline (the so-called moral hazard problem). It is the strongly held view of the ESFRC that deposit insurance should be designed and operated in a way that allows, and indeed requires, national authorities to liquidate insolvent banks, thereby exposing uninsured depositors and other creditors to default risk. Such an approach ensures that high-risk institutions pay a market penalty in terms of higher funding costs. In this way excessive risk-taking can be discouraged.

⁹ See ESFRC Statement No. 5 of 18 October 1999. The statements of the ESFRC are available at www.ceps.be and www.aei.org.

Implicit deposit insurance, as opposed to explicit deposit insurance, is a 'blanket guarantee' for all sorts of depositors (insured and uninsured), other creditors, shareholders and even managers. Implicit deposit insurance often presupposes that the bank remains in business (either because it is 'too big to fail' or because it is politically difficult to close the bank) thus creating pervasive moral hazard incentives. While explicit deposit insurance is applied *ex post* (following the closure of a bank), implicit deposit insurance is often applied while a bank is still in operation.

Explicit deposit insurance inflicts only very limited damage upon taxpayers, and, depending on the funding of the scheme, there may no damage at all. However, implicit deposit insurance has the potential of shifting the burden onto taxpayers, since rescue packages tend to be financed by the government. The use of rescue packages results not only in moral hazard considerations but may also affect competition, especially if a too big to fail doctrine is applied.

10.4. 'PREFERRED CREDITORS'

Explicit deposit insurance is a guarantee limited to one type of 'preferred creditors', *i.e.* insured depositors. Under explicit deposit insurance uninsured depositors, other creditors, shareholders and managers are not protected. Therefore, explicit deposit insurance is more compatible with market discipline, as uninsured depositors and other creditors have an interest in monitoring the solvency of the bank while still in operation. Explicit deposit insurance can co-exist with insolvency laws that give preference to depositors and also with insolvency laws that do not establish such preference in their bankruptcy procedures. (As acknowledged, in some jurisdictions, insolvency laws have a system of depositor preference, while in other jurisdictions, depositors' claims run *pari passu* with other creditors' claims).

Explicit deposit insurance, by limiting the protection of 'insured depositors' exposes uninsured depositors, general creditors, subordinated debt-holders, shareholders and management to increased risk exposure, thereby encouraging them to monitor and limit the riskiness of the bank. These incentives are very important, particularly in the case of shareholders, whose limited liability renders them more prone to lend on a high risk/high return basis, while restricting their own exposure through high leverage¹⁰. In the absence of open bank assistance, management will also be inclined to run the institution in a prudent manner, or risk being removed from office.

¹⁰ See generally R. S. DALE, "Deposit Insurance, Policy Clash over EC and US Reforms" in F. C. SHADRACK and L. KOROBOW (eds.), *The Basic Elements of Bank Supervision*, New York, Federal Reserve Bank of New York, 1993.

In its statement of October 1999, the ESFRC recommended that uninsured deposits and other liabilities should be ‘credibly uninsured’, meaning that holders of such claims have no expectation of official support in the event of a bank insolvency. Explicit deposit insurance must be set at a level that enables national authorities to accept the political consequences of bank liquidations.

10.5. MANDATORY VERSUS CONTINGENT GUARANTEE

Deposit insurance provides a guarantee on certain deposits that is non-contingent. It provides legal certainty as to the way the depositors will be protected and the amount covered, should a bank be closed. Lender of last resort, on the other hand, is contingent. The injection of liquidity in times of crises is not mandatory, but discretionary, ie, subject to the discretion of the central bank authority. There is always a degree of uncertainty regarding the provision of emergency liquidity assistance by the central bank.

To minimise the risk of moral hazard, it is important to demarcate what each institutional arrangement can do and what it cannot do or should not do. Explicit deposit insurance can protect insured depositors, but it cannot – nor should – protect other depositors or creditors, nor shareholders, nor managers. Explicit deposit insurance cannot protect the banks, because it can only be activated once a bank is closed.

In our opinion, deposit guarantee schemes should be mandatory and explicit in nature, credible and limited in the amount covered¹¹.

10.6. DEPOSIT GUARANTEE SCHEMES IN EUROPE

In Europe, the 1994 Directive (94/19/EC) provided a minimum harmonization background for establishing deposit guarantee schemes. It resulted in a decentralized approach to deposit insurance. While the criteria used in the Directive were generally harmonized in terms of the scope (the exclusion of the interbank and corporate deposits) and the minimum of coverage (fixed at 20,000 euro per person per bank), they were not sufficient to ensure a sound European deposit guarantee system. Indeed, the directive was implemented unevenly in the member states as a result of divergent interpretations of its provisions. Table 1 shows differences between selected member states in the legal framework, in the administration of the schemes, the extent of coverage, the co-insurance practices and the sources of funding. In light of continuing trends of cross-border banking these divergences in implementation address major challenges. While foreign branches

¹¹ See also www.efdi.net/scarica.asp?id=65&Types=DOCUMENTS.

of EU banks are covered by the home deposit guarantee scheme, foreign subsidiaries of EU banks are covered by host deposit guarantee scheme. Both schemes can be intrinsically different and depositors are not necessarily aware of such differences and in the majority of the cases are not protected evenly. The situation gets further complicated in the case of branches of non-EU banks and in countries where no deposit guarantee schemes exists¹².

Not only does this raise competitive considerations and can it be the source of potential conflicts of interest between the host and the home countries' authorities; but also does it add further confusion and complications for depositors, particularly if a bank failure occurs.

These limitations were acknowledged by the European Commission in a communication¹³ in November 2006, less than a year before the eruption of the crisis. The conclusions concurred not to make changes to the directive, but to work on some interpretative guidance and recommendations on the main aspects of the directive¹⁴.

The financial crisis has not only put into doubt the adequacy of the existing national schemes and the European Commission's decision not to amend the directive earlier, but has also pressed governments in the member states of the EU and EEA to take individual un-concerted actions to help restoring confidence in their domestic markets. These individual actions have then prompted EU policy makers to revise the original directive to prevent competitive distortions. Amendments were introduced to reassure depositors rather than to promote the convergence of deposit guarantee schemes. These amendments revised three key areas: a) the increase of the coverage level (from a minimum of € 20,000 to first € 50,000 and within a further year to at least € 100,000¹⁵), b) the reduction of the payout delay to a maximum of 3 days¹⁶ and c) the termination of co-insurance.

In its design, the 1994 Directive fails to tackle some key aspects. It leaves to the discretion of the member states a number of issues that are not harmonized, such

¹² The work of the Basel Committee and the International Association of Deposit Insurers, in particular the Core principles for effective deposit insurance systems, published on 12 March 2009 is the most relevant example of international harmonization (albeit of a soft law nature) in this area. See www.bis.org/publ/bcbs151.htm.

¹³ Available at http://ec.europa.eu/internal_market/bank/docs/guarantee/comm9419_en.pdf.

¹⁴ The definition of deposits and scope of coverage, the coinsurance, the topping up arrangements, the exchange of information requirements, the risk based contributions to DGS, the transferability/refundability of SGD contributions, the consumer information and advertising,...

