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- **Financial Crisis Management
and the Use of Government Guarantees**

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**Financial Crisis Management and the Use of
Government Guarantees**

FINANCIAL MARKET TRENDS

The articles in **Financial Market Trends** focus on trends and prospects in the international and major domestic financial markets and structural issues and developments in financial markets and the financial sector. This includes financial market regulation, bond markets and public debt management, insurance and private pensions, as well as financial statistics.

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Foreword

This special issue of Financial Market Trends compiles selected articles based on presentations given at the Symposium on “Financial crisis management and the use of government guarantees” in October 2011, which were first released between October and December 2011. The Symposium, part of the OECD’s work on financial sector guarantees, gathered policy makers, policy consultants and other academics to discuss the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. Policy proposals covered issues as to how to improve the use of government-supported guarantees and the design of the financial safety net, with a view to enhancing existing mechanisms to avert or contain future crises. A summary of the Symposium is included at the end of each of the articles to facilitate their distribution as self-contained papers.

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Managing Crises without Government Guarantees – How Do We Get There?

by

Christine M. Cumming*

Experience illustrates that, for successful crisis management, there is no substitute for early intervention and, if possible, a private sector solution in preserving value in the firm and limiting externalities. Early intervention, in turn, calls for strong supervision. Even with a much stronger cross-border resolution process, some type of contingent arrangements in reserve will continue to be necessary. Despite their associated problems, guarantees and market backstops have been an important element in preserving liquidity and restoring market functionality and it would be difficult to manage financial crises without them. Other forms of intervention are likely to be more intrusive.

JEL Classification: E42, E58, G18, G21, G28

Keywords: guarantees, policy response to financial crisis, financial safety net, financial crisis prevention and resolution, cross-border bank failure resolution

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

I want to thank the conference organisers for inviting me to this very timely and relevant conference. I will be expressing my own views, and not those of the Federal Reserve System or the Federal Reserve Bank of New York.

The times are extraordinary, and the conference agenda reflects it. The years of financial turbulence that we have experienced and continue to experience have illuminated both the power and the limitations of government intervention in managing financial crises. These years have illustrated how much more we need to understand about good design principles for intervention and sound strategies for the restoration of financial and banking market function following a crisis. And these years have highlighted the interaction between the fiscal condition and capacity of countries and the size and health of the domestic financial system. The conference agenda touches on all of these.

I speak of government intervention broadly, because the answer to the provocative question I am to discuss – how can we conduct crisis management without financial guarantees – depends a great deal on which types of government intervention we hope to avert. Certain guarantee or contingent arrangements can short-circuit incipient instability or stabilise already roiled financial institutions and markets; we do not want to end them. Other interventions are more intrusive and involve more socialization of loss; we want to reduce their necessity.

Guarantee has a legal meaning – for example, the Federal Reserve is not authorised to issue a guarantee – but I will use the word more broadly to describe contingent arrangements. Definitions of guarantee are variations of: “a warrant, pledge, or formal assurance given as security that another's debt or obligation will be fulfilled”; in the financial sector, that primarily means credit risk protection.

Guarantees, insurance and options have similar structures. They are contingent, they have prices and triggers, and the payout is meant to cover a specific risk. Because guarantees, like insurance, change the risks to the guaranteed party and its creditors, both third-party guarantees and insurance can change the affected parties' behavior in an adverse way, and therefore create moral hazard. Thus, the provision of a guarantee also involves various control activities - underwriting, monitoring, imposing penalties for deviation from terms - intended to correct those incentives. The cost of the guarantee therefore is not only the cost of hedging and absorbing credit risk, but also the costs of control activities and an adjustment for any social efficiency gains or losses.

One reason that I draw the connection between guarantees, insurance and options is that the theory and technique for valuing insurance and options have advanced substantially in the last three decades. Thus, guarantees can in concept be valued. I stress “in concept” because those valuation efforts are still approximate. But the measures show promise. For example, Deborah Lucas and Robert L. McDonald in a 2006 *Journal of Monetary Economics* paper used a “stress value at risk” measure to capture the risk in the implicit government guarantee to Fannie Mae and Freddie Mac and obtained values that indicated the large and growing risk of those institutions. The value of a guarantee, even an approximation of its value, provides a potentially powerful signal of risk to the financial authorities.

Let me now turn to the US experience during the recent financial crisis to describe an approach to characterizing the spectrum of government interventions.

II. The US experience with intervention during the 2008-09 financial crisis

Of course, no one can do justice in a few minutes to the unprecedented central bank and government interventions during the 2008-09 financial crisis. Fortunately, much information is available on the internet; for example, www.federalreserve.gov contains a section called “Credit and Liquidity Programs” with a wealth of detail on the Fed’s actions during the crisis.

The US employed four major types of interventions in the financial crisis. The first interventions were expanded programs providing liability insurance. The Federal Deposit Insurance Corporation (FDIC) raised the standard deposit insurance coverage limit. The FDIC established a Temporary Liquidity Guarantee Program with two arms - a transaction (checking) account program that effectively covered corporate deposits and a debt guarantee program that covered unsecured short- and medium-term financial company debt. In addition, the US Treasury offered insurance for money market mutual funds to curb “run risk” in those funds.

The second interventions were the market liquidity facilities provided by the Federal Reserve. While the Fed has authority to lend on a collateralised basis to banks, a large proportion of US short- and medium-term funding for financial and nonfinancial firms now occurs in markets. The triparty repo market finances securities holdings for broker-dealers; the commercial paper market provides working capital for corporations; the asset-backed commercial paper and securities markets fund receivables and loans arising in business activities.

Under section 13(3) of the Federal Reserve Act, in unusual and exigent circumstances, the Federal Reserve can make loans to nonbank borrowers. As funding markets came under duress in 2008 and 2009, the Federal Reserve acted in a series of these markets. The common problem in each market was concern that an obligation would not be repaid at maturity because the obligor might experience either credit problems or liquidity constraints.

The interesting “contingent” aspect of these liquidity facilities was the pricing. The price, expressed as a borrowing rate, was set to stand well above the interest rates that prevailed prior to the crisis, but well below the rates then posted in strained markets. The pricing created a dynamic in which the availability of the facility eased funding pressures, borrowing rates in that market began to fall, and as markets gradually normalised, the market rate eventually fell below the rate charged by the Federal Reserve. With that fall in the market rate, borrowing tailed off and the facility gradually wound down. The volume of transactions in the facility and the market pricing gave the Federal Reserve – and market participants – insight into the program’s impact and the market’s recovery.

The third interventions were more firm specific: loans and other support to AIG, assistance to the Bear Stearns merger and an asset guarantee program announced for two financial institutions and implemented for one. The fourth and most well-known interventions were the capital injections in financial firms using funds from TARP, the US government’s Troubled Asset Relief Program.

These various interventions can be arrayed along two dimensions. The first is the nature and extent of loss absorption inherent in the design of the intervention – just how much “tail” or catastrophe risk the government is taking on. For deposit insurance arrangements, long experience suggests that the cost of the “tail” of losses during even a very distressed period is low relative to the benefits of prevention of runs and contagion.

Similarly, the Fed's market liquidity facilities were meant to provide a backstop for market funding, predicated on the soundness of the underlying collateral assets and their margining. Moreover, both types of programs required little upfront investment of cash. In contrast, the direct loan to AIG, while collateralised, and the TARP investments involved substantial risk-taking and massive funding.

The second dimension is the economic cost of the intervention – just how intrusive the intervention is. All forms of intervention require some kind of underwriting, monitoring and enforcement, and many distort private market incentives and function, as I noted earlier. Ideally, I would include measures of both administrative costs and economic distortion in total cost.

Each intervention involved administrative burdens of varying extent. The FDIC's and Treasury's liability insurance programs rested largely on the existing licensing and supervision of regulated financial companies. The Federal Reserve's liquidity facilities rested on eligibility standards for borrowers and collateral, with a heavy reliance on the existing market infrastructure and processes for controls. By contrast, the firm-specific interventions required significant firm and examiner resources and extensive new financial controls. The TARP capital injections involved not only statutory constraints, most notably on executive compensation, but also a high level of scrutiny through public reports by the Congressional Oversight Panel and the Special Inspector General for TARP.

There are actual and potential programs that fall between the poles on both dimensions. The Term Asset-Backed Securities Loan Facility (TALF) created by the Federal Reserve to restart asset securitization markets lent to investors against asset-backed securities for terms of three and five years. Arguably, the Fed took on more risk of loss with the term of the loan, its non-recourse nature, and the type of collateral than it did in its other facilities. For that reason, TALF was complemented by arrangements for any work-out of defaulted collateral and was supported by TARP funding. On the administrative side, both borrowers and collateral had to meet eligibility requirements; the Federal Reserve Bank of New York extensively reviewed potential collateral and conducted compliance reviews at dealers arranging TALF borrowing.

The types of interventions for any given country will reflect its financial system structure and its institutional setting. The US approach reflected the heavy reliance on markets and nonbanks for financing specific to our financial system. In addition, judgments about how much government loss absorption and intrusion are appropriate in central bank and government interventions will reflect country-specific circumstances and preferences.

As a final note, what didn't work well in the US experience were implicit guarantees – that is, assumptions that the government would protect holders of certain liability and equity instruments that had no explicit guarantee. Official actions that laid bare the absence of the explicit guarantee – the imposition of losses on equity and subordinated debt investors when Fannie Mae and Freddie Mac were taken into conservatorship and on senior unsecured bondholders in the resolution of Washington Mutual – contributed to the dynamic of escalating panic in Fall 2008. Each action was one more shock at the time, but the investors' shock also pointed to the lack of hoped-for monitoring and market discipline by debt and equity investors in the run up to the crisis.

III. Contingent arrangements and financial institution failure

Guarantees as I described them earlier are about protection against failure to meet financial obligations, that is, against default and insolvency. The alternative to escalating government intervention during the crisis was accepting a higher rate of financial institution insolvencies. The consequences of multiple failures of large, complex and international organizations were largely unknowable. They included the likelihood of disruption of systemically important financial activities (such as payment services, where the customer need is immediate and customers cannot quickly switch to another provider) and the almost certain contagion to other institutions. The September 2008 bankruptcy of Lehman Brothers Holdings, Inc., underscored the difficulty of controlling the ramifications of the failure of just one large cross-border institution and the cost, complexity and extreme inefficiency of the existing cross-border insolvency process.

The “too big to fail” problem – the expectation that a large financial institution insolvency would be too disorderly and too destructive of wealth for financial authorities to risk – has frustrated financial authorities, legislators, and academics since at least the failure of Continental Illinois Bank in 1984. In the wake of the crisis, the frustration is now shared by the public. Having intervened so forcefully in the crisis, financial authorities and others also worry that moral hazard has increased as a result.

An important avenue to tackle the too-big-to-fail problem is to improve the feasibility of cross-border resolution of large financial firms. The Financial Stability Board (FSB) in 2009 commissioned work on improving the process for cross-border resolution of systemically important financial institutions. The work since then is reflected in a set of proposed principles published for consultation by the FSB in July 2011, *Key Attributes of Effective Resolution Regimes*.

The Key Attributes paper is more than a set of principles or emerging standards; the paper also maps out a series of actions to be taken in order to improve the feasibility of resolving a systemically important financial firm. The goal is to take actions that ease and speed the resolution of the largest firms while preserving critical functions and reducing the contagion and destruction of value that occurs in liquidation and, most important, to do so without recourse to public funds that exposes taxpayers to risk of loss.

The FSB proposes that all jurisdictions have a set of resolution powers, among them, the ability to create a bridge or similar institution, into which the healthy parts of a financial firm, including its critical activities, can be placed. In addition, the resolution authority needs the power to transfer, sell and restructure all or part of the firm. These powers have been used successfully by the FDIC in the US, and a number of jurisdictions have adopted or have plans to adopt similar powers. The increased international use of bridge institutions is likely to require jurisdictions to recognise bridge banks from other countries, in order that some business functions, such as payment activities, can seamlessly transition to the successor bridge institution.

The bridge institution concept is quite powerful. The FDIC recently published a paper in its Quarterly that described how it could have handled the Lehman bankruptcy using its new powers under the Dodd-Frank Act to resolve systemically important nonbank financial institutions. The FDIC outlines how it could have created a bridge institution for the Lehman holding company, how it could have transferred to the bridge Lehman’s equity holdings in its key subsidiaries, including its major broker/dealers, potentially avoiding their insolvency, and how it could have funded the London broker/dealer, a key problem following Lehman Holdings’ bankruptcy in New York. Selling the broker/dealer

subsidiaries as going concerns would preserve far more of their value and continuity of operations, as illustrated by the sale of most of Lehman's US broker/dealer, which did not immediately enter insolvency.

The FDIC's article offers a promising path toward a workable cross-border insolvency process, a potential solution to a daunting problem, especially when viewed against the meaningful, but small progress made in the efforts of the past two decades. To build out the FDIC's proposed path to a workable cross-border insolvency process requires conforming changes to laws and rules across most jurisdictions. I do not want to minimise the challenges in developing the approach further, but simply highlight its potential to ameliorate a problem we would all like solved.

The FSB also proposes to make the process of recovery planning by firms and resolution planning by financial authorities an important principle. This planning, already underway for many systemically important financial firms, is being carried out by firm-specific crisis management groups, made up of regulators and resolution authorities from the jurisdictions where a given firm has its principal operations. The FSB also sets a broad direction for involving and communicating with host country jurisdictions where the host authorities view the financial firm to be of local systemic importance.

The FSB further proposes that the home country authorities, collaborating and coordinating with the crisis management group, produce an annual resolvability assessment. This assessment would identify a set of impediments to resolution and provide a list of follow-up actions, potentially some for the firm, but also some for the jurisdiction. Progress on the follow-up actions would be assessed in the following year.

The stated goal of the FSB's work is to make possible the resolution of systemically important financial institutions without exposing taxpayers to risk of loss. That will not happen overnight. In my view, we should be striving year by year to improve the feasibility and possibility of cross-border resolution. That means a dynamic assessment process that seeks improvement against the current baseline and addresses key changes in the firm and in the industry that either facilitate or complicate resolution. A stronger, more common resolution framework, a meaningful resolution planning process, and an annual resolvability assessment to ensure progress should make resolution a stronger alternative to government intervention.

IV. Final thoughts on crisis management without government guarantees

Financial authorities are never really out of the crisis management business. The recent US experience with crisis has illuminated vulnerabilities in the US financial system, such as the role and structure of the government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, and the need for reform in the triparty repo market and the money market mutual fund sector.

The systematic search for such points of vulnerability and new ones should be an important and permanent part of the work at the domestic and the international levels by financial authorities. What we need in the financial system is defence in depth, a series of actions both macro- and micro-prudential, that help prevent crises and help us manage them more effectively when they occur. The preventive measures include the new proposed Basel rules on capital and liquidity, intended to make financial institutions more resilient, especially systemically important firms; the international effort to strengthen the market infrastructure and supervisory oversight of financial derivatives; in the US, the extension of comprehensive supervision to systemically important nonbank financial

firms; and our ongoing efforts to reform the GSEs, the triparty repo market and the structure of money market mutual funds.

So let me conclude with some thoughts on the question of how close we might get to crisis management without government guarantees. For me, the paradigm of managing crises was the US response in the early 1990s to its real-estate and leveraged buyout problems; while smaller than the more recent problems, the potential losses then threatened to engulf some of our largest banks. The paradigm consisted of three interconnected elements: identifying and isolating the problem assets for dedicated work-out management; replenishing the capital and liquidity of the firm; and drawing up new and credible business plans demonstrating the future profitability of the firm. The supervisors sought to be pre-emptive and proactive – propelling firms to acknowledge problems and take actions earlier than they might otherwise would have.

Where this paradigm was applied, we avoided failure. That experience illustrates that there is no substitute for early intervention in preserving value in the firm and in limiting externalities and other spillovers. Early intervention calls for strong supervisory oversight, as envisioned by the Basel Committee on Banking Supervision. It is significant that the FSB's Key Attributes paper on resolution highlights the important role of recovery planning by firms. Recovery planning and the dialogue with and among supervisors that accompanies it should facilitate early intervention. The recovery plan will already be on paper and the supervisory dialogue begun even before the firm starts to experience difficulty.

Early intervention will also be essential in resolution if recovery efforts fail. The Key Attributes highlights the need for resolution authorities to be able to act before technical insolvency. Resolution planning should once again facilitate that difficult decision to place a firm into an insolvency proceeding when it is necessary.

Second, government intervention measures such as those I described at the outset cannot substitute for the hard work that goes on in a private restructuring or in resolution. For example, even after the passage of a massive TARP fund and the injection of capital into the largest banks, market pressures continued for some banks, and those pressures only eased with more intervention, the thorough Supervisory Capital Assessment Program, also called the stress tests, for which results were disclosed, and a plan for specific capital actions by some firms. Problems need to be identified, capital and liquidity raised, new business plans put in place and old ones abandoned. Delays in taking and executing these hard, for the firm often life-changing, decisions contribute to the necessity for further intervention.

Third, I believe having some types of contingent arrangements in reserve will continue to be necessary, even with much a much stronger cross-border resolution process. The role of deposit insurance in stemming financial crises is well-documented. A period of multiple financial institution failures, even with a strong resolution process, might trigger the same risk aversion in funding markets that we saw in 2008 and 2009. The ability to backstop key funding markets could prove valuable, and the Dodd-Frank Act preserved for the Fed authority under 13(3) to provide market liquidity facilities even while eliminating other aspects. But in designing these interventions, an exit strategy needs to be clear. Leaving those arrangements in place too long distorts incentives and erodes private market function.