¹⁵ In the compromise package of the Council published on 24 November 2008 and which was agreed on the 2 December 2008, changes to the original Commission's proposal related to coverage levels were introduced. The timeline of increasing the coverage to € 100,000 was extended by two years (from 31 December 2009 to 31 December 2011), subject to a report by the European Commission to evaluate the impact of such an increase and the necessity for this amount to become a harmonised coverage level in the Community. The new coverage level becomes a maximum, rather than a minimum as in the 1994 Directive.

¹⁶ The 3 day payout delay was deemed unrealistic by the European Parliament and the Council. The former proposed an extension of the payout delay to 10 days and the former to 20 days. The Council also expects from the European Commission an impact assessment on the delays of the payout procedures by 31 December 2010.

the funding of the schemes, their risk sensitivity and the consideration of home and host country conflicts, which have been manifested in the cases of Ireland and Iceland (though for different reasons and with different considerations as we further discuss below). Though the line between what should be harmonized and what should be left to the discretion of national authorities is a fluid and dynamic one, the experience of the current crisis suggests that a greater degree of harmonization and, possibly, the introduction of a Community arrangement¹⁷ is needed with regard to deposit guarantee schemes, given that with the freedom to move capital and to provide financial services and products across the EU (which corresponds to the Single Market philosophy), regulatory measures in one country (e.g. the guarantee of private savings in the six largest Irish banks by the Irish government) have competitive implications in other jurisdictions.

The crisis also raises important issues about the ability of some governments to underwrite their deposit guarantee schemes and to fulfill their obligations under the Deposit Guarantee Schemes Directive (as in the case of Iceland). The ‘natural’ tendency of countries to protect their own nationals in a crisis needs to be reconciled with the obligations of EU membership or participation in the European Economic Area.

The responsibility of the home country supervisor for branches – in particular with regard to the obligations of the DGS – has been put under the spotlight following the collapse of the Icelandic banks, where the Icelandic authorities were not in a position to fulfill such obligations. Notwithstanding the subsequent handling by the UK authorities, the truth of the matter remains that reliance upon home country control proved very problematic, thus leading some commentators to push for host country control, perhaps by making branches of countries whose financial soundness is in doubt, be converted into subsidiaries. This is, of course, a departure from one of the principles of the single market, the home country control and single passport, which has been rather successful till relatively recent. If a retrenchment of the single market is to be avoided, perhaps we need a move to a pan-European supervisory arrangement (thought that would mean the need to tackle the fiscal issue), as Howard Davies proposed in a contribution to the Financial Times (Europe’s Banks need a Federal Fix, FT 14 January 2009).

The collapse of the Icelandic Landsbanki in October 2008, along with several other difficulties affecting the country’s banking institutions and the alleged unwillingness or inability of the Icelandic Government to accept responsibility to save UK deposits has soured relationships between the UK and Iceland, with the

¹⁷ In a CEPS report Karel Lannoo (2008) supports the creation of a federal deposit protection fund in the EU rather than attempting to harmonize different national deposit protection schemes (in K. LANNOO (2008), “Concrete steps towards more integrated financial oversight”, CEPS Taskforce report). In a more recent CEPS Taskforce report on bank crisis resolution, Carmassi *et al.*, 2010, defend an *ex ante* funded European deposit insurance fund in “overcoming too big to fail”. *Ex ante* funding has been considered by the European Commission too, as well as other issues such as the links with supervision, and with resolution procedures.

Treasury threatening legal proceedings to enforce compliance with the EU's Directive on deposit guarantee schemes. The UK Treasury also took the extreme step of invoking the Anti-Terrorism, Crime and Security Act as a legal basis to block Landsbanki assets in the United Kingdom, effectively as a means of securing assets for the benefit of depositors. As is invariably the case, blocking orders of this kind impose a significant burden of compliance on financial institutions¹⁸.

The 2008 amendments of the directive 94/19/EC provide useful lessons for a fundamental review of the adequacy of the existing schemes and for the discussion of possible improvements to enhance the level playing field in Europe.

First, the coverage limit that had been fixed by the directive to a minimum of € 20,000 was not effective in preventing bank runs and re-establishing the general public confidence. The differences in coverage and scope in an internal market leads to competitive distortions and market confusion. The amount covered must be credible and harmonized. A credible deposit insurance system requires *inter alia* prompt payment of depositors (next business day as in the US is considered ideal by many) and a reasonable amount of coverage (neither too meagre to be non-credible nor too generous to incur into moral hazard incentives)¹⁹. A harmonised coverage will avoid competitive distortions and other burdens related to topping up and information exchange between schemes.

Second, at a national level when more than one competent authority is entrusted with responsibilities in a bank failure situation, it is important to establish a mechanism to set the scope and the hierarchy of various powers *ex-ante* in order to insure the timely payouts of depositors. The failure of such arrangement provoked a bank run on Northern Rock in the UK. A hypothetical bank run on a cross-border institution in Europe would raise several questions on such arrangements between the different deposit insurers of the host and home countries. The new banking legislation in the UK has introduced early intervention mechanisms in the pre-insolvency phase, with new powers vested upon the Bank of England in the exercise of that Special Resolution Regime (SRR), which comprises three stabilization options; transfer to a private sector purchaser, bridge bank and temporary public ownership. Though there was some debate in the consultation that led to the Banking Act as to who the competent authority for running the SRR should be, in the end it was decided that the Bank of England (which also receives a statutory mandate with regard to financial stability) should be such authority, though the FSA remains in charge of bank supervision and will be the institution that will pull the trigger to assess when an institution should be subject to SRR.

¹⁸ See Ch. PROCTOR, *mimeo* 2008.

¹⁹ See LASTRA, "Northern Rock, UK Bank Insolvency and Cross-Border Bank Insolvency", published in the *Journal of Banking Regulation*, Vol. 9, No. 3, pp. 939-955, May 2008.

Third, the topping up arrangements²⁰ must be revisited in line with further harmonization of deposit guarantee schemes. The branches that opted for a topping up solution are insured by two deposit insurers (home and host) and pay premiums for both. The 2008 amendment of the 94/19/EC directive explicitly requires schemes to cooperate with each other to avoid complications related to delays of payments, breakdown between what should be paid under which scheme and exchange of information between schemes. Notwithstanding such an improvement, depositors may not be necessarily informed about such arrangements, which may create further disarray in a situation of crisis. In addition, such arrangements only deals with the provision of services via branches, and do not consider direct provision of financial services.

Fourth, the scheme needs to be widely known by depositors. Ample publicity should be given to the scheme in order to make it credible; depositors should be in no doubt that their deposits will be covered, up to the amount specified in the law.

Fifth, risk based contributions must be the way forward to ensure fairness between banking institutions with different risk profiles. High risk institutions are expected to pay higher contributions and vice versa. Stressing on risk based schemes will add further incentives to banks to improve risk management, which is a natural development in view of the risk sensitive elements introduced by the capital requirement directive.

Sixth, for large cross border banks, considerable resources are required if a DGS were to play a meaningful role in any crisis management. The combination of today's collection of DGS may prove to be inadequate; therefore, proposals are needed to ensure an adequate funding. Preference should be given to private pre-funding mechanisms, but is this is not sufficient, and then state topping-up could be envisaged.

10.7. MOVING TO A PAN-EUROPEAN DEPOSIT GUARANTEE SYSTEM

We suggest that a single market in financial services requires a European solution with regard to deposit insurance. The possible establishment of a European deposit guarantee system could address the problems for large cross border banks with major cross border exposures through branches or subsidiaries²¹. Such a

²⁰ When a bank sets up a branch in another EU member state where the coverage level is higher of the scope is broader than in its home country, then it has the right to join the host country deposit guarantee scheme. This avoids any competitive distortions at a local market level.

²¹ In this paper we do not discuss the relative benefits for European banks and for their supervisors of setting branches or subsidiaries in terms of their cross-border establishments. A trend towards subsidiarisation needs to be carefully assessed, to make sure it does not imply a departure from the tenets of the single market in financial services.

scheme would in principle be a more efficient solution than the current fragmented framework of almost 40 DGS in the 27 Member states. It would also help remove competitive distortions, deal with administrative burdens, avoid branch/subsidiaries' consumers confusion and most importantly preserve the internal market for retail banking. The financial crisis episodes of bank runs and tax payers' money spending to save major reputable banks were vivid illustrations of the interconnectivity of banks, the scale of their operations in their local and regional economies and most importantly the speed of the contagion. The fundamental question is how to prevent the internal market for financial services from disintegration and at the same time protect EU depositors and savers. The establishment of the European supervisory authorities (for Banking, Securities and Insurance) and the European Systemic Risk Board²² are steps into the direction of finding European solutions for European financial institutions. The next step is thus to complete the supervisory and crisis management architecture with a European safety net system. Home country safety net per se is not a sufficient option any longer. This reinforces the case for a European deposit protection solution, which appears to many as a logical development in today's financial market²³.

There are in principle three alternatives for such a construction to happen:

1. an optional DGS that is complementary to the 27 existing DGS – 'a 28 regime';
2. a single European DGS that replaces the existing 27 DGSs;
3. a European system of DGS – a sort of college of DGS providing each other mutual assistance.

For each alternative, the scope of coverage/protection (in our opinion, only insured deposits), the coverage level, the financing mechanisms, the pay out delays and modalities and the interactions with the other mechanisms of the safety net need to be thoroughly examined.

The diversity of Europe's banking market should also be taken into consideration. Large cross-border, regional and local banks coexist, while serving different

²² The Ecofin Council on 2 December 2009 approved the creation of the new three European Supervisory Authorities, which together with the European System Risk Board (for which broad political agreement was reached on 20 October 2009) form the new EU supervisory structure. See www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ecofin/111706.pdf. See www.publications.parliament.uk/pa/ld200809/ldselect/ldcom/106/106i.pdf.

²³ Recent proposals are sympathetic with a European deposit insurance system. Carmassi *et al.*, 2010, envisage the establishment of a European deposit insurance system through the creation of a prefunded, risk based European deposit insurance fund that serves to protect depositors of large European banks in case of crisis situation or failure; and the European deposit insurance corporation which will be entrusted of any power to recapitalize or bail out failing institutions and reorganization functions aimed at depositors protection. Another proposal from the European Parliament supports the establishment of a European financial protection fund that will replace the membership in the existing national deposit guarantee schemes for institutions participating in it. Financed by financial institutions, debt issuance and under exceptional circumstances subject to member states guarantees, it will serve to ensure financial stability. This fund will be managed by a board appointed by the European Banking Authority for a period of 5 years. Deutsche Bank CEO Josef Ackermann advocated in Davos in January 2010 the establishment of a European Rescue and Resolution Fund largely financed by the banking industry.

segments of the market. A European deposit insurance scheme covering cross border banks and national schemes covering all other domestic banks can coexist if they are harmonized in terms of their operations, coverage and financing mechanisms and interaction with the other mechanism of safety net.

Deposit insurance, if properly designed and administrated, makes it politically feasible and practically possible to close a bank because the authorities know that depositors are protected, as we pointed above.

We argue that the establishment of a European system of DGS (or a network of DGS) would better fit with the needs of the single market in financial services than the current decentralized structure.

10.8. CONCLUDING REMARKS

There is strong evidence that some ‘conventional tools’ failed to act as ‘lines of defense’ in the crisis and that other tools and institutional arrangements ought to be considered (from non conventional monetary policies to new arrangements for cross border resolution). This is the context of the arguments underlying this paper. Greater reliance on EU arrangements appears as the logical solution to the inconsistencies of the operation of the single market in financial services, in particular in the euro-zone. The difficulties of solving these inconsistencies are further compounded by the domain of fiscal policy in the EU.

Going forward we need better regulation, better supervision and better crisis management (including credible explicit deposit insurance) on a cross border basis (balancing the need to preserve fair competition and the need to achieve financial stability). However, actions by the public authorities (whether supervision, regulation or resolution) cannot succeed unless they are accompanied by better risk management and corporate governance by the financial institutions that are supervised and regulated. Furthermore, European initiatives need to be aligned with international efforts, since most pan-European banks are also global banks.

Our proposal is a modest step in the direction of better cross-border crisis management arrangements to prevent and contain the effects of possible future financial crises.

Table 1: DGSs in Some European Countries: EFDI DEPOSIT GUARANTEE SYSTEMS, FIRST REPORT OCTOBER 2006 and Demirgüç-Kunt et al. (2005)

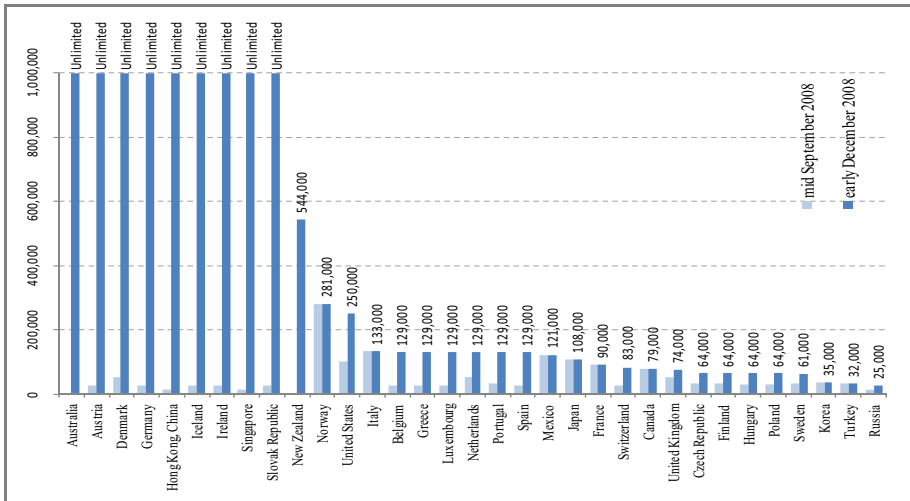
Before the financial crisis		After the financial crisis		
Country	Legal framework	Coverage	Funding	
Belgium	<ul style="list-style-type: none"> Established in 1975, EU Directive in 1995 Legal separate organization 	<ul style="list-style-type: none"> Coverage per depositor per institution, € 20,000 No coverage for deposits in non EU currencies No co-insurance 	<ul style="list-style-type: none"> Ex-ante, no public contributions, additional contributions can be required in the amount of up to 200% of the regular annual contributions. No risk based contributions 	<p>Within October</p> <ul style="list-style-type: none"> The CBFA announced to elevate the coverage limit to € 100,000 and to extend the protection, if needed, to other financial firms such as insurance and cooperative banks for products similar to bank deposits.
Germany	<ul style="list-style-type: none"> Established in 1998 Private company with public rights 	<ul style="list-style-type: none"> Deposits in € or other currency of the EU member states. Coverage per depositor: € 22,222.22 	<ul style="list-style-type: none"> Ex-ante Extraordinary contributions, unlimited, intervention decision with BaFin Borrowing of the fund in case of need, no risk-based premiums, 	<ul style="list-style-type: none"> Announced 100% coverage for deposits.
Iceland	<ul style="list-style-type: none"> Established in 1985 and revised in 1996, EU Directive in 1999 Official permanent fund 	<ul style="list-style-type: none"> Coverage for foreign currencies also granted Coverage per depositor of about € 22,000 86.8% of deposit value coverage No co-insurance 	<ul style="list-style-type: none"> 0.15% annual premiums Private funding (banks) and no public support No-risk adjusted premiums 	<ul style="list-style-type: none"> The government has promised to compensate Icelandic deposit holders the full amount, and it does not discriminate between Icelandic and European deposit holders
Ireland	<ul style="list-style-type: none"> Established in 1989 Updated in 2005 after the introduction of the Directive 94/19/EC Public 	<ul style="list-style-type: none"> Coverage per depositor, 20,000 € Payout limit up to 90% of the insured deposits, subject to a max payment of € 20,000 10% co-insurance 	<ul style="list-style-type: none"> Ex-ante, no public contributions, No risk-based contributions, Extraordinary contributions if needed (if members contributions less than 0.2% of their relevant 'deposits'), dependent intervention decisions 	<ul style="list-style-type: none"> The Parliament passed legislation guaranteeing 100% of the deposits and borrowings of six major Irish banks from € 20,000 to € 100,000 per depositor per institution.