And for those contingent arrangements that are ongoing, such as deposit insurance, measuring the value of the guarantee could be an important test of overall design of the

guarantee and the accompanying monitoring regime. Continuing to refine our ability to value guarantees would provide a useful measure for supervisory authorities and for the deposit insurers, especially when they consider changes to deposit insurance. The value of guarantees also would complement other measures being developed for financial stability monitoring. Further, I suggest that all guarantees should not only be measured, but documented and reported, and not left as implicit.

Fourth, it will still be important to have a set of progressive actions that government can turn to if human judgment or the tools available at a time of incipient financial crisis prevent financial authorities from defusing the crisis. While such measures buy time and cannot substitute for more permanent solutions, sometimes time is the scarce resource. Deterioration in financial conditions - at individual financial institutions and in the economy - is inevitable as a crisis wears on in a financial system, given its leverage. Understanding that, financial authorities should feel great urgency to apply the progressive measures when they are needed, doing so with the force and size that truly arrest the crisis forces, and to entertain the usually difficult measures needed to resolve the fundamental problems behind the crisis.

Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

Sovereign and Banking Sector Debt: Interconnections through Guarantees

by

Arturo Estrella and Sebastian Schich *

Sovereigns effectively provided the function of guarantor-of-last resort in response to the 2008/09 banking crisis, and recent bank funding challenges have led to renewed calls for explicit sovereign bank debt guarantees. The present paper focuses on the interconnections between the values of sovereign and bank debt that arise through sovereign guarantees for banks. We develop a valuation framework based on concepts of contingent claims analysis. In particular, we investigate the value of insurance of risky bank debt when the sovereign providing the guarantee can itself be risky. The framework is in principle applicable both to explicit and implicit guarantees and it is applied here to a measure of implicit external (mostly from the sovereign) support for the debt of a cross-section of 100 large European banks. Consistent with the model, the implicit support is higher, the lower the bank's stand-alone creditworthiness and the higher the sovereign's creditworthiness. These results have implications for pricing sovereign bank debt guarantees, be they provided individually by each sovereign for its domestic banks or by several sovereigns jointly. In the former case, stronger sovereigns should charge higher premiums for their bank debt guarantees for a given bank risk if the aim is to avoid creating distortions to competition. In the latter, they should receive greater allotments of premium incomes even where the share of the guarantees provided are identical among sovereigns.

JEL Classification: E44, G13, G21, G28, H81.

Keywords: sovereign debt, financial guarantees, implicit guarantees, contingent claims analysis, risky guarantors.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

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- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Motivation

The financial crisis has put a sharp spotlight on the use of government-supported guarantees as a policy tool to support financial stability. Together with the provision by some public authorities of additional capital and by central banks of additional liquidity for banks, these measures meant that the sovereign effectively provided the function of the ‘guarantor of last resort’ (Schich, 2009) in response to the banking crisis of 2008/09. The immediate concern was financial stability and these policies were helpful in stabilising markets and institutions.

But guarantees – even if not triggered – are not costless. For the guarantor, they create contingent liabilities, and these liabilities can represent a significant burden. In fact, perceptions of the creditworthiness of some sovereigns have been markedly affected, in an adverse way, by the extent of perceived explicit and implicit support that the sovereign is seen as providing for its banking sector. As a result, the values of sovereign guarantees have suffered. Also, mispriced guarantees create distortions to competition and incentives and produce moral hazard.

While many of the explicit emergency guarantees have been withdrawn already, recent tensions in bank term funding markets have led to renewed calls for the creation of explicit government-supported arrangements for guaranteeing bank debt. Some proposals foresee that the bank debt guarantees be provided jointly by several sovereigns or specific international institutions or facilities, noting that the value of the guarantees that currently could be provided by some weak sovereigns alone would be insufficient to reassure investors of the quality of their domestic banks’ debt.

The present paper focuses on the interconnections between the value of sovereign and banking debt that are created through sovereign guarantees for the banking sector. It explores the interrelationships between sovereign and banking sector debt, developing a valuation framework based on concepts of contingent claims analysis (section II).¹ In particular, it investigates the value of insurance of risky bank debt when the sovereign providing a guarantee can itself be risky. The conceptual approach developed here applies in principle to both explicit and implicit guarantees, and the paper reports the results of an empirical application of the framework to data on external (mostly government) support for the debt of a cross-section of large European banks (section III). Section IV discusses selected policy implications and section V concludes.

II. The conceptual framework

1. *Motivation for the model*

All debt is risky. This principle is generally acknowledged in the modelling of the debt of private entities, including banks, and of debt issued by sovereigns in emerging economies, but is more likely to be downplayed or even overlooked in the case of sovereign debt or debt guarantees in more advanced economies. However, as Gray, Merton, and Bodie (2007) contend, the ability of the sovereign to pay off its debt or to make good on guarantees on private sector debt can play a major role in the valuation and risk assessment of private sector debt instruments.

Merton (1974) developed a framework for the valuation of risky debt of a single issuer, which has been applied and extended in various ways in the finance literature. The Merton (1974) approach, for instance, forms the theoretical basis for the well-known

KMV ratings, as indicated in Crosbie and Bohn (2003). The framework is particularly helpful in the case of banks, which tend to have thin capital margins (high leverage) and thus a propensity for large proportional equity losses in response to changes in asset value. See, for instance, Kealhofer (2002) for an application of KMV methods to banks.

We are concerned in this article with the valuation and risk assessment of bank debt guaranteed by a sovereign. Thus, our model is designed to include two sources of risk, as well as the correlation between them. In that sense we follow the theoretical lead of Gray, Merton, and Bodie (2007), though in that paper they only model explicitly one source of risk. Other earlier work has extended Merton's (1974) approach to two sources of risk. For example, Johnson and Stulz (1987) calculate the value of a debt guarantee provided by a risky guarantor under the assumption that the latter has no debt outstanding. Lai (1992) proposes an approximate closed-form expression for the value of such a guarantee, also under the assumption that the guarantor has no debt, and provides numerical results in the case in which the guarantor has nonzero debt.

Our approach is a general extension of the Merton (1974) model to two sources of risk, possibly correlated, using a bivariate counterpart to Merton's univariate stochastic assumptions. The resulting form of the model does not lend itself to closed-form expressions for the value of guaranteed debt, so we generate numerical values from a calibrated version of the model. Since the empirical distributions of financial asset returns have been shown to be prone to leptokurtosis or "fat tails," we also consider the effects of such stochastic properties on the robustness of our results.

Subsection 2, which follows, presents technical details of the model and subsection 3 provides numerical valuation results and sensitivity analysis.

2. *Model*

Our model includes two agents operating in a single-country setting, a bank and the sovereign, and both issue risky debt. For valuation purposes, we consider the debt of each agent on a standalone basis, but our main focus is on the debt of the bank under the assumption that the sovereign provides a financial guarantee. We look at the bank's debt from the perspective of an investor in the bank, with or without a guarantee. As to the guarantor, our assumption here is that the sovereign's own liabilities are senior to its guarantee of bank debt. Thus, the guarantee does not directly affect the value of the sovereign's direct debt issuance. Other assumptions are possible and could induce changes in the valuation of sovereign debt, but we leave those alternatives for future research.

We compute the value of debt for each entity using contingent claims pricing. For the bank, we consider both the stand-alone value and the value if there is a guarantee from the sovereign. For simplicity, we consider a one-period model in which debt is issued at time 0 and matures at time 1. The assets of the bank and the sovereign evolve as a bivariate continuous-time Wiener process, which is a direct extension of Merton (1974). The distribution of time 1 assets is bivariate lognormal, which leads to straightforward numerical calculations, though not in general to closed-form solutions.

For stand-alone bank debt, the payoff at time 1 is

$$R_B = \begin{cases} L_B & \text{if } A_B \geq L_B \\ A_B & \text{if } A_B < L_B \end{cases}, \quad (1)$$

where A_B and L_B are the assets and liabilities (face value of debt) of the bank. The payoff may also be expressed as

$$R_B = L_B - \begin{cases} 0 & \text{if } A_B \geq L_B \\ L_B - A_B & \text{if } A_B < L_B \end{cases}, \quad (2)$$

where the second term is equivalent to a put option on the bank's assets with strike price equal to its debt.

In some earlier analyses of sovereign debt guarantees, the sovereign is assumed to be risk free. Here we follow, for example, the theoretical discussion in Gray, Merton, and Bodie (2007) and assume that the sovereign's assets are also subject to risk and that its debt is therefore risky. By analogy to the bank case, the payoff of sovereign debt is

$$R_S = \begin{cases} L_S & \text{if } A_S \geq L_S \\ A_S & \text{if } A_S < L_S \end{cases} \quad (3)$$

and it also has a put option interpretation corresponding to (2). Gray, Merton, and Bodie (2007) suggest that we can think of sovereign assets as foreign reserves, net fiscal assets, and other public assets, and that sovereign liabilities may include foreign-currency debt, local-currency debt, base money, and guarantees.

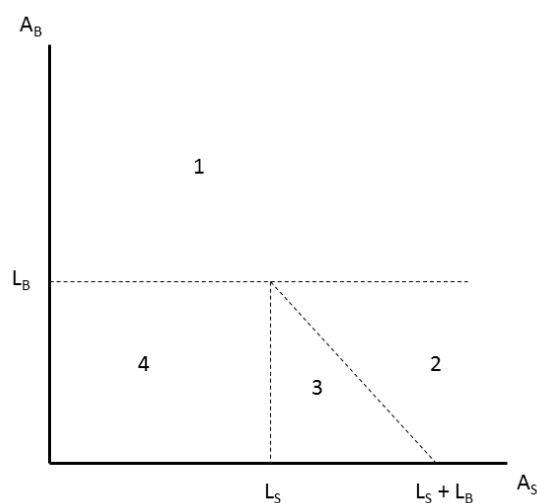
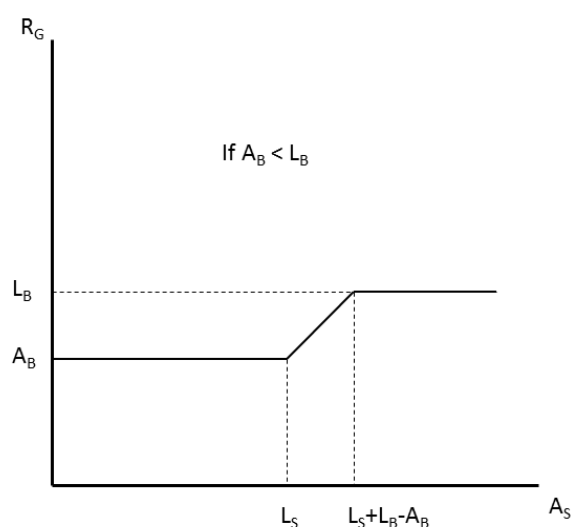
In addition to its direct liabilities, the sovereign may also provide a guarantee on the debt of the bank. In this case, sovereign assets at the end of the period, if they exceed sovereign liabilities, may be used to cover any shortfall of bank assets in covering the face value of bank debt. As noted earlier, we assume that the sovereign's own debt is senior to the bank guarantee. Thus, the payoff for guaranteed bank debt is as summarised in Table 1.

Table 1. Conditional payoffs for bank debt guaranteed by the sovereign

Case	Payoff R_G is	If
1	L_B	$A_B \geq L_B$
2	L_B	$A_B < L_B$ and $A_S \geq L_S + L_B - A_B$
3	$A_B + A_S - L_S$	$A_B < L_B$ and $L_S \leq A_S < L_S + L_B - A_B$
4	A_B	$A_B < L_B$ and $A_S < L_S$

The regions of the (A_S, A_B) plane corresponding to these four cases are illustrated in Figure 1.

If the bank has sufficient assets at the end of the period to pay off all its debt, the assets of the sovereign are not relevant for the repayment of bank debt. If the bank has insufficient assets to cover its debt, the sovereign guarantee essentially provides a collar whereby the investor receives a payoff with a floor of A_B and a ceiling of L_B , as shown in Figure 2.

Figure 1. Regions with different payoffs R_G on guaranteed bank loan

Figure 2. Payoff on guaranteed bank debt when $A_B < L_B$


We price the bank and sovereign debt using the extended Merton (1974) methodology, making the following assumptions.

1. Both the bank and the sovereign have debt outstanding. (In contrast to earlier work in which the sovereign is frequently assumed to have no debt.)
2. Sovereign debt is senior to the bank guarantee.
3. Bank and sovereign assets follow a bivariate Wiener process and their values are jointly lognormal. (In contrast to some earlier work that assumes the sovereign is risk-free.)

4. A closed-form solution for guaranteed debt is not feasible since it involves the sum of lognormal variables. We therefore use numerical integration of the exact bivariate lognormal density.
5. We apply risk-neutral valuation as in Merton (1974).

Box 1 provides technical details of the valuation methodology.

Box 1. Pricing bank and sovereign debt

For risk-neutral valuation purposes, we use the bivariate Wiener process

$$\begin{bmatrix} dx/x \\ dy/y \end{bmatrix} = \begin{bmatrix} r - \frac{1}{2}\sigma_B^2 \\ r - \frac{1}{2}\sigma_S^2 \end{bmatrix} dt + \Sigma dW \quad (4)$$

where x and y correspond to bank and sovereign assets, respectively, dW is two-dimensional standard Brownian motion, and

$$\Sigma\Sigma' = \begin{bmatrix} \sigma_B^2 & \rho\sigma_B\sigma_S \\ \rho\sigma_B\sigma_S & \sigma_S^2 \end{bmatrix} \quad (5)$$

For example, Σ could be the Cholesky decomposition of $\Sigma\Sigma'$ in (5), that is,

$$\Sigma = \begin{bmatrix} \sigma_B & 0 \\ \rho\sigma_S & \sqrt{1-\rho^2}\sigma_S \end{bmatrix} \quad (6)$$

The joint lognormal density function for asset values at time τ is then:

$$f(x, y) = \frac{1}{2\pi\sigma_B\sigma_S\tau\sqrt{1-\rho^2}} \frac{1}{xy} \exp\left(-\frac{u(x)^2 + v(y)^2 - 2\rho u(x)v(y)}{2(1-\rho^2)}\right) \quad (7)$$

where $u(x) = (\log(x) - (r - \frac{1}{2}\sigma_B^2)\tau) / \sigma_B\sqrt{\tau}$ and $v(y) = (\log(y) - (r - \frac{1}{2}\sigma_S^2)\tau) / \sigma_S\sqrt{\tau}$.

The payoff at time τ of stand-alone bank debt is given by (1) and its value is obtained from the marginal distribution $f_B(x) = \int_0^\infty f(x, y)dy$ implied by (7):

$$V_B = e^{-r} \left[\int_{L_B}^\infty L_B f_B(x) dx + \int_0^{L_B} x f_B(x) dx \right] \quad (8)$$

The payoff at time τ of sovereign debt is given by (3) and its value is similarly obtained from the marginal distribution $f_S(y) = \int_0^\infty f(x, y)dx$ implied by (7):

Box 1 (cont'd). Pricing bank and sovereign debt

$$V_S = e^{-r} \left[\int_{L_S}^{\infty} L_S f_S(y) dy + \int_0^{L_S} y f_S(y) dy \right] \quad (9)$$

For bank debt guaranteed by the sovereign, the payoff at time τ is given by Table 1 and its value is obtained from the bivariate distribution (7) as

$$V_G = e^{-r} \left[\int_0^{\infty} \int_{L_B}^{\infty} L_B f(x, y) dx dy + \int_{L_B+L_S-x}^{\infty} \int_0^{L_B} L_B f(x, y) dx dy \right. \\ \left. + \int_{L_S}^{L_B+L_S-x} \int_0^{L_B} (x + y - L_S) f(x, y) dx dy + \int_0^{L_S} \int_0^{L_B} x f(x, y) dx dy \right] \quad (10)$$

The four double integrals in equation (10) of that box correspond to the respective four rows of Table 1 and four regions in Figure 1.

3. *Sensitivity of bank debt guaranteed by the sovereign to changes in variable or parameter values*

To analyse the characteristics of the proposed model and examine its implications for debt guarantees, we provide numerical results based on the following calibration of model parameters. Parameters in the illustrations assume the following base case values unless otherwise noted. We take the time period loosely to represent one year and the riskless interest rate to be 3 per cent on a per-period compounded basis. The value of bank assets is 100 at time 0 and the face value of bank liabilities, payable at time 1, is 95. Although these values seem to indicate that the bank has formally a 5 per cent capital ratio, when discounting and risk are taken into account, the true value of the capital ratio is closer to 12 per cent.