Before the financial crisis			After the financial crisis Within October	
Country	Legal framework	Coverage	Funding	
UK	<ul style="list-style-type: none"> Reformed in 2001: the Financial Services Compensation Scheme (FSCS) replaced various compensation bodies including the Deposit Protection Board, The Investor Compensation Scheme and the Policyholders' Protection Board Private company limited by guarantee 	<ul style="list-style-type: none"> Deposits in all currencies held by all personal depositors except bond issued by credit institutions part of the institution capital, secured deposits, deferred shares issued by a building society, non nominative deposits Coverage per depositor per institution up to around 35,000 pounds, payout limit (100%) of the first 2,000 pounds and 90% of the next 33,000 pounds 10% Consurance over the first 2,000 pounds 6 months for depositors payoffs 	<ul style="list-style-type: none"> Mixed No public contributions, No risk based premium, No extraordinary contributions Intervention decision subject to the FSA assessment 	<ul style="list-style-type: none"> On October 4, 3008 Increased its deposit insurance coverage to £ 50,000 from £ 35,000
USA	<ul style="list-style-type: none"> First establishment in 1934 and revised in 1950, 1966, 1969, 1974, 1980, 2003 and 2006 Public official fund (FDIC) 	<ul style="list-style-type: none"> Deposits including checking and savings accounts, money market deposit accounts and certificates of deposit (CDs). 100,000 dollars 0.1 month on average for depositors pay offs 	<ul style="list-style-type: none"> Risk adjusted funding (between 0% and 27%) Joint funding 	<ul style="list-style-type: none"> Through December 31, 2009 different accounts including single accounts, joint accounts, individual retirement accounts are covered up to € 250,000 and an unlimited coverage for Non-interest Bearing Transaction Accounts

Picture 1: The Run on Northern Rock in September 2008



Graph 1: Deposit Insurance in 2008 from Limited to Blanket Coverage



11. JOINT SUERF, CEPS AND BELGIAN FINANCIAL FORUM CONFERENCE ON CRISIS MANAGEMENT AT CROSS-ROADS

*Closing Speech by Governor Quaden
Brussels, November 16, 2009*

More than two years after the US subprime crisis triggered world-wide financial turbulence and one year after the collapse of Lehman Brothers exacerbated the crisis dramatically, the title of this conference rightly suggests that crisis management is at a crossroads. Indeed, the exceptional measures taken by central banks and governments do appear to be achieving their objectives. It seems now that the most severe financial crisis since the 1930s, which provoked a free fall in world trade and industrial production over two quarters, will not develop into another Great Depression, even if its toll in terms of subdued economic activity and higher unemployment is not yet over. Crisis prevention will soon have to take over from crisis management. This will require both a timely exit from the exceptional measures taken to stabilise the financial system and the economy, and the implementation of fundamental reforms to remedy the structural defects exposed by the crisis.

11.1. TIMELY EXIT

Let me turn firstly to the issue of a timely exit. The policy reaction to the financial crisis was very decisive. Central banks were the first to react in August 2007, by providing ample liquidity. After the sudden aggravation of the crisis in September 2008, they reduced interest rates to unprecedentedly low levels and took some non-conventional measures to support bank lending and the financial markets. Governments rescued systemically important financial institutions, through capital injections and asset purchases, and supported bank funding, through guarantees. They also launched fiscal stimulus packages. In order to consolidate the recovery, to avoid nurturing the seeds of future crises and to promote sustainable development, these short-term measures have to be unwound at the right time and pace.

The effectiveness of fiscal policy depends on the confidence in its sustainability, and it is important to avoid the private debt crisis being followed by a public debt crisis. The burden of fiscal consolidation should not be passed on to the next

generations. Credible fiscal consolidation programmes have to be set up, and the current outlook should allow the first steps to be taken next year.

But let me focus on the Eurosystem's monetary policy. Too early an exit from the current very accommodative monetary policy stance would entail the risk of a relapse: renewed negative interactions between financial sector problems and the real economy, along with a possible threat of deflation. Too late an exit would sow the seeds for new financial excesses, with a risk of inflation. Obviously, the assessment of risks to medium-term price stability must remain the fundamental criterion. Moreover, I expect gradualism to be a key feature of the exit. Certainly, our toolkit would allow us to react swiftly to any abrupt change in inflation expectations. However, economic and financial conditions are likely to gradually return to normal and, consequently, the upward shift in the balance of risks to price stability will probably be gradual. In fact, gradualism is most appropriate in uncertain times as it dampens the risk of disruptions in financial markets. The sequencing of the exit is not pre-defined, nor is its end point, and will depend on developments in financial markets and in the real economy. For example, the Governing Council of the ECB could change interest rates while keeping some non-standard monetary policy measures in place, if required by a dysfunctioning of the money market – and you may remember that this kind of separation of monetary and liquidity management measures was quite common in the first phase of the crisis, from August 2007 to September 2008. Conversely, and this is may be more obvious, some non-standard monetary policy measures are likely to be withdrawn before raising interest rates.

So, where do we stand now? Even though they are not yet back up to their pre-crisis levels, most financial market indicators have improved considerably. Since the spring of this year, there have been signs of a nascent recovery, the 'green shoots', mainly thanks to the policy reactions around the world and especially to a rebound in Asia. However, the economic recovery is still fragile and reliant, in no small measures, on expansionary monetary and fiscal policies. Moreover, commercial banks still have to repair their balance sheets and reinforce their capital base. The current slack in the economy is dampening price developments, an assessment which is confirmed by the monetary analysis. Consequently, the Governing Council believes that current interest rates remain appropriate.

At the same time, the situation is not quite as dire as it was a few months ago, especially in terms of financial market functioning. Therefore, the first steps of a gradual phasing-out of non-standard measures can be envisaged, like a discontinuation of 1-year refinancing operations or a lower frequency for 3-month and 6-month refinancing operations. They should not be seen as the start of a tightening cycle, but rather as an incentive for banks to restructure their portfolios and to

resume their market-based funding activities, as a long period of cocooning in the banking sector has microeconomic drawbacks too.

Looking further ahead, the Governing Council will continue to set the monetary policy stance by assessing the appropriateness of monetary and financial conditions in view of the risks to price stability. One of the lessons of this crisis is that central bankers should not be guided by excessively narrow inflation targeting but should pay attention to the build-up of financial imbalances, which may not immediately exert pressure on prices, but an abrupt correction of which may put price stability at risk. The Governing Council can claim that the medium-term orientation of its strategy and its monetary analysis are assets in this respect. A few years ago, at a previous SUERF conference, I announced that M3 might abandon us. And indeed, the long-run relationship between M3 and prices proved to show signs of instability. At the same time, I pointed out that monetary analysis was much richer than monitoring M3 only. We now monitor credit developments closely. Research at the BIS, the IMF and within the Eurosystem is exploring the leading indicator properties of money and credit aggregates which may be useful in the identification of detrimental asset price bubbles. Further research is still needed in order to reach definite conclusions. While monetary policy should play a role in ‘leaning against the wind’ of over-optimism in financial markets, it should however not be over-burdened. Interest rate policy on its own cannot guarantee both price stability and financial stability, and should therefore be backed up by prudential policies.

11.2. FUNDAMENTAL REFORMS

This leads me to the second issue, the fundamental reforms which are badly needed. There is a long list of work in the pipeline of international fora. The Financial Stability Board at G20 level as well as Ecofin at EU level have drawn up detailed roadmaps to pave the way for extensive reforms. They cover new supervisory arrangements at international level, enhanced frameworks for crisis prevention, management and resolution, strengthened regulatory requirements, revised accounting standards, promotion of integrity in financial markets and even further-reaching regulation to cover previously unregulated instruments, institutions or markets.

The authorities must be determined in their drive for better regulation and supervision. As explicitly noted by the Basel Committee, “*the banking sector entered the crisis with an insufficient level and quality of capital, inadequate provisions, imprudent valuations, insufficient liquidity buffers, compensation policies that encouraged excessive leverage and risk taking and excessive concentration of exposures among major financial institutions*”. The insistence on the words

‘insufficient’, ‘inadequate’ and ‘excessive’ shows that more and better buffers are expected.

The crisis has given rise to a unique momentum for profound reform of the financial sector. We should not let this momentum slip away. I know full well that the return to more simplicity will be anything but simple. Of course, I realise that a lot of technical issues have still to be resolved. And I admit that it will be important to introduce the new regulations in a timely manner so as not to repress the smooth flow of credit which will be required to support the nascent recovery. In fact, while there is much discussion at the moment on the design of the exit strategy from the public support measures, we should be equally aware of the need for an entry strategy for moving over to more comprehensive regulatory requirements.

But all these considerations should not be an excuse for prevarication and delaying the essential decisions to take for the design of a more comprehensive framework.

The crisis has seriously dented belief in the ability of the markets to regulate themselves. While it would be illusory to dispense with the assistance of the market in designing new supervisory and regulatory arrangements, these market consultations have more often than not been used by many financial institutions as a channel to lobby for softer regulation, certainly in the past and probably still today.

The rapid spread of the financial crisis has also served as a lesson for supervisors. It has shown that the root of the problems was not linked to any specific difficulties faced by individual institutions but, rather, to the gradual build-up of common risks within the system. It is now widely acknowledged that such crystallisation of risk, linked to major shifts in the correlation between financial products and markets, requires more systemically-focused oversight and regulation. To use the professional jargon, micro-prudential control, the preserve of the supervisory authorities, must be complemented by macro-prudential oversight, resorting to the expertise of central banks. To improve the symbiosis between these two approaches, a growing number of countries are adopting the so-called ‘twin peaks model’ where the central bank is in charge of the full range of prudential supervision, in both its micro- and macro dimension, leaving the oversight of market integrity and investor protection to a separate institution. Just a few weeks ago, the Belgian authorities, too, decided to introduce this ‘twin peaks model’ here as quickly and smoothly as possible.

Needless to say, I am well aware that the macrodimension does not stop at our country’s frontiers, while the micro-supervision of cross-border groups also requires close multinational coordination. So, I strongly support the recent proposal to set up, at EU level, a European Systemic Risk Board (ESRB) and Euro-

pean System of Financial Supervisors (ESFS), which are called on to cooperate closely in order to bring more comprehensiveness and consistency to national and international supervision.

Macro-prudential analysis must rely on rapid, direct and comprehensive access to data on individual developments liable to affect global financial stability while, in turn, this analysis must feed the micro-prudential control. It would be a pity if our efforts to improve this flow of information in our respective countries were to be impeded by hurdles at the international level.

Crisis management has been effective: banks have been rescued, the abrupt rise in risk aversion has been countered and it seems that financial markets are returning to normal and that the fall in trade and output has come to an end. For the emergency measures not to nurture renewed financial excesses, they have to be withdrawn in a timely and gradual way and, above all, backed up by structural reforms. Better regulation and supervision are needed. Great haste in regulating complex matters would probably not be wise, but the political resolve for reforms should not lose momentum.

12. UNCONVENTIONAL MONETARY POLICIES IN TIMES OF CRISIS

Jaime Caruana

12.1. INTRODUCTION

It is a great honour for me to deliver the SUERF Annual Lecture this year, following in the footsteps of such prestigious speakers.

Thankfully, this year has been a bit less eventful than the previous one. These calmer times have allowed deeper reflections among policymakers and academics about a number of fundamental issues, including the appropriate framework for monetary policy.

A key question that has re-emerged is whether it is sufficient for central banks to focus on price stability. Given that the current crisis took place against a backdrop of subdued inflation and well anchored inflation expectations, the answer appears to be 'no'. And if price stability is not sufficient to ensure financial stability, it is not enough to deliver economic stability either.

This leads to another set of questions. Should central banks better integrate concerns about financial imbalances into policy? At what point do credit growth and asset price booms become excessive and warrant policy action? What additional tools would help central banks in dealing with these developments? Would an explicit financial stability mandate help, particularly in managing the political economy pressures? These are open questions that will be hotly debated.

In light of the theme of this year's conference, however, I would like to concentrate my remarks today on the broad range of responses that central banks have implemented to deal with the current crisis. These have been referred to as unconventional monetary policy, and I have three points to make. First, I will outline how unconventional policies can be viewed as a crisis management tool. Second, I will argue that more attention should be given to the asset side of the central bank balance sheet than the liability side in discussions of unconventional monetary policies. I will question the importance of bank reserves and their relationship to bank lending and inflation. Finally, I will highlight some key practical challenges in implementing such policies, including exiting from them. One conclusion that follows from this discussion is that unconventional monetary policies appear more suited for exceptional circumstances and are unlikely to represent an additional set of tools that central banks can use more generally in their normal day-to-day conduct of policy.