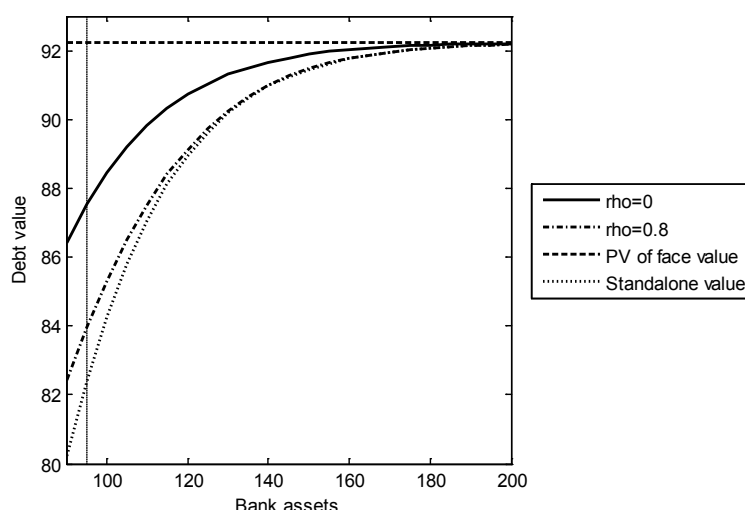
We take time 0 sovereign assets to be 200 and the face value of sovereign liabilities to be 180. The volatility of asset returns is 0.3 for both the bank and the sovereign. For the correlation of bank and sovereign asset returns, which we denote as “rho”, we look at two cases, zero and 0.8. A higher correlation tends to undercut the value of the sovereign’s debt guarantee, since the sovereign’s financial position would tend to be unfavourable when a potential bank default occurs.

Figure 3 shows the value of bank debt as a function of the initial value of bank assets, as the latter varies from 90 to 200, with all other parameter values fixed at the base case levels. The vertical dotted line indicates the base case face value of liabilities. Debt values are presented under four different sets of assumptions. An upper bound is given by the present value (PV) of face value, which corresponds to the assumption that the debt is riskless (dashed line). This value is independent of initial bank assets. A lower bound is provided by the standalone value of the debt, which assumes that there is no guarantee from the sovereign or any other source (dotted line).

When there is a guarantee from the sovereign, the value of the guarantee depends on the correlation between bank and sovereign assets, as noted earlier. When the correlation is high (rho= 0.8), the uplift in bank debt value provided by the guarantee is very modest, as indicated by a comparison of the standalone value and the guaranteed value (dash-dot

line). A much more substantial effect on the value of the guarantee occurs when the correlation is zero, in which case the financial state of the guarantor is independent from that of the bank and the sovereign may be in good shape to cover the payment of bank debt when the bank is in a default state.

Figure 3. Sensitivity of bank debt value to changes in initial bank assets



Note that, in all but the riskless case, the sensitivity of the value of debt to bank asset value (the bank asset “delta”) is substantially larger for lower asset values. This sensitivity approaches zero as the initial value of bank assets grows well beyond the base case value of 100. This nonlinearity means that the value of debt becomes more volatile as the condition of the bank deteriorates.

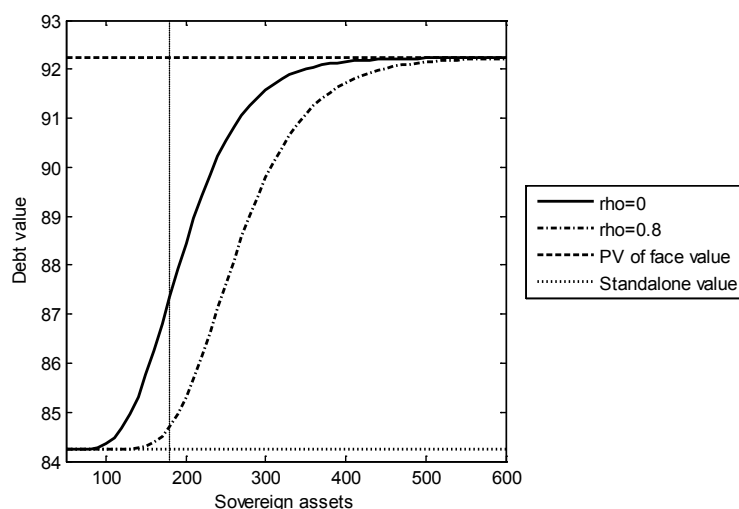
We next perform a similar exercise by letting the initial value of sovereign assets vary from 50 to 600, with the value of bank assets and all other parameters at their base case levels. Results appear in Figure 4. Once again we show the upper and lower bounds given by the present value of face value and the standalone value, respectively, which in this case are both independent of sovereign asset value and appear as horizontal lines. The vertical dotted line represents the base case face value of sovereign liabilities.

As in the case of the sensitivity to bank assets, sensitivity to sovereign assets grows nonlinearly from the lower to the upper bound. However, the nonlinearity in this case is different in that bank debt value is less sensitive when sovereign assets are low as well as high. Sensitivity is much higher in an intermediate range of sovereign asset values. In practical terms, this means that changes in the financial condition of the sovereign have little import for bank debt both when the sovereign’s financial condition is very strong (the guarantee makes bank debt close to riskless) and very weak (the guarantee is close to worthless). In the intermediate range, it is clear again that the uplift provided by the sovereign is less if the assets of the two agents are more highly correlated.

From a real-world empirical point of view, we are very interest in the uplift that a sovereign guarantee can provide for bank debt, which we examine in Figure 5. This three-dimensional figure shows the uplift in the value of bank debt, that is, the difference between the guaranteed and standalone values as a function of both bank and sovereign assets. The correlation is zero in the figure. The shape of the function is qualitatively the

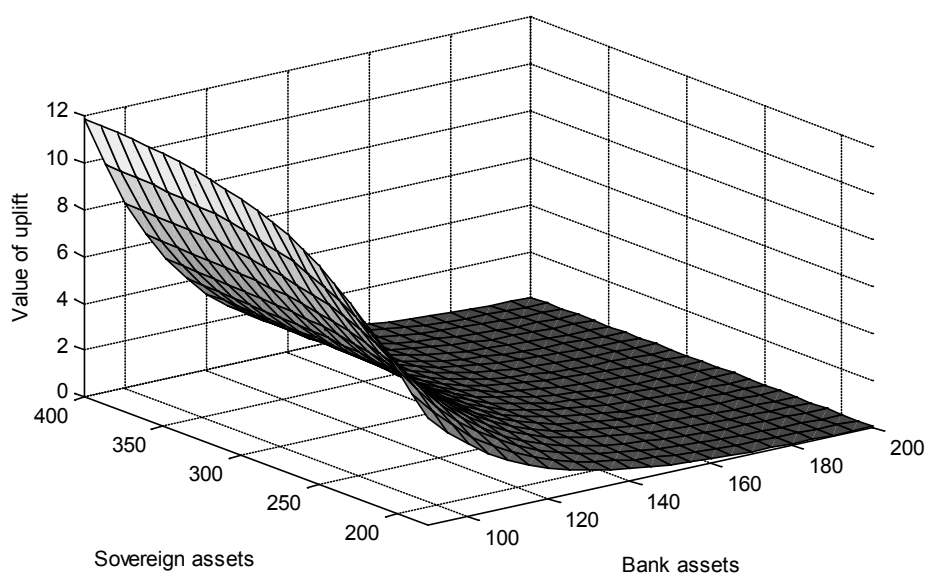
same if the correlation is higher (for example, 0.8), but the numerical values of the uplift are lower.

Figure 4. Sensitivity of bank debt value to changes in initial sovereign assets



Figures 3-4 show that the value of guaranteed bank debt is positively related to the values of both bank and sovereign assets. In contrast, we see in Figure 5 that while the uplift is also positively related to sovereign assets, it is negatively related to bank assets. Intuitively, a sovereign in better financial condition is better able to support bank debt, whereas a bank in worse financial condition stands to gain more from a guarantee than one in better shape. We see in Section III that this type of relationship holds empirically when debt values are proxied by ratings from the credit agencies.

Figure 5. Sensitivity of value of uplift to changes in initial bank and sovereign assets



The sensitivities of bank debt to other parameters of the model are largely straightforward. For instance, the value of guaranteed bank debt responds positively to increases in the scale of the sovereign if the financial condition of the sovereign (ratio of assets to liabilities) is held fixed. That is, a large country can take better care of a small bank than when the sizes are reversed.

Higher volatility of sovereign assets means that the guarantee is riskier, decreasing the value of bank debt correspondingly. Higher volatility of bank assets also has in general a negative effect on the value of bank debt, but non-monotonic relationships have been observed by, for example, Stulz and Johnson (1985) and Lai (1992) when the asset return correlation is close to -1 or when the ratio of bank to sovereign volatility is either very large or very small. We find limited evidence of these results if we start from our base case calibration.

The effect of changes in asset correlation is generally as indicated in Figures 3-4 and discussed earlier, even if the correlation is negative. Lower correlation provides a kind of diversification effect and enhances the value of the guarantee and the value of bank debt.

III. Empirical analysis: Implicit sovereign support for large European banks

1. *The data: Credit rating uplifts due to assumed external support*

The model described in the previous section implies that the uplift in the value of bank debt due to a sovereign guarantee is a positive function of the level of sovereign assets and a negative function of the level of bank assets. Conceptually, this implication applies regardless of whether the guarantee is explicit or implicit, as long as the latter is known. We test these implications using data on the assumed external support for a sample of 100 large European banks. In particular, our data consist of Standard & Poor's estimates of the standalone credit profile and the credit rating uplift due to assumed external support in the case of the 100 largest European banks rated by that agency, as published in April 2011 (Standard & Poor's, 2011a). Similar data on rating uplifts have been used recently in a growing number of studies to proxy the extent of implicit guarantees to banks (see *e.g.* CGFS, 2011; Packer and Tarashev, 2011).

For some time now, credit rating agencies have rated banks by explicitly factoring in an estimate of the external support that the bank under consideration receives, either from its parent or from public authorities. In fact, rating agencies provide two types of ratings for a bank. First, an "issuer credit rating" (ICR) that factors in the possibility and likelihood of external support that the bank under consideration receives from its parent or public authorities, when needed. Second, an "intrinsic strength" or "stand-alone" rating (SACP) that abstracts from such support. The difference between the two types of ratings is referred to here as UPLIFT. Thus,

Stand-alone credit rating (SACP) + credit rating uplift (UPLIFT) = issuer credit rating (ICR).

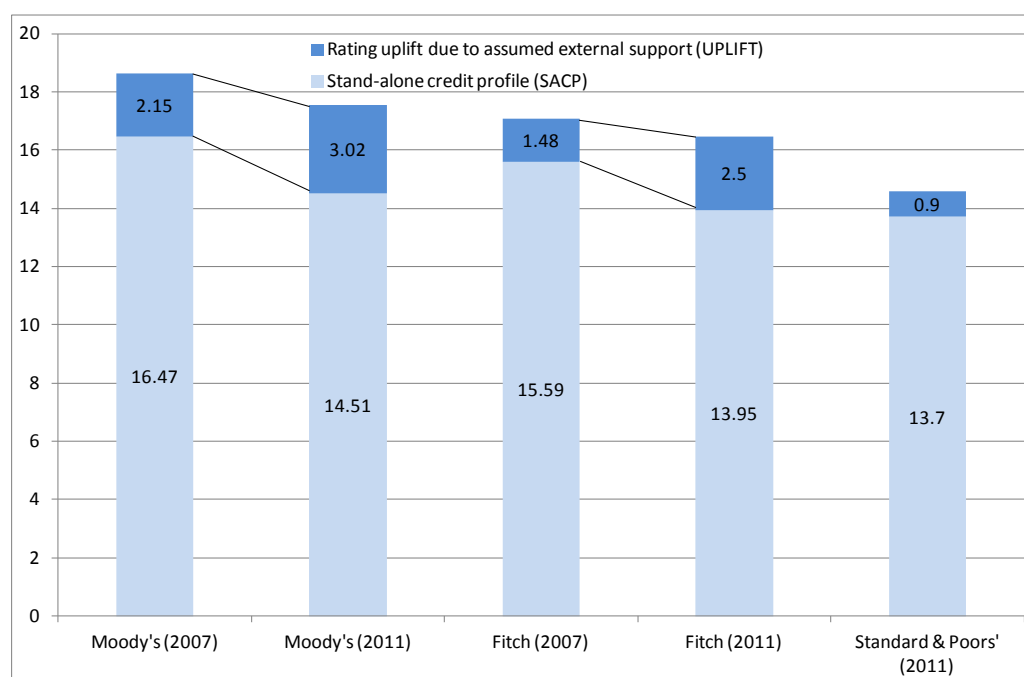
In our sample, the difference between these two ratings, that is, the credit rating UPLIFT, is typically either zero or positive, but it can also be negative. Out of 100 banks, 46 enjoy a positive UPLIFT. Two banks, both from the United Kingdom, are characterised by a negative UPLIFT.² Note that standalone ratings abstract not just from sovereign guarantees but also from other external effects, such as guarantees and drags from a parent company.

A positive UPLIFT reflects the existence of explicit or perceived implicit support from either the parent or the government, or other favourable factors such as access to central bank liquidity and emergency liquidity support. Whatever the specific form that the external support might take, it effectively facilitates the issuer's servicing of its debt, and is thus functionally equivalent to an implicit guarantee for that debt. By far the most important element is the assumed support from the government and, therefore, this difference is now commonly used as an empirical measure of the extent of explicit or implicit support from the government (see *e.g.* CGFS, 2011 and Packer and Tarshev, 2011).

In our sample, the average issuer SACP in numerical values)³ is 13.70, while the average UPLIFT is 0.90. Thus, the average ICR is 14.60. The data are shown in Figure 6, together with broadly similar data from Moody's and Fitch for 2007 and 2011 (see notes to the Table). Given the differences in samples and methods used, the estimates are not strictly comparable across agencies. They show nonetheless that, over time, UPLIFT is negatively related to SACP, which is consistent with our model.

Figure 6. Changes in stand-alone and all-in ratings of large international banks

Numerical equivalents of average stand-alone ratings and rating uplifts



Notes: The Figure provides numerical approximations of stand-alone credit profiles and credit rating uplifts due to assumed external support, according to estimates by credit rating agencies. Credit ratings are translated into numbers, with AAA or Aaa equal to 20, AA+ or Aa1 equal to 19, and so forth. The data shown for Moody's and Fitch (obtained from Packer and Tarashev, 2011) are equally-weighted averages of individual country averages for six European countries (Germany, France, Italy, Spain, Switzerland, United Kingdom) and four non-European countries (Australia, Canada, Japan, United States). The data shown for Standard & Poor's (obtained from Standard & Poor's, 2011) are averages of individual bank stand-alone credit profiles and rating uplifts for a sample of the 100 largest banks rated by that agency.

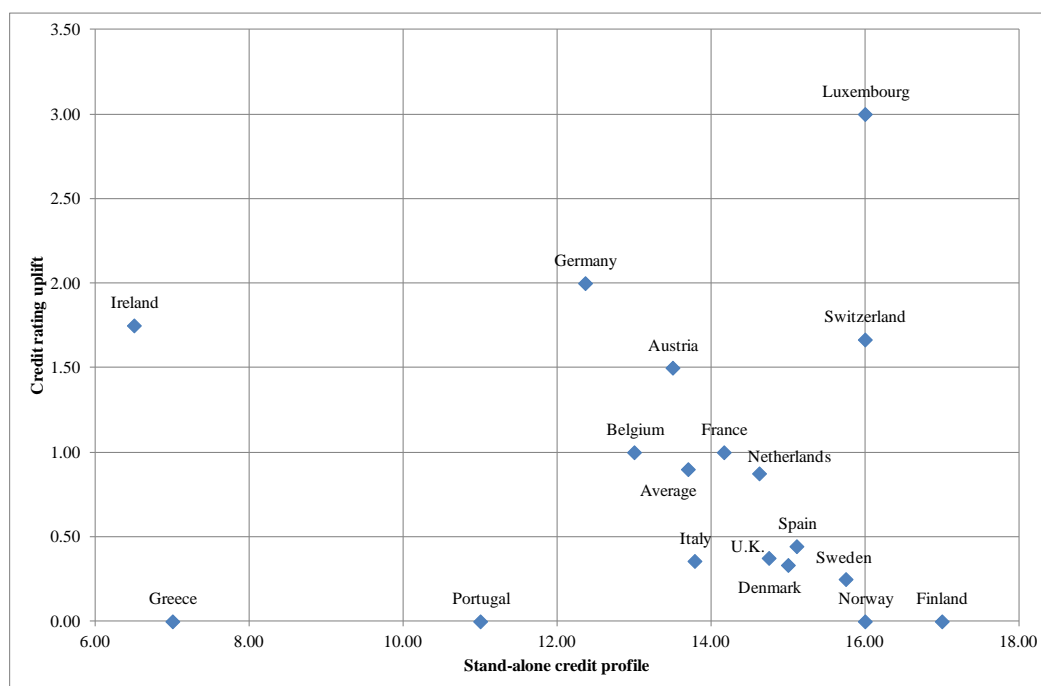
Source: Authors' estimates based on Standard & Poor's (2011) and Packer and Tarashev (2011).

2. Differences in implicit support assumptions across countries

Figure 7 shows the averages of SACP and UPLIFT per country in our sample. The figure illustrates that the average UPLIFT of bank debt ratings differs from one country to another. In some countries, the average uplift is equal to zero (Greece, Portugal, Norway, and Finland), in others it is at least a notch and a half (Ireland, Germany, Austria, Switzerland, and Luxembourg), while elsewhere the uplift is positive but smaller than one and a half notch.

Figure 7. Stand-alone credit profile and rating uplift

Country averages, 100 largest European banks rated by S&P, as of April 2011



Source: Authors's estimates based on Standard & Poors' (2011).

Based on these two dimensions, one could define a country's banking sector as falling into one of four categories, defined by whether the bank is "relatively weak" or "relatively strong" and whether it enjoys "strong sovereign support" or "limited or no sovereign support". An arbitrary criterion is used here for simplicity for each of the two dimensions, namely an intrinsic strength rating of 12 (that is, the equivalent of "BBB"), and an uplift of 1.25 notches. Applying these criteria to our sample, Table 2 shows how the four different areas are populated by the countries under consideration. While providing some additional insight, the classification should be viewed with caution, as it is based on country *averages* and refers to a specific point in time, whereas individual banks exhibit substantial differences (see *e.g.* Appendix 1). We explore these differences further in the next sub-section.

Table 2. Assumptions about standalone ratings and strength of support
Country averages, 100 largest European banks rated by S&P, as of April 2011

	Relatively weaker banking sector, <i>i.e.</i> average stand-alone credit profile equal to or below BBB	Relatively stronger banking sector, <i>i.e.</i> average stand-alone credit profile above BBB
Strong sovereign support, <i>i.e.</i> credit rating uplift exceeding 1.25 notches	Ireland	Austria, Germany, Luxembourg, Switzerland
Limited or no sovereign support, <i>i.e.</i> credit rating uplift below 1.25 notches	Greece, Portugal	Belgium, Denmark, Finland, France, Italy, Netherlands, Norway, Spain, Sweden, United Kingdom

Notes: BBB is equivalent to 12 notches.

Source: Authors' assessments of data shown in Figure 7 and assumptions given above, based on data from Standard & Poors' (2011).

3. Individual issuer "credit uplift" and the role of the sovereign

The relationship between the uplift and the identity of the sovereign is further analysed using simple OLS cross-section regressions based on the 100 observations of our sample.⁴ We first estimate a linear regression of UPLIFT on SACP with a dummy variable for each of the sovereigns, and then eliminate the country with the median coefficient estimate (Spain) from the subsequent regression specification. Instead, a constant term is added to capture the median. This specification implies that the estimated coefficients for the sovereign dummies indicate the relative contribution of the respective sovereign to the UPLIFT of the issuer, compared to the median. The results are shown in Table 3.

For many countries, the estimated dummy coefficient is not significantly different from zero, which means that the country-specific uplift is similar to that for the median. The estimated country-specific UPLIFT is significantly higher, however, in the case of Germany, Luxembourg, and Switzerland, with the estimated dummy variable coefficients in the latter two being significant at the 1 per cent level. By contrast, the country-specific UPLIFT is significantly lower in the cases of Greece and Portugal, at the 1 and 5 per cent level, respectively.

As regards the intrinsic strength of banks, SACP, the estimated coefficient is negative as suggested by the model described in section II. The estimated coefficient is also highly significant: relatively weaker banks tend to benefit from a greater UPLIFT than do relatively stronger banks.

In another regression exercise, the sovereign credit rating, henceforth referred to as SCR, is included in the specification instead of the sovereign dummy variables.⁵ The results are shown in Table 4. The estimated coefficient for that variable is positive and highly significant. That is, the UPLIFT tends to be greater, the better the sovereign credit rating. This finding is also consistent with the model implications. The coefficient estimate for SACP remains similar in value as in the previous regression, and it is also significant at the 1% level. The two variables explain close to 30 per cent of the variation in the dependent variable, which appears considerable given the simplicity of the empirical model.⁶

Table 3. Regression of UPLIFT on stand-alone credit rating and country dummies

Country dummy for Spain excluded

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Probability</i>
Constant	4.04***	0.88	4.58	0.00
Issuer stand-alone credit rating (SACP)	-0.24***	0.05	-4.40	0.00
<i>Country dummies:</i>				
Austria	0.67	0.78	0.86	0.39
Belgium	0.05	0.78	0.07	0.95
Denmark	-0.14	0.66	-0.21	0.84
Finland	0.01	1.05	0.00	1.00
France	0.33	0.44	0.75	0.45
Germany	0.90*	0.47	1.92	0.06
Greece	-2.37***	0.74	-3.21	0.00
Ireland	-0.74	0.76	-0.98	0.33
Italy	-0.40	0.43	-0.94	0.35
Luxembourg	2.77***	1.05	2.65	0.01
Netherlands	0.31	0.48	0.65	0.52
Norway	-0.23	1.05	-0.22	0.82
Portugal	-1.42**	0.64	-2.24	0.03
Sweden	-0.04	0.60	-0.07	0.94
Switzerland	1.43***	0.44	3.26	0.00
United Kingdom	-0.16	0.48	-0.32	0.75
R-squared	0.45	Mean dependent var		0.90
Adjusted R-squared	0.34	S.D. dependent var		1.22
Std. error of regression	0.99	Log likelihood		-131.07

Notes: ***, **, and * denote significance at the 1, 5, and 10 per cent level, respectively.

Source: Authors' estimates.

Table 4. Regression of UPLIFT on stand-alone credit ratings and sovereign ratings

Ordinary Least Squares

<i>Variable</i>	<i>Coefficient</i>	<i>Std. error</i>	<i>t-Statistic</i>	<i>Probability</i>
Constant	0.01	0.62	0.01	0.99
Issuer stand-alone credit rating (SACP)	-0.24***	0.04	-5.52	0.00
Sovereign credit rating (SCR)	0.23***	0.04	5.55	0.00
R-squared	0.28	Mean dependent variable		0.90
Adjusted R-squared	0.27	S.D. dependent variable		1.22
Std.error of regression	1.04	Log likelihood		-144.67

Notes: ***, **, and * denote significance at the 1, 5, and 10 per cent level, respectively.

Source: Authors' estimates.

This observation is noteworthy given that neither the stand-alone credit profiles nor the issuer credit ratings are the direct outcome of quantitative models, even if the latter do certainly influence the ratings. In fact, Packer and Tarashev (2011) explain that “ratings are opinions about the creditworthiness of a rated entity, be it a sovereign or an institution. They reflect both quantitative assessments of credit risk and the expert judgment of a ratings committee. Thus, no rating can be unequivocally explained by a particular set of data inputs and formal rules.” Against the background of this assessment, it is remarkable that a simple empirical model explains a considerable amount of the variation in the credit rating uplift due to assumed external support.

Quantitatively, the influences of the standalone bank rating SACP and the sovereign rating SCR on UPLIFT are statistically significant but economically somewhat modest in size. For each of the variables, a difference in rating of four notches corresponds to a difference in UPLIFT of a single notch, positive for SCR and negative for SACP.

One potential issue with the above specification is that the sovereign rating, SCR, might be determined simultaneously with the credit rating uplift, UPLIFT. If that were the case, the coefficient reported in Table 4 for SCR would not be a consistent estimate of the true effect of SCR on UPLIFT. To address the issue, we use a sovereigns’ gross debt as an instrument for the sovereign credit rating.⁷ We use the Generalised Method of Moments to estimate the effect of (a constant and) SACP and SCR on UPLIFT, using (a constant and) SACP and GROSSDEBT as instruments. The results are shown in Table 5. The estimated coefficients of the marginal effect of SACP and SCR are larger in absolute values and continue to be highly significant. In this case, the coefficients are closer to a 2 to 1 relationship between the standalone and sovereign ratings and the UPLIFT effect.

Table 5. Regression of UPLIFT on stand-alone credit ratings and sovereign ratings

Generalised Method of Moments

Instrument specification:
Constant,
Issuer stand-alone credit rating (SACP), and
sovereign gross debt (GROSSDEBT)

<i>Variable</i>	<i>Coefficient</i>	<i>Std. error</i>	<i>t-Statistic</i>	<i>Probability</i>
Constant	-2.30	1.45	-1.59	0.12
Issuer stand-alone credit rating (SACP)	-0.40***	0.09	-4.34	0.00
Sovereign credit rating (SCR)	0.48***	0.13	3.59	0.00
Std.error of regression	1.22	Mean dependent variable		0.90

Notes: Standard errors and covariance computed using the White weighting matrix. ***, **, and * denote significance at the 1, 5, and 10 per cent level, respectively.

Source: Authors’ estimates.

IV. Policy implications: Pricing sovereign guarantees for bank debt

For a given bank debt issuer, the value of a government debt guarantee differs not just depending on the relationship between the banks' own assets and liabilities, but also on the relationship between the assets and liabilities of the guarantor. The value of a guarantee is given as the difference between V_G and V_B , as defined in equations (10) and (8). Thus, the value of a sovereign bank guarantee depends on the riskiness of the bank and that of the sovereign: The value of a guarantee is higher the stronger the sovereign.

These results have implications for the design of bank debt guarantees provided by individual sovereigns, such as those that were made available in a large number of OECD countries between 2008 and 2010.⁸ At that time, governments undertook efforts to adopt fee structures adjusted for the risk of the issuer or the term of maturity and to make public the fee structures employed in an attempt to avoid creating additional competitive distortions. International coordination has been relatively close as regards the conditions for access to, and the fees charged for, government-supported guarantees for unsecured bank bonds. For example, the ECB Governing Council, on 20 October 2008, provided recommendations for the fee-setting structure for such guarantees, which the United Kingdom and euro area countries have followed. These guidelines specify that premiums need to be determined as functions of the borrowers' credit risk alone, independently of the identity of the guarantor. The stated purpose of the recommendations was to harmonise fee setting structures across countries so as to preserve the level-playing field among financial institutions and avoid market distortions.

Achieving such harmonised fee structures to limit competitive distortions between borrowers is only helpful, however, to the extent that the quality of the guarantor is identical in all those cases. That has not been the case. In fact, differences in sovereigns' financial conditions and creditworthiness have increased during the financial crisis and are now widely recognised.

Under those circumstances, to avoid competitive distortions in a situation where different sovereigns individually provide guarantees for their banks and banking sectors, the fees charged in exchange need to reflect the sovereigns' own creditworthiness. Stronger sovereigns with more limited own debt need to charge higher fees to their domestic banks than weaker sovereigns to their banks if the aim is to avoid distortions to competition and incentives.

There is a view, however, that requiring sovereigns with more limited debt to charge higher premiums might effectively penalise fiscally "virtuous" countries and their domestic banks.⁹ This view seems to be based on the assumption that there are benefits in having domestic banks service the domestic economy, and that a situation in which competition would lead to domestic banks being crowded out by foreign banks would have adverse effects on the quality or quantity of domestic financial intermediation services, thus providing a potential justification for subsidising domestic banks. Whether there is any convincing empirical evidence for such effects is not so clear, nor is it clear whether such effects would be strong enough to justify subsidising banks and committing resources, potentially creating moral hazard. In fact, even if you could neutralise any potential competitive distortions that arise by abstracting from the quality of the guarantor, the question remains as to whether or not a subsidy should be offered. That issue is beyond the scope of the present paper.

There are alternatives to providing sovereign bank debt guarantees while reducing the potential competitive distortions that could arise from the inadequate pricing of such

guarantees in the presence of differences in the quality of sovereigns. One alternative is that any sovereign could provide guarantees not just for their own domestic banks but for any international bank. Obviously, only stronger sovereigns would be in a position to provide such guarantees, while the guarantees that weaker sovereigns could provide would not necessarily add much value to bank debt. The feasibility of such arrangements is also questionable, especially as political and legal issues might prevent sovereigns from guaranteeing the debt of other countries' banking sectors.

Another proposal is for guarantees to be provided jointly by several sovereigns or by specific international institutions or facilities. Such solutions would be helpful to overcome the issue that the credit quality of some weak sovereigns alone is such that investors in bank debt would not be sufficiently reassured. The desirability of such arrangements has been questioned given that their availability may influence incentives on the part of weaker sovereigns to address their own problems and, again, political and legal issues might arise.

While a discussion of these proposals is beyond the scope of the present paper, it is noted here however that the choice of appropriate pricing remains an issue, regardless of whether the guarantees are provided across borders, individually or jointly by several sovereigns. Our conceptual approach, here developed in a single-country setting, can be extended to a multi-country context to address questions regarding the value (and pricing) of joint sovereign guarantees and the value of the individual sovereign marginal contributions to those values.

Finally, our results also shed some light on the discussion of the too-big-to-fail issue. Large interconnected banks that are considered either too big or too interconnected to fail enjoy a funding advantage compared with smaller entities that do not or are not expected to benefit from external support from the government. Obviously, this advantage can be larger the stronger the sovereign is.

V. Concluding remarks

Based on a contingent claims model to value sovereign guarantees of bank debt, this paper demonstrates that the value of a guarantee of risky debt depends both on the characteristics of the borrower and the guarantor. For a given bank, the value of a government guarantee for its debt decreases with the bank's creditworthiness and increases with the sovereign's creditworthiness. These implications are consistent with our empirical findings. For a sample of 100 large European banks, we find that a measure of implicit sovereign support is higher, the lower the bank's own stand-alone creditworthiness and the higher the sovereign's creditworthiness.

These results have implications for the pricing of sovereign guarantees for bank debt. In a situation where such guarantees are provided separately by each sovereign to its domestic banks, to avoid creating additional competitive distortions, the fees each sovereign charges its domestic banks for debt guarantees need to reflect the sovereign's own creditworthiness. Stronger sovereigns need to charge higher fees than weaker sovereigns. In a situation where bank debt guarantees are provided jointly by several sovereigns, the allotment of premium income among the participating sovereigns should reflect each sovereign's creditworthiness. Stronger sovereigns should receive higher shares of premium incomes than weaker sovereigns even for identical amounts of committed or used guarantees.

APPENDIX 1: STAND-ALONE CREDIT PROFILES AND RATING UPLIFTS FOR DIFFERENT BANKING SECTORS

100 largest European banks rated by S&P, as of April 2011

	Maximum stand-alone credit profile	Minimum stand-alone credit profile	Maximum uplift (in notches)	Minimum uplift (in notches)
Netherlands	AAA	BBB	2	0
Spain	AA	BBB	2	0
France	AA	BB+	5	0
U.K.	AA	BB+	2	-1
Finland	AA-	AA-	0	0
Sweden	AA-	A-	1	0
Switzerland	AA-	BBB+	3	0
Luxembourg	A+	A+	3	3
Norway	A+	A+	0	0
Denmark	A+	A-	1	0
Italy	A+	BBB-	2	0
Germany	A+	BB-	5	0
Austria	A-	BBB+	2	1
Belgium	BBB+	BBB+	2	0
Portugal	BBB-	BBB-	0	0
Ireland	BB-	CCC	2	1
Greece	B+	B+	0	0

Source: Authors' estimates based on Standard & Poors' (2011).

APPENDIX 2: RESULTS OF REGRESSION OF UPLIFT ON STAND-ALONE CREDIT RATING AND SOVEREIGN CREDIT RATING AND COUNTRY DUMMIES

100 observations, country dummy for Spain excluded

Variable	Coefficient	Std. Err	t-Statistic	Prob.
Issuer stand-alone credit rating (SACP)	-0.24***	0.05	-4.40	0.00
Sovereign credit rating (SCR)	0.22***	0.05	4.58	0.00
<i>Country dummies:</i>				
Austria	0.22	0.81	0.28	0.78
Belgium	-0.17	0.80	-0.21	0.83
Denmark	-0.59	0.69	-0.85	0.40
Finland	-0.44	1.06	-0.42	0.68
France	-0.12	0.49	-0.24	0.81
Germany	0.45	0.53	0.85	0.40
Greece	-0.13	0.52	-0.25	0.80
Ireland	0.38	0.60	0.63	0.53
Italy	0.05	0.40	0.12	0.91
Luxembourg	2.32**	1.06	2.19	0.03
Netherlands	-0.13	0.52	-0.26	0.80
Norway	-0.68	1.06	-0.64	0.52
Portugal	0.15	0.54	0.27	0.79
Sweden	-0.49	0.62	-0.79	0.43
Switzerland	0.98**	0.47	2.11	0.04
United Kingdom	-0.60	0.52	-1.16	0.25
R-squared	0.45	Mean dependent var		0.90
Adjusted R-squared	0.34	S.D. dependent var		1.22
S.E. of regression	0.99	Log likelihood		-131.07

Notes: ***, **, and * denote significance at the 1, 5, and 10 per cent level, respectively.

Source: Authors' estimates.

NOTES

- ¹ The present paper focuses on the valuation of financial sector guarantees, taking into account sovereign and banking debt interconnections. At the April 2011 meeting of the OECD Committee on Financial Markets (CMF), delegates asked that this issue be addressed in the CMF's future work on financial sector guarantees. Related work on the interconnections between bank debt and the sovereign include *e.g.* Panetta et. al. (2009), CGFS (2011) and Campolongo (2011).
- ² One is the FCE Bank, which is a captive finance subsidiary of Ford Motor Co, with the subsidiary having a stronger rating than its parent. The FCE Bank is a regulated entity, where the regulatory and legal framework limits the parental influence or the extension of bankruptcy proceedings from the parent to the subsidiary. The subsidiary's business franchise is nonetheless inextricably linked to the fortunes of its (weaker) parent and Standard & Poor's expect that, were the parent to experience severe stress, it would inevitably have an adverse effect on the activity and asset quality of the captive, including through parent-related credit exposures. The other bank with a negative UPLIFT is HSBC Holding Plc, which is a holding company, with its banks being operating subsidiaries. Claims on the holding company are subordinated compared to claims on the operating bank subsidiaries and, therefore, the holding company's ICR is not considered as strong as its SACP.
- ³ The mapping is as follows: AAA is equivalent to 20, AA+ is equivalent to 19, and so forth. Each change from one to the adjacent credit rating category is henceforth referred to as one "notch".
- ⁴ We also considered a sample with 97 observations, where the three observations with just one bank per country (Finland, Luxembourg, Norway) were dropped so as to focus on the variation among issuers within each country. The qualitative results were very similar and the fit of the regressions even higher.
- ⁵ The data are from Standard&Poor's (2011b) and the ratings categories are transformed into numerical values in the same way as the data on stand-alone credit profiles and issuer credit ratings of banks.
- ⁶ To check whether that results holds even when controlling for country effects, we introduce country dummy variables (except for Spain) again and drop the general constant. The results are similar to those shown in Table 4, while the adjusted R-squared increases. The results are included for reference in Appendix 2.
- ⁷ We consider the logarithm of "general government gross financial liabilities, as a percentage of GDP" from the OECD's Economic Outlook Database.
- ⁸ For a discussion see *e.g.* Levy and Schich (2010).
- ⁹ According to this view, expressed by one delegate at the meeting of the CMF in April 2010, in order to encourage "fiscal virtue", strong sovereigns should be allowed to charge a similarly low premium as other (perhaps weaker) sovereigns, so that the strength of the fiscal and credit risk position is recognised as a worthy achievement.