12.2. UNCONVENTIONAL MONETARY POLICIES AND CRISIS MANAGEMENT

Let me begin by defining unconventional monetary policies as the elevation of liquidity management operations from a *passive* role in the background, undertaken simply to ensure the attainment of the interest rate target in normal times, to an *active* role, to influence broader financial conditions. Given this definition, I would like to offer some thoughts on unconventional monetary policy from the point of view of crisis management. In particular, I wish to highlight two perspectives from which unconventional monetary policy, as a crisis management tool, can be viewed. From the first perspective, such policies complement the central bank's role as lender of last resort; from the second, they become an extension of monetary policy. Let me discuss each of these in turn.

Apart from conducting monetary policy, a vital responsibility of central banks is to act as lender of last resort. The core objective of this function is to prevent, or at least mitigate, financial instability through the provision of liquidity support either to individual financial institutions or to financial markets.

Traditionally, the lender of last resort function is associated with acute institution-specific shortages of funding liquidity. By funding liquidity, I mean the ability to raise cash or its equivalent in reasonably large quantities, either via asset sales or by borrowing. Typically in such instances, an institution finds itself unable to pay or roll over obligations. Given the institution-specific nature of the intervention, such emergency liquidity assistance can generally be clearly separated from setting the policy interest rate.

In other cases, the situation confronting the central bank is something that can be termed a systemic shortage of both funding and market liquidity. By market liquidity, I mean the ability to buy and sell assets in reasonably large quantities and at short notice without significantly affecting their price. Here, the problem involves a breakdown of key financial markets owing to a loss of confidence and coordination failures among market participants. As starkly demonstrated by the current crisis, markets, just like intermediaries, may be subject to 'runs'. And these runs are driven by fundamentally similar forces. The result is a sudden and prolonged evaporation of both market and funding liquidity, with serious consequences for the stability of both the financial system and the real economy.

From a financial stability perspective, unconventional monetary policy measures can be seen as a lender of last resort response to this second type of crisis. The underlying aim of intervention is to support market functioning by restoring both funding and market liquidity and thereby to shore up confidence in the financial system as a whole. Typically, this will require a broadening of the central bank's provision of liquidity, in terms of both accessibility and structure. From such a

viewpoint, targeted interventions in specific market segments are primarily geared to improving market functioning. And while they may exert a beneficial influence on broader economic conditions, such an effect is not viewed as the main objective.

Nonetheless, precisely because these actions typically affect overall financial conditions, it can be difficult to distinguish them from the stance of monetary policy *per se*. This leads me to the alternative perspective from which unconventional monetary policy can be viewed: namely, as an *extension* of monetary policy that can be used when interest rate policy alone may not achieve the desired policy objective, perhaps because particular segments of the transmission mechanism fail to work or because of the zero lower bound. Here, central bank operations are aimed at directly affecting broader financial conditions, such as asset prices, yields and funding conditions, *over and above* the impact of the policy rate.

While the lender of last resort and the monetary policy perspectives are usually distinct from one another, with the former focused on financial stability and the latter on macroeconomic stability, they can become closely intertwined in a crisis. Ensuring continued market functioning as a lender of last resort generally entails interventions that reduce liquidity premia on certain assets. To the extent that the reduction in risk premia translates into easier funding conditions, this adds monetary stimulus. Conversely, insofar as concerted monetary policy interventions to lower risk spreads and ease funding conditions serve to bolster market confidence, they may improve market functioning.

The current episode can be viewed from both perspectives. When the crisis first erupted in August 2007, central bank interventions focused on maintaining liquidity in key markets primarily by supplying central bank liquidity and government securities more flexibly. In this phase, the lender of last resort perspective was clearly dominant. It was reflected in the introduction of various emergency liquidity facilities such as the Term Auction Facility by the Federal Reserve and the Special Liquidity Scheme by the Bank of England.

As the crisis deepened following the failure of Lehman Brothers and spillovers to the real economy intensified, the monetary policy perspective became more important. Interventions were undertaken with the explicit aim of steering broader financial conditions to support central banks' macroeconomic goals. Prominent examples are purchases of government bonds to lower benchmark yields and purchases of mortgage-backed securities to lower mortgage rates.

The defining element that is common to both perspectives is that they involve operations that result in substantial changes in central bank balance sheets – in terms of size, composition and risk profile. On the asset side, the extension of term funding to banks, the purchase of short-term claims on businesses and the

purchase of mortgage and government bonds have been termed ‘credit easing’, to highlight the intention to maintain the supply of private credit at reasonable cost. On the liability side, ‘quantitative easing’ refers to policies that emphasise the supply of bank reserves.

To begin with, let me note two important features of such ‘balance sheet policies’.

First, balance sheet policy is not that new or unconventional in its essence. The most familiar form is foreign exchange intervention, whereby the central bank seeks to influence the exchange rate *separately* from the policy rate. What makes its use in the current crisis novel is the market segments targeted: for example, the long end of the interbank market, long-term government bond yields, private sector risk spreads and the like. The recognition that such interventions do not represent something entirely new facilitates their assessment. Indeed, bearing in mind the parallels with foreign exchange rate intervention helps to provide useful clues about the efficacy and limitations of this broad approach to policy.

The second key feature of balance sheet policies is that they can be decoupled from the level of policy rates. Technically, all that is needed is for the central bank to neutralise the impact that any induced expansion of bank reserves might have on the overnight interest rate.

Let me give an example. Suppose the central bank purchases an asset outright from commercial banks. In the first instance, it pays for this by crediting banks’ deposits at the central bank. That is, it creates bank reserves. Now, if the rate of remuneration that the central bank sets on bank reserves is below the market rate, as is typically the case, their expansion will lead to downward pressure on overnight interest rates. This follows because the opportunity cost of holding reserves means that banks will try to lend them out in the interbank market, and in so doing depress the overnight rate. Thus, one way of shielding the overnight rate from the effects of asset purchases is for the central bank to conduct offsetting or sterilising operations, so as to leave the amount of reserves unchanged. There are many ways of doing this, including asset sales, repos, or the issuance of central bank bills. And as clearly demonstrated by many Asian central banks, the scope for this approach is quite large.

Alternatively, if the central bank does not wish to offset the expansion in reserves, perhaps because of limitations in the availability of offsetting instruments, it can still shield overnight rates by paying interest on reserves at the policy rate. This eliminates the opportunity cost of holding reserves, making them, in effect, a close substitute for other short-term liquid assets in banks’ portfolios. This is essentially the approach that the Federal Reserve and the Bank of England have followed. Of course, the opportunity cost is also eliminated automatically even if

reserves are not remunerated when the policy rate reaches or comes very close to the zero lower bound.

Thus, so long as central banks have sufficient instruments, the size and structure of their balance sheets can be managed separately from the policy rate. One implication of this ‘decoupling principle’ is that exiting from the current very low, or zero, interest rate policies can, at least in principle, be done *independently* of balance sheet policies. In practice, however, the distinction is unlikely to be as clear cut, especially insofar as the impact on overall financial conditions is concerned. I will return to these issues later. But before I do so, I would like to address the effectiveness of unconventional policies and its relationship to the substantial increases in bank reserves that have taken place.

12.3. ASSESSING THE EFFECTIVENESS OF UNCONVENTIONAL POLICIES

In principle, the effects of balance sheet policy may be transmitted through two main channels. The first is the ‘signalling channel’, whereby central bank actions or their communication influence public expectations about some of the key factors that underpin the market valuation of an asset. These include expectations regarding the future course of policy, inflation, the relative scarcity of different assets or their risk and liquidity profiles. For example, the announcement that the central bank is prepared to engage in operations involving illiquid assets may, by itself, boost investor confidence in them, thereby reducing liquidity premia, stimulating trading activity and improving market functioning.

The second channel of influence is commonly known as the ‘portfolio balance channel’. Here, imperfect substitutability among assets leads to changes in relative yields when central bank operations alter the composition of private sector portfolios. Insofar as shifts in private sector portfolios lead to stronger balance sheets, greater collateral values and higher net worth, they may also help loosen credit constraints, lower external finance premia, and hence boost credit growth. For example, by purchasing risky private securities from banks in exchange for risk-free claims on the public sector, the resultant improvement in the overall risk profile of bank balance sheets may not only enhance their risk appetite but may also increase investors’ willingness to lend to them.

The effectiveness of credit easing policies can be seen in credit spreads. Central bank lending and purchases narrowed the spread of term bank funding over expected monetary policy rates, and the spread of mortgage bond over government bond yields. Whether the purchase of government bonds by central banks has had a similarly sustained effect on government bond yields will be debated. In the case of the largest programme of purchases in relation to the economy, that

of the Bank of England, bond yields responded to surprises in the series of announcements about the initiation and expansion of purchases.

Turning to the liability side, while the central bank has a number of choices in how such operations are funded, a prominent one is to expand bank reserves. Two aspects of the role of bank reserves deserve to be reconsidered. The first is the relationship between reserves and bank lending; the second is the link between reserves and inflation.

Starting with the former, discussions of balance sheet policies often presume a close link between the expansion of reserves and credit creation. The implicit premise is that excess bank reserves induce banks to make loans. Either bank lending is constrained by insufficient access to reserves or more reserves can somehow boost banks' willingness to lend. An extreme version of this view is the notion of a stable money multiplier.

In fact, bank lending is determined by banks' willingness to grant loans, based on perceived risk-return trade-offs, and by the demand for those loans. An expansion of reserves over and above the level demanded for precautionary purposes, and/or to satisfy any reserve requirement, need not give banks more resources to expand lending. Financing the change on the asset side of the central bank balance sheet through reserves rather than some other short-term instrument like central bank or Treasury bills only alters the composition of the liquid assets of the banking system. As noted, the two are very close substitutes. As a result, the impact of variations in this composition on bank behaviour may not be substantial.

This can be seen another way. Recall that, in order to finance balance sheet policy through an expansion of reserves, the central bank has to eliminate the opportunity cost of holding them. In other words, it must either pay interest on reserves at the positive overnight rate that it wishes to target, or the overnight rate must fall to the deposit facility floor (or zero). In effect, the central bank has to make bank reserves sufficiently attractive compared with other liquid assets. This makes them almost perfect substitutes, in particular for other short-term government paper. Reserves become just another type of liquid asset among many. And because they earn the market return, reserves represent resources that are no more idle than holdings of Treasury bills.

To be clear: this is not to say that central banks are powerless to influence bank lending. If lending is held back by significant funding constraints – because banks are unable to sell illiquid assets or to borrow – interventions that alleviate these constraints will encourage lending. Thus, for example, if banks' access to future funding becomes highly uncertain, central bank operations that supply term funding may allow banks to keep lending. Bank lending may also be encouraged

by the financing of such operations with excess reserves or short-term paper that satisfy a demand to hold larger precautionary liquid balances. But the underlying mechanism involves supplying banks with a liquid asset at a time when the access to funding is difficult or becomes uncertain. Reserves simply constitute one possible asset among others that can serve this purpose. Whether a bank holds liquid assets in the form of, say, reserves, one-week Treasury bills or one-month central bank bills will not make a material difference to its willingness and ability to lend. Typically, the main constraint on credit creation, if the demand for credit is there, is bank capital relative to regulatory minimum or market requirements.

What about the concern that large expansions in bank reserves will lead to inflation – the second issue? No doubt more accommodative financial conditions resulting from central bank lending and asset purchases, insofar as they stimulate aggregate demand, can generate inflationary pressures. But the point I would like to make here is that there is no *additional* inflationary effect coming from an increase in reserves per se. When bank reserves are expanded as part of balance sheet policies, they should be viewed as simply another form of liquid asset that is comparable to short-term government paper. Thus funding balance sheet policies with reserves should be no more inflationary than, for instance, the issuance of short-term central bank bills.

This also suggests that the justification for inflationary fears associated with the notion of ‘debt monetisation’ needs to be qualified. Here, the concern is that purchases of government debt and the associated expansion in bank reserves would lead to inflation. In addressing this issue, it is essential to distinguish the effects that operate through interest rate policy and those that operate through the financing structure of government debt.

If excess reserves are remunerated at a below market rate, their injection would push overnight rates down to the floor established by the remuneration rate (or the deposit facility rate). This is tantamount to an easing of interest rate policy. Any ensuing inflationary pressure can hence be largely attributed to the usual expansion of aggregate demand that accompanies such a move.

In the case where the opportunity cost of reserves has been eliminated, such as by paying interest at the policy rate, their expansion would not affect overnight rates. To the extent that any additional impact on inflation existed, it would result mainly from the effect on aggregate demand of the flatter yield curve that these operations may induce. For example, if the central bank were to inject reserves through the acquisition of long-term government bonds, the net impact on yields and inflation would not be dissimilar to the rebalancing of government financing from long to very short maturities. In fact, such an ‘operation twist’ can be achieved by the fiscal authorities themselves through altered debt management.

Ultimately, any inflationary concerns associated with monetisation should be mainly attributed to the monetary authorities' accommodating fiscal deficits by refraining from raising rates. In other words, it is not so much the financing of government spending per se – be it in the form of bank reserves or short-term sovereign paper – that is inflationary, but its accommodation at inappropriately low interest rates for too long a time. Critically, these two aspects are generally lumped together in policy debates because the prevailing paradigm has failed to distinguish changes in interest rate from changes in the amount of bank reserves in the system. One is seen as the dual of the other: more reserves imply lower interest rates. As I explained earlier, this is not the case. While both the central bank's balance sheet size and the level of reserves will reflect an accommodating policy, neither serves as a summary measure of the stance of policy.

To recap, the focus in assessing the impact on bank lending and inflation should be on how assets taken on by the central bank affect relative yields, and hence aggregate demand, or how they affect market liquidity and access to credit. Balance sheet policies work primarily by changing the composition of private sector balance sheets. Their impact will be greatest when the assets exchanged are imperfect substitutes for each other. Invariably, in such an exchange, the central bank will be providing the private sector with some form of highly liquid, low-risk asset. Such liquid assets tend to be highly substitutable for one another, especially at very low interest rates. Therefore, the specific form chosen, as determined by the central bank's method of funding, will generally be of much less significance than the choice of asset that has been acquired.