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

Public Guarantees on Bank Bonds: Effectiveness and Distortions

by

Giuseppe Grande, Aviram Levy, Fabio Panetta and Andrea Zaghini*

The government guarantees on bank bonds adopted in 2008 in many advanced economies to support the banking systems were broadly effective in resuming bank funding and preventing a credit crunch. The guarantees, however, also caused distortions in the cost of bank borrowing. Their reintroduction might help alleviate the current pressures on banks caused by the sovereign debt crisis, but the pricing mechanism should ensure a level playing field. Moreover, given the sharp deterioration in the creditworthiness of sovereign borrowers, it may be envisaged to entrust the provision of the guarantees to a supranational organisation.

JEL Classification: G12, G18, G21, G28, G32.

Keywords: banks; corporate bonds; financial crisis; government guarantees.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

The exacerbation of the financial crisis which followed the collapse of Lehman Brothers in October 2008 led the Governments of several advanced economies to use unprecedented amounts of state aid to support the financial sector. The measures taken with regards to the banking system targeted both sides of bank balance sheets and included capital injections to strengthen banks' capital base, reinforced deposit insurance to prevent bank runs, explicit guarantees on liabilities to help banks retain access to wholesale funding, and purchases or guarantees of impaired "legacy" assets to lessen banks' exposure to large portfolio losses. The immediate aim of this massive intervention was to avoid widespread failures and to restore normal financial intermediation.

One of the most valuable tools were explicit government guarantees against default on bank fixed income debt and other non-deposit liabilities, which helped banks to preserve access to medium-term funding at a reasonable cost, offsetting the drying-up of alternative sources (such as securitisation) and the widening of spreads. The guarantee schemes varied from country to country in terms and conditions, as did the amount of funds pledged, but there were some basic common characteristics: the eligible instruments (newly issued senior unsecured debt), the eligible institutions (primarily domestic banks), a limit for each bank on the amount of issuance to be guaranteed, fees for the access, and a specified time window for availability.¹

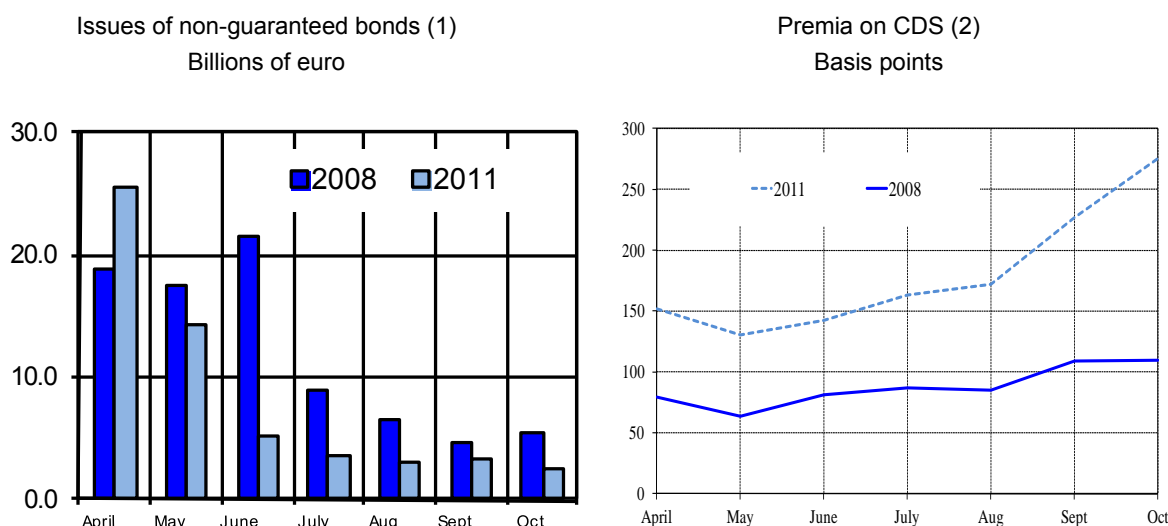
Guarantees proved effective in restoring bank funding. In the course of 2009 financial market conditions improved to the point that at the end of 2009 and in early 2010 most countries discontinued their guarantee schemes (among them the United States, the United Kingdom and France). However, precisely at the end of 2009, the financial crisis that started in August 2007 took a different turn: credit risk shifted from the banking system to the sovereign sector, reflecting the latter's burden of rescuing banks and supporting growth. Throughout 2010 and 2011 the sovereign debt crisis has been steadily intensifying and has affected a growing number of euro area countries, starting with smaller countries such as Greece, Portugal and Ireland, but subsequently (July 2011) extending also to larger countries such as Italy and Spain. The unfolding of the sovereign debt crisis in 2010-11, the policy response and the escalation of tensions in Summer 2011 go beyond the scope of this paper. It is worth emphasising, however, that in the period July through October 2011 the conditions of bank wholesale funding markets were worse than those observed in the run-up to Lehman's default in September 2008 (see Figure 1): the drying up of wholesale unsecured bond issuance has been sharper and the cost of insuring (CDS premia) against a default of bank bonds is much higher.

The purpose of this paper is to review the experience of the guarantee schemes adopted in Autumn 2008, assessing with hindsight their effectiveness and their costs (including those represented by distortions and moral hazard). The assessment is carried out not only in order to provide a stocktaking exercise, three years after their adoption and with most schemes having been discontinued, but also with a view to judge whether those schemes may be resumed in the current juncture (late 2011), taking into account the changed financial landscape.

The paper is organised as follows. Section II describes the main features of the guarantee schemes adopted in 2008 in the context of financial sector rescue measures. Section III examines the effectiveness of guarantees in resuming bank funding and preventing a credit crunch. Section IV asks under what conditions a reintroduction of the guarantee schemes of 2008 may be desirable, in light of the distortionary effects they had

on bank competition. Section V assesses whether a reintroduction is feasible, considering that the sovereign debt crisis of 2010-11 has sharply reduced the value of public guarantees. Section VI draws some conclusions.

Figure 1. Recent conditions in bond markets for European banks, and comparison with 2008



Notes: (1) Gross issuance of non-guaranteed and unsecured bonds by euro area and UK banks on wholesale markets. (2) CDS premia on the “iTraxx financials” index.

Sources: Dealogic, Bloomberg.

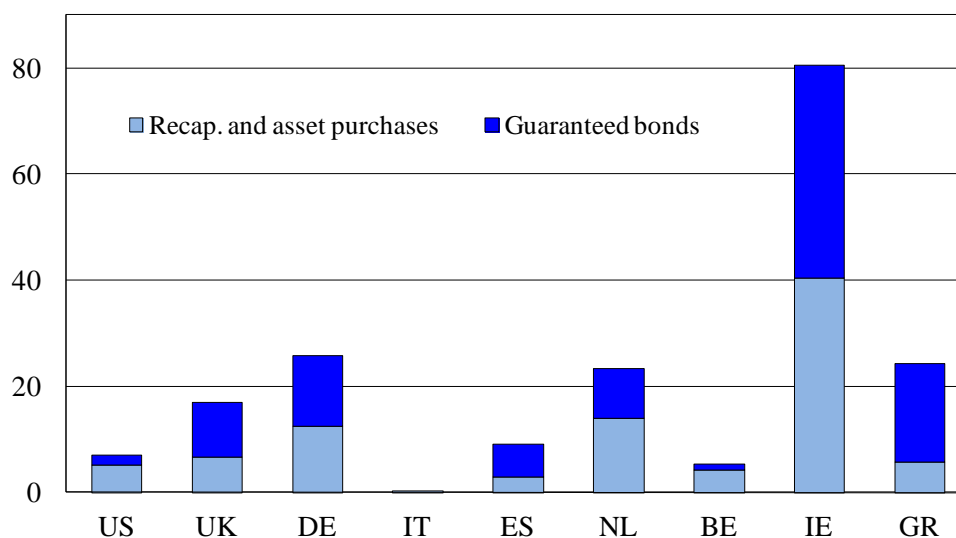
II. Guaranteed bank bonds in the context of the rescue measures adopted in 2008

The financial sector support measures adopted in Autumn 2008 by the governments of several advanced economies can be divided into three main groups: (i) guarantees on new debt securities; (ii) capital injections; (iii) asset purchases and asset guarantees. In most countries guarantees on bank debt turned out to be one of the favourite tools, largely because the guarantees do not have an immediate impact on the budget deficit since they represent a contingent liability. As can be seen in Figure 2, in several countries the volume of “indirect support” through guaranteed issuance (in terms of GDP) was larger than or equal to the amount of “direct support” via capital injections and asset purchases.

In most countries, issuance of guaranteed bonds by banks was sizable right from the very beginning of the guarantee programmes in October 2008. Figure 3 shows the monthly profile of guaranteed and non guaranteed gross issuance for the combined banking systems of the euro area, the US and the UK. Bank bond issuance, which had sharply declined during the summer months of 2008, was revived by the adoption of the guarantee schemes: issuance picked up in October and November and in the following two months reached the highest levels over many years. Until mid-2009 the bulk of issuance was represented by guaranteed bonds, but a considerable volume of non guaranteed bonds was also issued, suggesting that guarantees were successful in reducing the funding liquidity risk of banks and in encouraging investors to buy also non guaranteed bonds.

Figure 2. Government support to banking systems as a ratio to GDP

As percentage of GDP

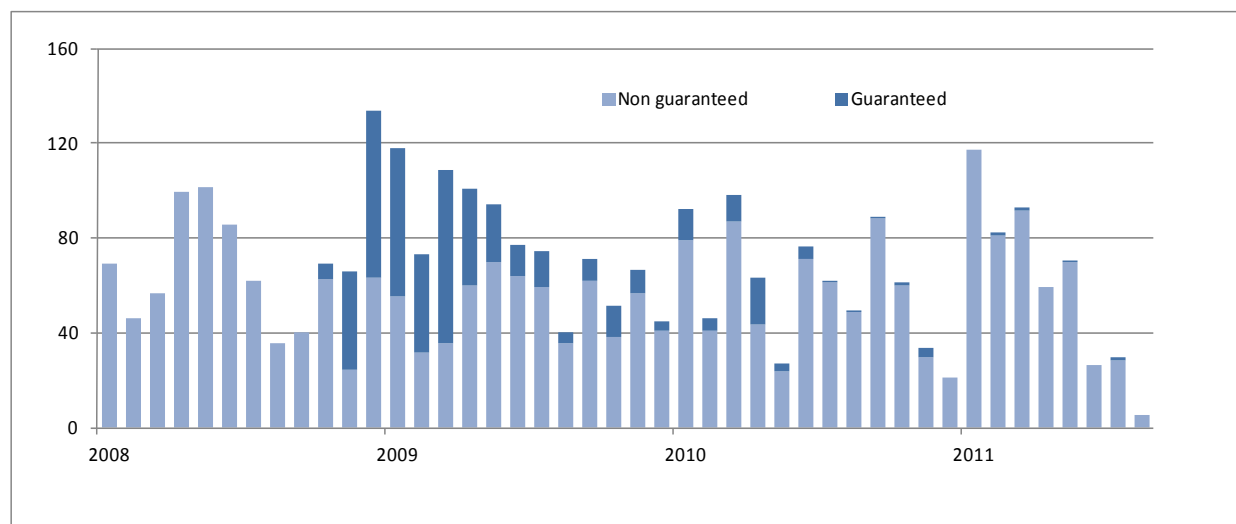


Notes: (1) The reference period is October 2008 - July 2011. The red bars indicate the actual outlays on capital injections (gross of any fund paid back) and asset purchases; blue bars indicate the cumulated issuance of guaranteed bank bonds. The amounts are expressed as a ratio to the nominal GDP of 2010.

Sources: IMF Fiscal Monitor 2011; Bloomberg.

Figure 3. Gross issuance of bank bonds in the euro area, the UK and the US

Billions of euro equivalent



Notes: Non guaranteed issuance includes only bank bonds and MTNs with maturity over 12 months. Latest observation: August 2011.

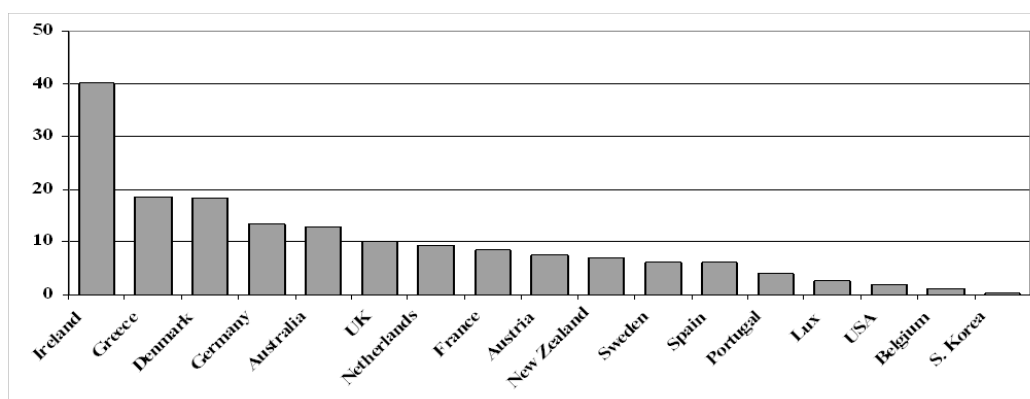
Sources: Bloomberg and Datastream.

In the second half of 2009, tensions on bank funding markets declined significantly and an increase in investors' appetite for risk supported the demand for non guaranteed bank bonds. In the first half of 2010 the actual usage of guarantees continued to decline, despite the fact that the first wave of sovereign debt tensions started to affect banks' funding conditions. In that period, the decline of guaranteed issuance also reflected the discontinuation of guarantee schemes in several countries, among them the United States, the United Kingdom and France.²

In terms of cross-country patterns, the picture differs depending on whether one considers issuance of guaranteed bonds in absolute terms or relative to GDP. Guaranteed issuance in absolute terms (not shown) is dominated by a few countries. The largest volumes (250 billions of euro equivalent) were issued in the United States, partly reflecting the adoption of an opt-out rule (guarantees were automatic for all US banks unless an exemption was requested). A group of countries including Germany, the United Kingdom, France and Australia follows, with guaranteed issuance above €100 billions. The picture in terms of GDP is different (Figure 4): the total bank guaranteed issuance amounts to 40 per cent of GDP in Ireland, 18 per cent in Greece and Denmark and around 13 per cent for Germany and Australia. Given the large size of the US economy, the ratio is only 2 per cent.

Figure 4. Total issuance of guaranteed bonds by country

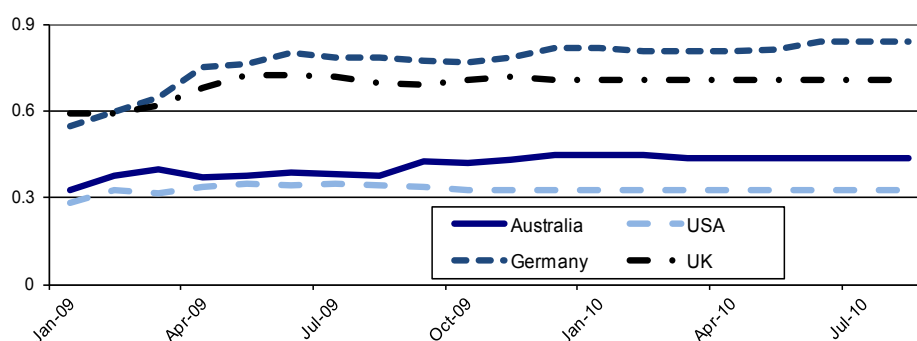
As percentage of GDP



Notes: Cumulated issuance over the period October 2008-August 2011, as a ratio to 2010 GDP.

Sources: Bloomberg; Datastream.

Finally, a within-country analysis shows that in some countries the usage of guaranteed issuance was concentrated within a few banks. Figure 5 describes the degree of concentration of guaranteed bond issuance in the United States, Germany, the United Kingdom and Australia over the period from January 2009 to August 2010.³ The Figure suggests that in Germany and the UK the market share of the two largest issuers was very high, in a range of 70 to 80 per cent, whereas for the US and Australia it was much lower (30 to 40 per cent), reflecting wider participation.

Figure 5. Share of guaranteed issuance accounted for by the two largest borrowers

Notes: Share of cumulated issuance between October 2008 and the month considered.

Sources: Dealogic.

III. Government guarantees on bank bonds: were they effective?

The guarantee schemes adopted in October 2008 had two main objectives. First, to support bank funding so as to avoid liquidity crises and widespread bankruptcies. Secondly, to support bank lending, in order to reduce the likelihood of a credit crunch.

This paragraph provides some evidence on the effectiveness of the schemes, looking at indicators of bank recourse to bond funding, bank default risk and bank lending activity. Before presenting this evidence, a caveat is in order. Assessing the extent to which the above two objectives were achieved is indeed a challenging task, for at least two reasons. First, the counterfactual is not known, *i.e.* we ignore what would have happened without government intervention. Secondly, it is difficult to separate the effects of guarantee schemes from those of other rescue measures and those of the unconventional monetary and liquidity support measures which were adopted in Autumn 2008. Uncertainty about the counterfactual and multiplicity of policy actions make it difficult to draw firm conclusions on the specific effects of debt guarantees.

Impact on banks' access to medium-term wholesale funding. – The main short-term goal of the schemes providing explicit government guarantees on bank bonds was to help banks maintain access to medium-term funding at a reasonable cost, ensuring solvency and offsetting the drying-up of alternative sources of funding as well as the increase in credit spreads.

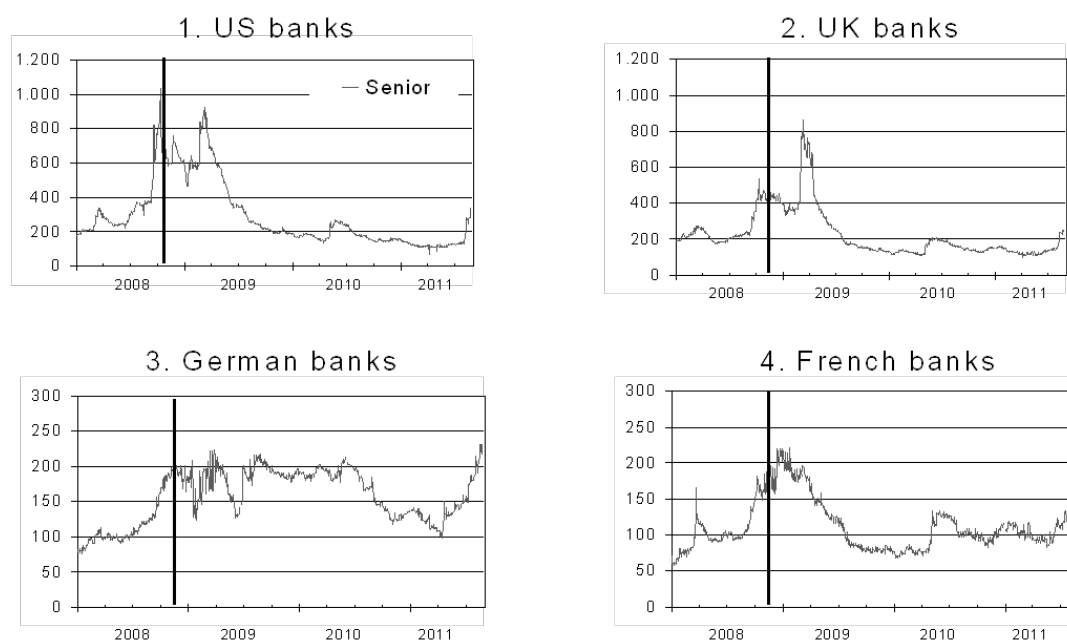
The available evidence reviewed in Section II suggests that debt guarantees did help banks to resume medium-term funding. The overall gross issuance of bank bonds on the international market, which had declined markedly since the onset of the global financial crisis in the summer of 2007, picked up significantly after the launch of the guarantee programs in the last quarter of 2008. While some degree of substitution between government-guaranteed and non-guaranteed bonds cannot be ruled out, banks' reliance on government-guaranteed bonds declined markedly since the second quarter of 2009, as the strains in funding markets started to ease. Evidence of a contribution of debt guarantees to the recovery of banks' medium-term funding is also found by other studies (IMF, 2009; ECB, 2010; Schwartz, 2010).

Impact on the perceived riskiness of bank bonds. – The effect of debt guarantees on the likelihood of banks' insolvency can be gauged by looking at credit risk premiums on bank bonds, which are proportional to banks' creditworthiness as it is perceived by financial market investors. In what follows, we focus on two types of indicators: the yield spreads on bank bonds and the premiums on the credit-default-swap (CDS) contracts written on banks. We will also have a look at an ex-post measure of banks' riskiness, namely the number of defaults on guaranteed bank bonds.

Figure 6 shows the yield spreads of non-guaranteed bonds issued by banks of selected countries. In the months that followed the announcement of a public backstop (and other rescue measures), the spreads of unsecured bonds stabilised and then started to decline, indicating that banks' bonds had become less risky (see Panetta *et al.*, 2009 and CGFS, 2011).

Figure 6. Yield spreads on banks' unsecured bonds

Option-adjusted spreads over comparable Treasury bonds; daily data, in basis points



Notes: For each country, unweighted average of yield spreads (relative to government securities and option-adjusted) on the bonds of selected banks. Vertical lines mark the introduction of bond guarantee schemes.

Sources: CGFS (2011).

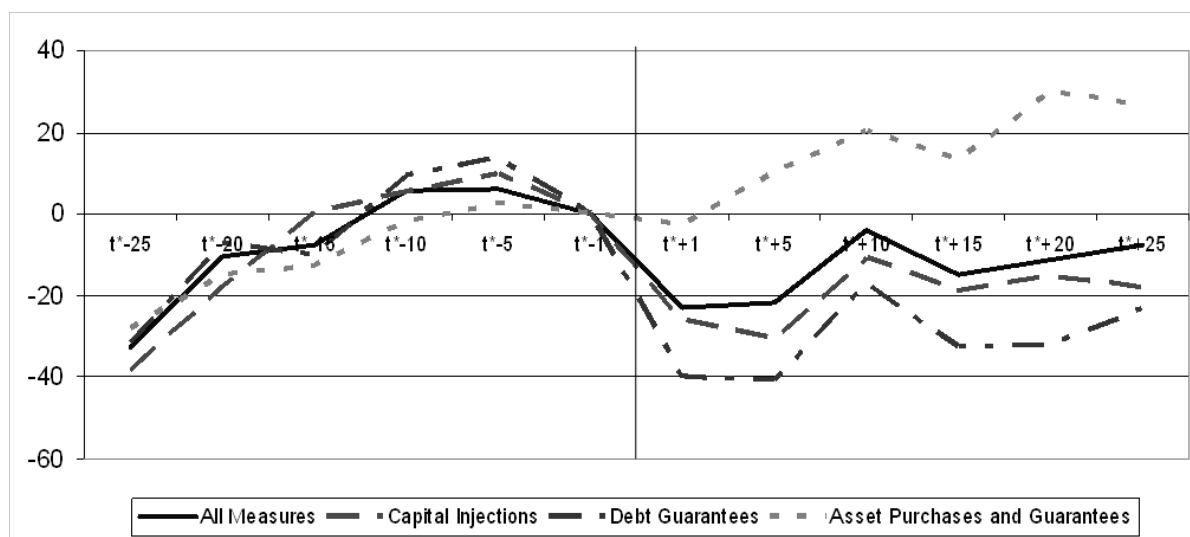
A second way of measuring the impact of bond guarantees on banks' riskiness is to look at the reaction of financial market variables to the announcement of the guarantees programs. If the guarantees succeeded in reducing banks' riskiness, their introduction should have led to a decline in the credit risk premiums required by investors on banks' securities. Some econometric studies have attempted to make such an assessment by resorting to event study analysis.⁴ An appropriate proxy for the credit risk premiums on banks is represented by the premiums on the credit default swap (CDS) contracts written on banks. Other things being equal, the introduction of a credible bond guarantee should lower CDS premiums. By means of event study analysis, Panetta *et al.* (2009) study the impact of the announcement of bond guarantees programs and the other two types of

rescue packages (capital injections and asset purchases/guarantees) on indexes of the bank CDS premiums for the countries where the schemes were adopted.

The results of the event study analysis are shown in Figure 7, both for each type of rescue measure taken separately and for all of them taken together.⁵ According to this metric, debt guarantees turned out to be quite effective: 1) they lowered bank CDS premia; 2) they had a sizable impact (about 25 basis points); 3) their effect was quite persistent.⁶ Note that the support measures were to some extent anticipated by market participants, as bank CDS premia started to decline before the announcement. With regard to the other rescue measures, capital injections also had quite a sizable negative impact, while the announcement of asset purchases/guarantees apparently led on average to an increase in bank CDS premia.⁷ These results are consistent with those found by IMF (2009) on the basis of a comparable, though somewhat different methodology. When considering the post-Lehman phase of the global financial crisis (from 15 September 2008 to 30 June 2009), IMF (2009) finds that for euro area countries the introduction of liability guarantees led to a statistically significant decline in bank CDS premiums in the three days after the announcement.⁸

Figure 7. Changes in bank CDS premia: market-level analysis by type of measure

Daily data, in basis points



Notes: Cumulative change in CDS premia before and after government interventions. The symbol t^* denotes the announcement day.

Sources: Authors' calculations based on Datastream.

It should be emphasised that event study analyses usually have some shortcomings. In this case, the greatest difficulties seem to lie in the definition of the event date (given that market participants tend to anticipate policy measures) and the definition of the time window (the larger it is, the more difficult to disentangle the impact of different events). Moreover, event study analyses may at best provide an estimate of the short-term effect of a policy measure.⁹

While the prices of debt securities and credit derivatives provide some clues on how bond guarantees are viewed by financial market investors, additional evidence on their effectiveness in preventing banks' insolvency is provided by the actual incidence of

defaults on guaranteed bonds. Despite the widespread use of government guarantees on bank bonds and the high vulnerability of banks in many of the countries that introduced this policy tool, guarantee calls on bank bonds have been rare so far. There is evidence of one case in Portugal, where the liquidation of one troubled bank in April 2010 resulted in the activation of the state guarantee, and one case in Denmark in early 2011. This confirms that bond guarantees programs may have a very limited impact on budget deficits, because the actual liabilities generated by them may be much lower than the contingent liabilities.

Impact on the supply of credit to the private sector. – The ultimate goal of public intervention was to resume and support financial intermediation. It is thus important to understand whether public guarantees on newly issued bank bonds contributed to the recovery in bank lending. The size and timing of the impact on credit supply may have varied depending on whether financial institutions decided to use public funds to strengthen their balance sheets or to support lending.¹⁰

It goes without saying that such an assessment is fraught with plenty of challenges. Besides the fact that rescue measures included several tools,¹¹ the definition of the counterfactual is particularly difficult, because banks' lending behaviour has been affected by many macroeconomic factors, such as the strongly expansionary monetary policies and the economic recovery. Moreover, credit supply factors are very difficult to identify on their own right, as the lending standards applied by banks typically reflect a range of different characteristics, some of which are hard to measure or may take time to fully emerge after a major financial crisis (e.g. losses).

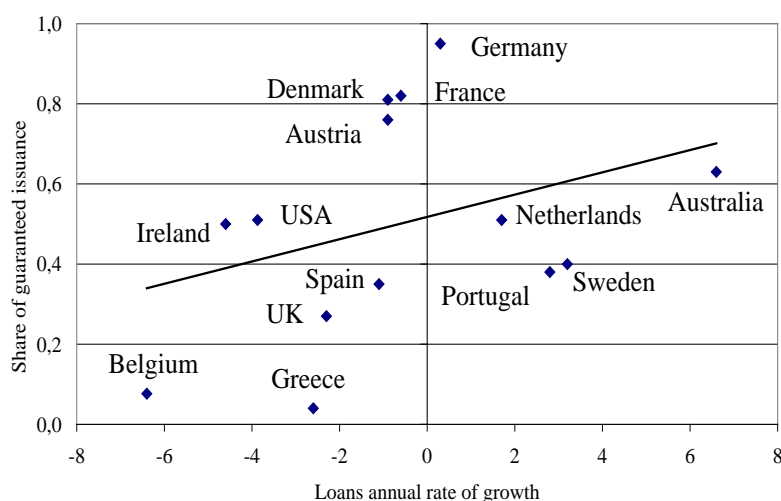
That said, a bird's eye view on aggregate trends in bank lending may provide some hints about a possible contribution of bond guarantees to the resumption of the supply of credit to the real economy. For the countries that have adopted public guarantees on bank bonds, the upper panel (i) of Figure 8 plots the growth rate of bank lending in 2009 against the portion of total issuance that is accounted for by guaranteed bonds. The graph suggests a broadly positive relationship between the intensity of the recourse to guaranteed bonds and lending growth in 2009.

For the same set of countries, the lower panel (ii) of Figure 8 looks at the evolution of lending growth since 2007. Countries are divided in two groups: the dotted (straight) line is a weighted average of countries with a share of guaranteed bonds at issuance in 2009 above (below) the median value of 51 per cent. For each group of countries, the graph plots the gap (in percentage points) between the four quarter growth rate in a given quarter and the same growth rate in Q1 2009, the latter being the first quarter in which issuance of guaranteed bonds was significant. The graph suggests that the countries in which banks had a higher recourse to bond guarantees tended on the whole to have a stronger rebound of bank lending.

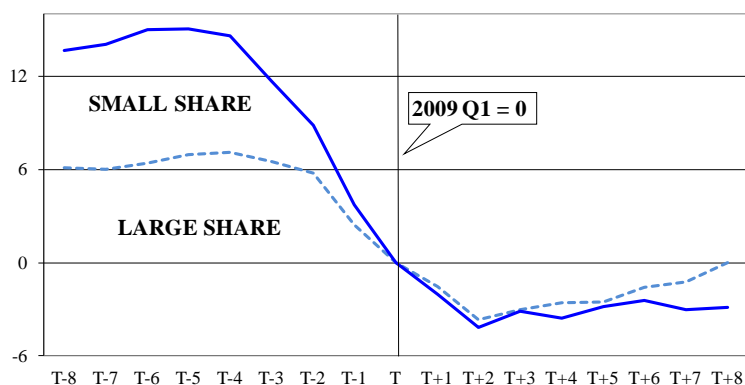
It is worth emphasising that simple bivariate and aggregate analyses such as the ones shown in Figure 8 can only be very tentative. In order to get deeper insights, one should be able to assess the contribution of bond guarantees against those of other determinants of bank lending.

Figure 8. Public guarantees on bank bonds and trends in bank lending

(i) Growth rate of bank loans and share of guaranteed issuance in 2009^(a)
Annual data, in per cent



(ii) Four-quarter growth rate of bank loans depending on the share of guaranteed issuance^(b)
Quarterly data, gap with respect to Q1 2009, in percentage points



Notes: (a) Horizontal axis: annual growth rate of bank loans in 2009 for 14 countries that introduced bond guarantees. Vertical axis: share of guaranteed bonds over total bond issuance in 2009. (b) For each country and for each quarter, difference between the four-quarter growth rate of bank lending in that quarter and the growth rate in Q1 2009 (so that, for each country indicator, Q1 2009=0). The red (blue) line represents the weighted average of those 7 countries with a share of guaranteed bonds at issuance in 2009 above (below) the median value (median value=51%).

Sources: based on national data.

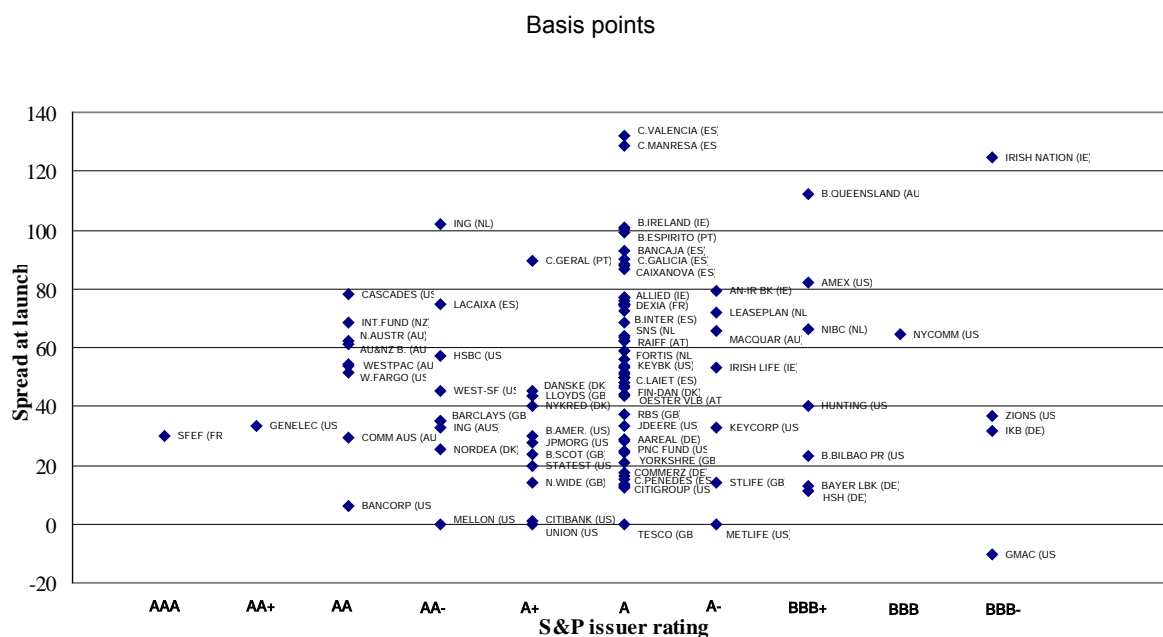
IV. What are the drawbacks of a resumption of 2008's guarantee schemes? Distortions and inefficiencies

The evidence presented in the previous sections seems to suggest that government guarantees and, more in general, financial support measures to the banking system have contributed to prevent severe disruptions in financial markets after Lehman's default. This evidence raises a more general question on whether and how those support schemes may

be resumed and made available again in the current juncture (Autumn 2011), characterised by severe strains in bank funding markets (as in 2008) and by a fully fledged sovereign debt crisis in the euro area (unlike 2008). In order to answer this question, it is worth examining, first, whether guarantees are “desirable”, when considering the significant distortions to the banking sector implied by the 2008 schemes and, secondly (in section V), whether guarantees are “feasible” in view of the sharp worsening of sovereign risk observed since 2010.