12.4. PRACTICAL CHALLENGES IN IMPLEMENTING BALANCE SHEET POLICY

Let me now move to my next point and highlight some important practical challenges that central banks face in implementing balance sheet policy.

The first challenge is calibrating and communicating the interventions effectively. With little previous experience, with the relevant transmission channels unclear, and in the absence of a shared framework to quantify the various effects, it is very hard to judge the impact of these unconventional policies and hence determine the appropriate amount of intervention. At the same time, central banks have to tread a fine line between acting as a catalyst for private sector activity, on the one hand, and substituting for it, on the other. Moreover, they have to be wary of potential distortions to the level playing field between those receiving and those not receiving the support. Finally, they need to take into account what is done in other jurisdictions. Coordination with other central banks can enhance the effectiveness of unconventional policy measures.

Even when policy can be appropriately calibrated, its impact and effectiveness are influenced heavily by how it is communicated. With liquidity management operations being used to affect monetary conditions directly, the official policy stance is no longer summarised by the policy rate. The resulting multidimensionality of policy carries with it the potential for diminished clarity of the policy signal. Communicating the rationale, nature, magnitude and time dimension of unconventional policies can steer expectations effectively, can avoid central bank credibility problems and can mitigate financial market volatility. Indeed, central banks have taken care to explain their unconventional policies, with very welcome results.

The second set of practical challenges lies in the effective management of the central bank's relationship with fiscal policy. Balance sheet policy has a large potential overlap with fiscal policy. The clearest example is when central bank purchases of long-term bonds aimed at lowering their yield are counterbalanced by actions of the government's debt management to lock in low yields by issuing more long-term bonds. This hints at a broader point. In principle, almost any balance sheet policy can be undertaken by the government. While the central bank has a monopoly over interest rate policy, the same cannot be said with respect to balance sheet policy.

Moreover, balance sheet policy exposes the central bank to financial risk. Should substantial losses materialise, the central bank's operational autonomy may be threatened in the absence of an explicit or implicit understanding with the fiscal authorities regarding how losses are dealt with. Up to a point, some of the financial risks can be managed, for example through the restriction of eligible collateral and the use of conservative haircuts. In the end, however, financial risks are part and parcel of balance sheet policy. Therefore, the real issue is how far institutional factors related to the treatment of losses may constrain the willingness and ability of the central bank to engage in such policies.

In this context, perhaps the greatest challenge to sustained utilisation of such policies is of a political economy nature. The more the central bank relies on unconventional policies, the more frequently tricky questions are raised about coordination, operational independence and the division of responsibilities. A case can thus be made for the establishment of clear institutional guidelines to resolve potential conflicts and to enhance clarity in areas where central bank actions may have a large overlap with those of the fiscal authority, and thereby to preserve the autonomy of monetary policy. These include accounting arrangements, rules for the distribution of profits and losses, and also mandates for the scope of actions.

This brings me to the issue of exit strategies.

Since, as I argued earlier, interest rate and balance sheet policies can be decoupled from each other, it is then possible, in principle, to delineate discussions of exit strategies along two separate dimensions: the appropriate level of interest rates, on the one hand, and the desired central bank balance sheet structure, on the other. The former will most likely be dictated by traditional output-inflation considerations; the latter will also be influenced by considerations about market functioning and avoiding financial market stress. In practice, however, this separation may not be so obvious. Since balance sheet policies exert an impact on broader financial conditions, in terms of the overall macroeconomic implications their withdrawal will not be easily distinguishable from a tightening of interest rates. This is part of the broader communication challenges of exit to which I will come back in a minute.

The main challenge is how to properly judge the timing and pace of the exit. This concern is a familiar one, being largely the same as that which applies to interest rate policy. One possibility is that exit occurs too early, hampering an incipient recovery. However, historical experience suggests that the balance of risks is tilted towards exiting too late and too slowly. Political economy pressures tend to go in this direction. At the macro level, the concern is that such a delayed exit may risk accommodating the build-up of a new set of financial imbalances or else lead to inflationary pressures. At the micro level, it may weaken unnecessarily the ability of markets to work effectively without official support and may distort the level playing field.

I should also stress here that, while the principles of exiting from these policies may be apparent, the actual path of exit could prove to be challenging and potentially bumpy. For one, communicating exit can be extremely tricky; there may be knife-edge market reactions to news of withdrawal. Moreover, because considerable uncertainty exists regarding the transmission channels of balance sheet policy, there is a risk that central bank actions will be misinterpreted. For example, a technical liability management operation such as issuing central bank bills to drain bank reserves may be misinterpreted as a tightening of monetary conditions.

The number of potential pitfalls suggests that we should by no means take the scenario of a smooth exit for granted, and here again efforts by central banks to explain are constructive and welcome. No matter how much market conditions have seemingly improved, it is not entirely clear to what extent those improvements are based on the policies in place.

12.5. CLOSING REMARKS

To conclude, central banks' active management of the size and composition of their balance sheets does represent an additional tool to help ease constraints stemming from the zero lower bound and to manage crises. In the current one, it has clearly helped to ease severe liquidity strains and support the rebound in a number of key markets.

Notwithstanding these positive developments, this policy tool is best suited to restoring market functioning and bringing about more accommodative financial conditions. Under current circumstances, it is no substitute for the required fundamental restructuring of private sector balance sheets. In an environment of pervasive uncertainty regarding financial institutions' balance sheets, central bank actions for the most part only ease the problem, alleviating the symptoms rather than addressing the underlying causes. That is not to say that they do not contribute to the balance sheet repair. Indeed, the improvements in asset prices and the boost to bank profitability that have accompanied these policies have certainly helped to shore up balance sheets. Despite this, they cannot replace the forceful implementation of measures that address directly the fundamental weaknesses in private sector balance sheets or the need for better business models.

More generally, sustained reliance on a highly accommodative policy stance with respect to both interest rate and balance sheet policies risks creating a perception that the central bank alone is responsible for generating economic recovery. This could reduce the incentive for market participants and governments to take more fundamental measures. Also, I do not believe that we fully understand what the repercussions would be for asset prices, commodity prices and the global financial system as a whole if the world's major central banks keep policy interest rates very low for an extended period. If recent experience is any guide, we must pay serious attention to the risks that may arise. This is especially so for countries that are not suffering from some kind of economic headwinds, and some that are even benefiting from terms-of-trade gains and resurgent capital inflows.

Finally, the question is whether balance sheet policies represent an additional set of tools that can be used not just in crisis management but also in normal times. My own feeling is that the formidable practical challenges and the intense political pressure that inevitably accompany their use suggest that they should be employed only in exceptional circumstances and be withdrawn as soon as economic conditions permit. That said, it will be useful to reflect back and learn how some of these tools can be better designed and deployed in the future. A related question is how central bank operational frameworks should be designed to embed market-stabilising features more systematically and to improve flexibility in response to shocks. For instance, it may be the case that operational frame-

works will retain their greater flexibility with regard to collateral requirements, counterparty eligibility and maturity of operations.

We still have a lot to learn from the crisis. Forums such as this one are an essential part of the learning process. It has been a pleasure for me to be here and I thank you for your attention.

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