An important aspect of guarantee schemes of 2008 is how they affected the cost of new debt issuance (guaranteed or not) by banks. As reported by Levy and Zaghini (2011) a striking feature of the guaranteed bond market in 2009 was the significant “tiering” of spreads by country. Figure 9 shows this point. For instance, for A-rated banks the range of the spreads paid at issuance is over 120 basis points (from around zero for some US banks to well over 100 for two Spanish banks). The spreads seem to reflect the nationality of the banks quite closely. For example, Portuguese banks (Banco Commercial Português and Banco Espírito Santo, rated A, and Caixa Geral de Depósitos, rated A+) on average paid much larger spreads at launch than German banks such as Commerzbank (rated A), Bayerische Landesbank and HSH Nordbank AG (both rated BBB+). More in general, the spreads at launch were not monotonically related to bank ratings: better-rated banks in some countries paid larger spreads than weaker banks in other countries. In other words the spread seemed to reflect the nationality of banks rather than their soundness.

Figure 9. Dispersion of spreads at launch on guaranteed bonds



Source: Levy and Zaghini (2011).

The determinants of a bank’s cost of issuing bonds can be analysed with statistical tools.¹² In principle, the dispersion of the spreads paid on guaranteed bonds could reflect several factors: the characteristics of the issuer, the characteristics of the bond, the characteristics of the guarantor (and of the guarantees’ scheme) and, finally, market conditions. In order to disentangle the contribution of each single factor, the following

cross-country regression framework is adopted and applied to different sample periods, in which the dependent variable is a measure of the cost for the issuer:

$$Spread_{jk} = a_0 + \sum_j a_j D_j^{BANK} + \sum_k a_k D_k^{BOND} + \sum_i a_i D_i^{GOV} + \sum_z a_z D_z^{MKT-COND} + \varepsilon \quad (1)$$

where $Spread_{jk}$ is the spread at launch between the yield of the bond k of bank j and the swap rate on the contract of corresponding maturity, D^{BANK} are binary dummies for each of the characteristics of the issuer (rating, CDS spread, size), D^{BOND} are dummies for bond characteristics (issue size, maturity, currency, rating), D^{GOV} are dummies for the sovereign (rating, CDS spread, characteristics of the guarantees scheme) and $D^{MKT-COND}$ are dummies for market conditions (quarter of issue).

For continuous variables, three dummies were created that take the value of 1 if the observation is respectively in the first, fourth, or second/third quartile and zero otherwise. For non-continuous variables, the dummy determination was judgmental and reflected the possible values of each variable. For instance, the sovereign rating was broken down into two categories: one for rating of AAA, and one for ratings below AAA. Table 1 reports the exogenous variables considered in the regressions and their breakdown into dummies.

Table 1. Breakdown of non-continuous exogenous variables

Variable	Dummies	Breakdown
Issuance volume	3	Low, medium, high
Maturity	3	Low, medium, high
Currency of denomination	3	Euro, US dollar, other currencies
Rating of bond issue	2	AAA, not AAA
Market conditions	4	Quarter of issuance
Issuer rating	4	AAA, AA, A, other
Issuer CDS spread	3	Low, medium, high
Sovereign CDS	3	Low, medium, high
Sovereign rating	2	AAA, not AAA

This cross-sectional regression is used to analyse and compare the determinants of the cost of bond issuance in three distinct years:

1. in 2009, at the first peak of the financial crisis, during the operation of the guarantee schemes adopted after Lehman's default;
2. in 2006, a tranquil period used as a counterfactual;
3. in 2010, during the sovereign debt crisis.

Cost of issuance in 2009, after Lehman's default. – The first regression analyses 414 guaranteed bonds issued in 2009. The first column of Table 2 shows the estimation results when only significant coefficients are taken into account. A general property of the

regressions shown in Table 2 is that the exogenous variables are constructed so as to have only negative coefficients. In this way, thanks to the fact that we use only dummy variables, each coefficient can be seen as the estimated saving an issuer would achieve if one of the “worst case” characteristics foreseen by the intercept were removed. In fact, on the one hand, each coefficient shows the (negative) contribution in basis points to the spread at launch, on the other hand the intercept, by construction, can be interpreted as the estimated spread of the weakest issuer, namely the spread that a hypothetical bank would pay at launch in the worst case scenario, *i.e.* if the State were rated below AAA, premia on sovereign CDS were high, the maturity of the bond were long, the issuance volume were low, the issue had a low rating, the issuer had high premia on CDS, the issuer had a low rating and issuance occurred under adverse market conditions.

Independently of the negative sign that was imposed, each variable has the expected influence on the cost of bond issuance. For instance, it is not surprising that a favourable bank outlook (*i.e.* a low CDS) would reduce the cost of issuing a bond or that a small volume or a long maturity would negatively affect the cost for the issuer. In Figure 10 the regression results are presented in a graphical form. The height of the bar is the sum of all the regression coefficients (127 basis points) except the intercept. The layers of the bar show the contribution of each variable to the overall spread (represented by the regression coefficients of the first column of Table 2).

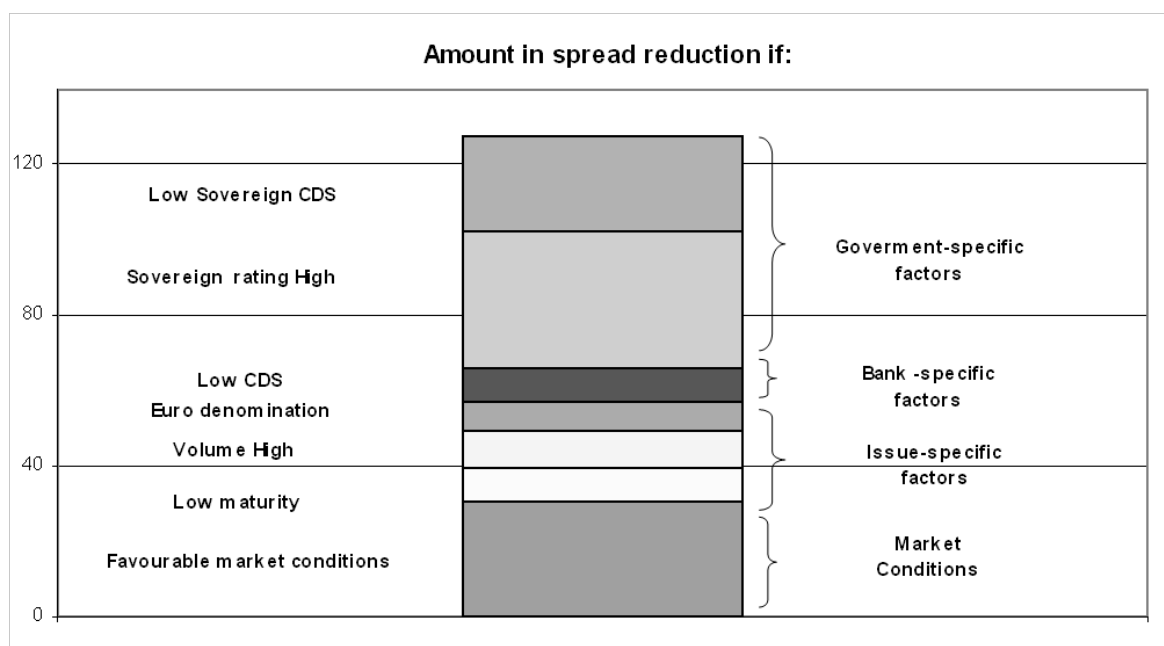
Table 2. OLS regression results

Dependent Variable: SPREAD AT LAUNCH

Variable	2009 G	2006 NG	2010 NG	2009 NG
Constant	116.1 ***	67.3 ***	346.4 ***	332.5 ***
Rating Gov AAA	-36.4 ***		-61.5 ***	
Low Sovereign CDS	-25.1 ***	-18.0 *	-59.0 ***	-34.6 **
Maturity low	-9.1 *	-9.1 *	-94.2 ***	-62.7 ***
Volume high	-9.7 *			
Issue rating high		-19.0 **	-44.6 ***	-106.1 ***
Euro denomination	-7.9 *	-48.8 ***	-68.7 ***	-47.7 ***
Fav. Market condition	-30.6 ***	-28.8 ***	-13.6 *	-44.2 ***
Bank CDS low	-8.7 *	-14.4 **	-21.0 **	-27.5 *
Bank rating high		-10.3 *	-31.7 *	-64.2 **

Notes: One, two and three asterisks denote statistical significance at 90%, 95% and 99%, respectively. ‘G’ and ‘NG’ denote guaranteed and non-guaranteed issuance, respectively.

The most relevant result is that sovereign characteristics (AAA rating and low CDS) account for almost 50 per cent of the whole spread at launch, suggesting that the guarantee from a strong guarantor can almost halve the cost of the issuance for a troubled bank.¹³ At the same time the characteristics of the issue account for only 21 per cent of the total spread, whereas only 7 per cent of the spread could be deducted from the cost if a bank had a good market assessment (*i.e.* a low CDS).

Figure 10. Spread decomposition from OLS regression for 2009

Notes: Results are derived from the regression results reported in Table 3.2. The bar shows how many basis points of the estimated spread can be attributed to country-specific, bank-specific or issue-specific factors or to market conditions.

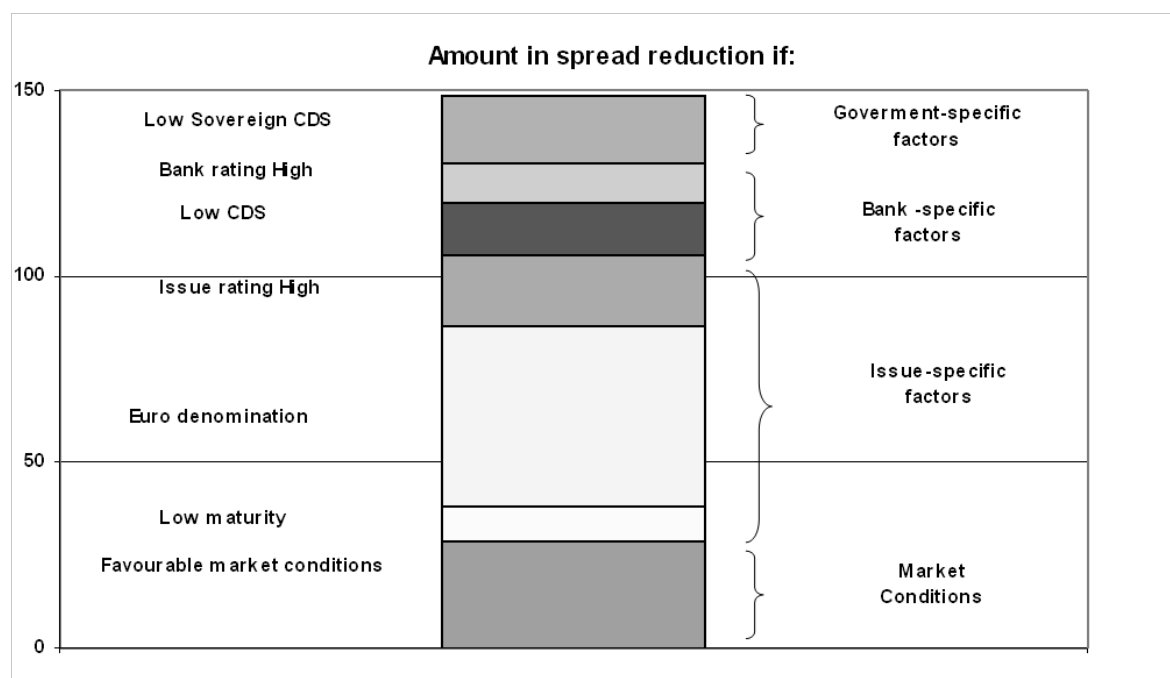
Cost of issuance in 2006, a tranquil year. – Is the role of government always so important in determining the cost of issuance of a bank bond? In order to answer the question we apply the same methodology to 287 bonds issued by 79 banks of 13 countries between January and December 2006, a year in which market conditions and investor sentiment can be described as very stable and favourable.

Based on the estimates of the coefficients presented in the second column of Table 2, the bar chart in Figure 11 shows again the contribution of each variable to the overall cost at launch in 2006. Even though statistically significant, it is immediately clear that the role of the government is a minor one (12 per cent). As expected, what matters most for the pricing of an individual bond are the characteristic of the issuance (71 per cent) together with the bank's soundness (17 per cent).¹⁴

Cost of issuance in 2010, during the sovereign debt crisis. – As a third sample period, the cross-sectional regression (1) was run also for 534 bank bonds issued in 2010, a year characterised by severe tensions in sovereign debt markets which had a strong negative effect on bank funding (CGFS, 2011). Predictably, the weight of sovereign variables in the estimated cost at issuance of non-guaranteed bank bonds is significantly higher in 2010 than in previous tranquil periods (2006). The role played by government's creditworthiness rises to 30 per cent of the total cost while the characteristics of the issuance and issuer decline to 56 and 13 per cent, respectively (column 3 of Table 2). One possible interpretation of this pattern is that although in 2010 explicit public guarantees were not actively used anymore (and our sample includes only non guaranteed bonds), the reliability of the sovereign helped banks from solid countries to reduce by around 30 per cent the cost of bond issuance, suggesting that these banks enjoyed an implicit guarantee. This amount of issuance cost reduction lies half-way between the "tranquil period"

reduction of around 10 per cent and the 50 per cent of the case of explicit sovereign guarantees.

Figure 11. Spread decomposition from OLS regression for 2006



Notes: Results are derived from the regression results reported in Table 2. The bar shows how many basis points of the estimated spread can be attributed to country-specific, bank-specific and issue-specific factors.

Distortions and inefficiencies. – The bottom-line of the statistical evidence provided in this section is that the guarantees that were granted in 2008-09 to distressed banks created severe distortions: the fact that the cost of issuing guaranteed bonds reflected by more than 50 per cent the guarantor’s creditworthiness (rather than the issuer’s) implies that banks with lower profitability and weaker balance-sheet positions – but enjoying guarantees from highly rated sovereigns – were able to raise funds at a much lower cost than sounder and better-rated banks.

This distortion in the pricing of bank bonds has two main negative effects. First, the absence of a “level playing field” is detrimental to competition and leads to a misallocation of resources that lowers the banking system’s productivity. Secondly, the measures could create expectations of further intervention, thus influencing and distorting banks’ business strategies and encouraging excessive risk-taking (*i.e.* moral hazard).¹⁵ One way in which the authorities might have mitigated these distortionary effects is the adoption of an appropriate mechanism for pricing the guarantees (see Panetta *et al.*, 2009), such as a fee that is inversely related to sovereign risk, so as to broadly align across countries the “fee-adjusted” subsidy (in terms of lower interest payments) benefiting the issuing banks (see also section V).¹⁶

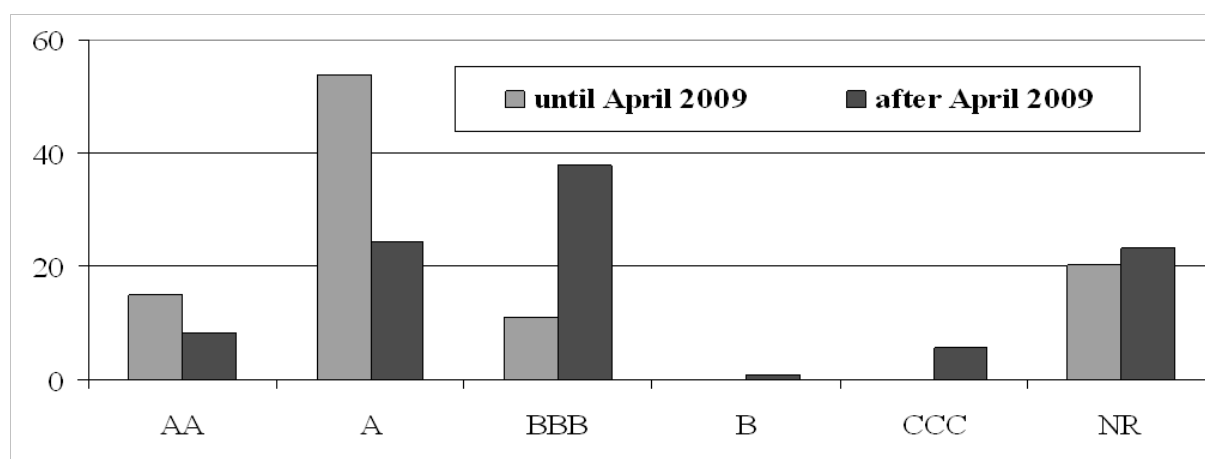
Indirect evidence of these inefficiencies is provided by the fact that the credit quality of banks that issued guaranteed bonds declined over time: Figure 12 shows that the average credit rating of banks that made use of guarantees in the period October

2008-April 2009, at the peak of market tensions, was much higher than the rating of those banks that issued between May 2009 and June 2010.

Preserving a level playing field and containing moral hazard are two guiding principles not only in evaluating exceptional policy measures but also in steering the global financial system towards a new environment with better incentives (see *e.g.* OECD, 2009).

Figure 12. Issuance of guaranteed bank bonds by rating of issuing banks

In percent of total issuance



Sources: Authors' calculations based on Bloomberg and Datastream.

V. Is a resumption of bond guarantees feasible? The decline in the value of sovereign guarantees

The financial crisis that began in 2008 after Lehman's default has undergone two major stages. The first phase lasted until the end of 2009 and can be characterised as a bank crisis: government and central bank support measures managed to gradually reduce market pressure on bank funding instruments and stock market valuations, but most advanced economies experienced a sharp worsening of their fiscal positions, reflecting the public support to the financial system, the policy stimulus meant to fend off a recession and the sharp cyclical slowdown.

Since the end of 2009 investors realised that the fiscal landscape was changing and they began to require higher risk premia on sovereign debt. The repricing of risk turned into a fully fledged sovereign debt crisis during 2010 and became most visible in May, when the EU and the IMF granted financial assistance to Greece and the European Financial Support Mechanism was established. The crisis further intensified in 2011 and engulfed larger euro area countries, despite efforts by EU authorities to scale up the policy response (two important EU meetings took place on 21 July and 26 October).

Severe funding pressures were experienced by banks in both stages of the crisis, especially in non triple-A sovereigns, but there is a major difference between the two episodes: while in 2008 the increase of banks' credit risk reflected concerns about banks' exposure to toxic assets, in 2011 the concern was about exposure to sovereign debt (see CGFS, 2011; Davies and Panetta, 2011).

Reflecting the severe strains on bank funding conditions observed since July 2011, in October the EU Heads of State or Government acknowledged (see EU, 2011) “*the need to ensure the medium-term funding of banks, in order to avoid a credit crunch and to safeguard the flow of credit to the real economy, and to coordinate measures to achieve this*”. At the same time the EU leaders were aware that “*A simple repetition of the 2008 experience with full national discretion in the setting-up of liquidity schemes may not provide a satisfactory solution under current market conditions. Therefore a truly coordinated approach at EU-level is needed regarding entry criteria, pricing and conditions*”.

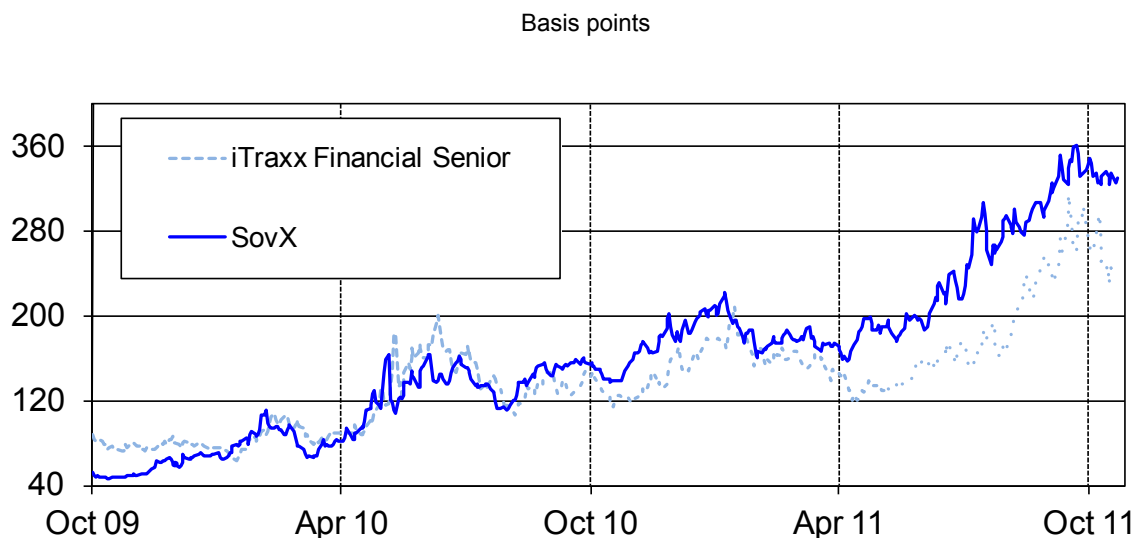
Following the request of the EU summit, European authorities have been devising a new guarantee scheme for bank bonds that avoids the distortions induced by the 2008 programme and that can be effective despite the sharp deterioration of the fiscal landscape. The main purpose of the new guarantee scheme is to resuscitate the market for wholesale funding for banks.

In achieving this goal it is important to make sure that the scheme does not introduce distortions to competition; for this purpose it is crucial to take into account that differences exist across countries in the value of the sovereign guarantee as well as in the riskiness of banks.

For some countries the value of sovereign guarantees was indeed already low in the first stage of the crisis, *i.e.* in 2008-09. For instance, in the context of the guarantee scheme adopted in the EU in 2008, for banks located in fiscally weak countries such as Italy it was not worth buying insurance from the Treasury because the cost for the bank (the insurance fee) was roughly of the same order of the yield reduction (*i.e.* the interest saving) made possible by the guarantee. Mainly for this reason no Italian bank relied on the guarantee scheme (see Levy and Zaghini, 2011). In 2010-11 things got worse and in several euro area countries sovereign credit risk rose above banks credit risk (Figure 13 compares the average CDS premia of European banks with premia on European sovereigns), implying that the value that banks may extract from a public guarantee is close to nil. As a consequence, in the case of Italy and many other euro area countries a government guarantee on bank bonds would not be able to improve funding conditions of banks to a significant extent, while it would likely worsen the country’s fiscal position, as a consequence of the increase of contingent liabilities.

A non-distortionary pricing mechanism should make sure that the “insurance premium” is adjusted in order to reflect both the value of the sovereign guarantee (banks enjoying a less valuable guarantee should pay a lower fee) and the “standalone” riskiness of the insured bank (riskier banks should pay a higher fee than “safer” banks). As for the latter adjustment, in analogy with the programmes adopted in 2008, authorities may rely on a bank’s CDS premium as recorded over an appropriate time period. One caveat when using a bank’s CDS premium as a measure of a bank’s riskiness is that the CDS does not reflect only the bank’s “standalone” riskiness but it also incorporates the benefit coming from any kind of sovereign guarantee.

Concerning the adjustment related to the value of the sovereign guarantee, two cases can be considered depending on whether a national or a “mutualistic” guarantee scheme is adopted. In case a national approach is adopted, the premium could be a function of the gap between the credit standing of the bank’s sovereign and the average credit standing of advanced economies, so that the insurance fee decreases for those banks that obtain a less valuable guarantee (see Panetta *et al.*, 2009, and Estrella and Schich, 2011).

Figure 13. CDS premia on European banks and sovereigns

Notes: CDS on European banks are proxied with the MarkIt index “iTraxx financials”. CDS premia on Euro area sovereigns are proxied with the MarkIt index “SovX”.

Sources: Markit.

An alternative solution would be a “mutualistic” approach, in which the guarantee is not provided at the national level but rather by a supranational institution (such as the European Financial Stability Fund) or by a pool of countries that provide a “several” and, possibly, “joint” guarantee. In this case the value of the sovereign guarantee would be equal across countries and there would be no need to adjust for this factor the price of the guarantee.

The “mutualistic” approach is more attractive in terms of relief for bank funding costs but it may raise a number of objections. First, it may be argued that a mutualistic approach implies fiscal subsidies and transfers across countries and thus violates the Treaty provisions. Secondly, it may be objected on economic grounds that the contingent liabilities taken up by the European supranational institution or, equivalently, by the “joint guarantors” might negatively affect the latter’s rating. These drawbacks make the adoption of mutualistic guarantee schemes highly unlikely.

VI. Conclusions

The bond guarantee schemes adopted in Autumn 2008 by most advanced economies formed part of a package of rescue measures including also capital injections, asset purchases/guarantees and, as far as central banks are concerned, large scale liquidity support. With hindsight, the bond guarantee schemes adopted in Autumn 2008 proved to be an effective policy tool. The issuance of guaranteed bonds was sizeable and the schemes seem to have achieved their two main objectives: they helped to resume bank funding, thus reducing the likelihood of bankruptcies, and they contributed to prevent a credit crunch, thus alleviating the impact of the financial crisis on the real economy.

The sovereign debt crisis that has engulfed the euro area in 2010 and, on a wider scale, in 2011 has led to severe funding pressures, as in 2008, for banks based in non

triple-A countries. After the debt crisis has intensified and reached large euro area countries in the summer of 2011, the question has been raised of whether the “2008 vintage” guarantee schemes, that were discontinued in most EU countries, may be resumed in 2011.

The answer provided in this paper is that government guarantees may be used again but after some adjustments, so as to avoid two obstacles. The first obstacle is represented by the inefficiencies and severe distortions to competition implied by the guarantee schemes of 2008: the pricing mechanism of guarantees and the large differences in sovereign creditworthiness that were in place in 2008 implied that weak banks backed by strong sovereigns were able to borrow more cheaply than strong banks with weak sovereigns. One way to reduce this distortion would be the adoption of an appropriate, “sovereign-related” pricing scheme.

The second obstacle is represented by the decline of the value of public guarantees in those countries where sovereign risk is higher. In such countries, a guarantee provided by the domestic sovereign might not bring any substantial decline in the cost of borrowing of domestic banks and therefore consideration should be given to the possibility of having supranational authorities providing such guarantees.

NOTES

- ¹ Other possible restrictions concerned the bonds' maturity and currency of denomination. For a detailed account of debt guarantee programmes and a thorough description of the financial sector rescue plans implemented in advanced economies, see Panetta *et al.* (2009).
- ² Following the easing in bank funding at the end of 2009, many government-guarantee schemes, including those in the UK and France, were allowed to expire. Others, such as in the US, were extended but in a significantly curtailed version, which expired at the end of 2010. In Australia the government closed the scheme on 31 March 2010 and New Zealand did it on 30 April 2010.
- ³ For France, no information is available for individual issuers of guaranteed bonds, as the SFEF Agency issues on behalf of banks, under anonymity. If one looks at the Annual Report on 2009 for the three largest French banks, only BNP discloses that in 2009 it issued €11 billion of guaranteed bonds (which compares with a total issuance by SFEF close to 75 billion).
- ⁴ See Panetta *et al.* (2009), Ait-Sahalia *et al.* (2009), IMF (2009) and references therein.
- ⁵ The sample includes 41 large international banks of ten advanced economies over the period from September 2008 to April 2009. The event study analysis of debt guarantees is carried out at the country level only, rather than at the bank level, because in the latter case there would have been too many events to take into account (in the sample period there were many issues of debt guarantees at very close intervals). In Figure 7, the blue line represents the simple average across countries of the CDSs' reaction to the announcement of the introduction of a program of bond guarantees.
- ⁶ After more than one month the effect was still evident, in a period of extremely high volatility and very negative investor mood. The analysis was replicated by using the difference between the change in banks CDS premiums and that in non-bank CDS premiums, as a way to control for common factors. Results did not change remarkably. For the sake of clarity, Figure 7 shows the results for changes in banks CDS premia only.
- ⁷ The latter result can be explained in two ways: 1) the low number of observations (very few programmes of the kind were introduced) does not allow to correctly identify the effect; 2) because in that period investors' concerns mainly focused on the amount of toxic assets held by banks, the announcement of asset purchases or guarantees programmes may have had the effect of fuelling uncertainty and stigma effects.
- ⁸ For the United States the effect was not statistically significant, while for the United Kingdom the IMF's approach couldn't be applied due to the very low number of policy events during the post-Lehman period. The IMF's analysis of euro area countries seems to be close enough to Panetta *et al.* (2009)'s multi-country approach. One of the main methodological differences between the two studies is that IMF's definition of "liability guarantee" includes not only debt guarantee on new liabilities but also debt guarantee on all liabilities, enhancement of depositor protection schemes and government lending to an individual institution.

- ⁹ For a detailed discussion of the methodological issues arising in event study analyses, see IMF (2009) and references therein.
- ¹⁰ Brei, Gambacorta and von Peter (2011) provide an econometric analysis of the impact of equity injections on loan growth for a sample of 108 large international banks headquartered in 14 major advanced economies for the period 1995–2010. They find significant non-linearities: recapitalisations may not translate into greater credit supply until bank balance sheets are sufficiently strengthened to boost risk-weighted capital ratios.
- ¹¹ For example, Panetta *et al.* (2009) provide earlier insights on the lending behaviour of the US banks that received public equity injections through the Capital Purchase Program.
- ¹² Econometric analyses of the evolution of corporate spreads are provided by Collin-Dufresne *et al.* (2001), Elton *et al.* (2001) and Driessen (2005) among others.
- ¹³ Moreover, if we introduce additional dummy variables for the characteristics of the guarantees' scheme the overall weight of the government reaches 2/3 of the total cost. This result (regression not shown but available on request) is in line with Levy and Zaghini (2011).
- ¹⁴ Rather interestingly, analysing non guaranteed issuance in 2009 (fourth column of Table 2) leads to a result which is very similar to the one derived for 2006, namely that the sovereign's characteristics played a negligible role in determining banks' cost of issuance. When running regression (1) for the 215 non-guaranteed bonds placed that year by banks, regression results suggest that sovereign creditworthiness accounts for a mere 9 per cent, while the issue's characteristics add up to 67 per cent and banks' features to 23 per cent. This may be seen as implying that, even in times of turmoil, investors distinguish very clearly between an explicitly guaranteed bond and a non guaranteed bond, and price them accordingly. One possible corollary is that in 2009 investors did not perceive an implicit guarantee on non guaranteed bonds.
- ¹⁵ Gropp *et al.* (2010) show that public guarantees on saving banks in Germany – which ended in 2001 – were indeed associated with substantial moral hazard.
- ¹⁶ For a more expanded discussion of the costs of the bond guarantees see Schich (2009) and Levy and Schich (2010). Economic distortions are a common drawback of public guarantee schemes that provide insurance against financial risks generated in the private market. A good deal of the literature has focused on deposit insurance. In a general equilibrium analysis of a multi-region economy with banks, Bruche and Suarez (2010) find that deposit insurance causes a misallocation of credit and argue that one possible solution to the distortions would be to introduce fair risk-based premia. See also Acharya (2010), Acharya, Santos and Yorulmazer (2010), Pennacchi (2010) and references therein.

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

The Potential Impact of Banking Crises on Public Finances: An Assessment of Selected EU Countries Using SYMBOL

by

Francesca Campolongo, Massimo Marchesi, and Riccardo De Lisa *

This paper presents an application of the SYMBOL model, which was recently developed by the European Commission. In this application, we assess the potential impact of a crisis in the banking sector on public finances in four EU Member States chosen as examples. Results show that two Member States have a relatively higher probability of being in a situation where government finances have to cover losses generated in the banking system.

JEL Classification: G21, G22

Keywords: Financial crisis, public finance, systemic risk, contagion risk, bank default, deposit insurance, resolution fund.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

The recent financial crisis has shown some of the limits of current financial-system regulation. In view of this, European regulators and supervisors, as those in the rest of the world, have started a thorough revision of the main instruments of financial regulation, *i.e.* minimum capital requirements, banks deposits insurance, the banks crisis management framework.

These regulatory revisions have been supported by wide-ranging and deep analysis. The objective of these efforts clearly is to adopt regulatory changes on the basis of robust evidence produced by new and sound methodologies. In particular, the Joint Research Centre of the European Commission, jointly with DG-Internal Market and academia, have developed a new model named SYMBOL (SYstemic Model of Banking Originated Losses) to analyse banking crises and to serve as the main tool in the assessment of the impact of regulatory changes.¹ In particular, SYMBOL allows one to estimate potential bank losses within a Basel 2 compliant framework. The model explicitly considers potential losses arising from contagion effects in the interbank market.

This model can be applied to assessing the impact of a single regulatory measure or for evaluating the cumulative impact of a package of regulatory interventions. This aspect permits one to properly assess the impact of complex and numerous legislative initiatives, and calibrate regulatory changes accordingly. By assessing cumulative effects, regulators are more likely to detect the presence of double-regulation or regulatory overlaps.

SYMBOL also allows one to analyse the effects of regulation by adopting a macro perspective. In fact, the model estimates banking system losses by using a bottom-up approach to aggregate individual banks losses. Thus, the macro perspective of regulation can jointly be assessed with the micro perspective.

SYMBOL is being used by the Commission Services to prepare various so-called impact assessments of EC regulatory proposals intended to enhance financial stability and prevent future crises, such as the Capital Requirement Directive Proposal (EC 2010), the Crisis Management Framework Proposal, and the Comprehensive Evaluation of Financial Market Regulatory Reforms.

In addition to these impact assessments, SYMBOL has been recently applied to assessing the significance of banking crises on various financial phenomena, *i.e.* the stability of government finances. The recent financial crisis has shown that the balance sheets of governments and of banks are strongly interconnected and can affect each other in both directions. It is therefore important to take into account the potential consequences of the financial sector's condition on government finances. The present paper thus complements the analysis in Estrella and Schich (2011), which focuses on the effect running from the governments to the banks.

This paper presents the results of applying the SYMBOL model to assessing public finance sustainability in a banking system crisis.² The remainder of this paper is organized as follows. Section 2 presents the methodology. Section 3 explains the data used in the analysis and section 4 presents the results using the example of four European Member States (chosen for illustrative purposes). Section 5 concludes.

II. Methodology

SYMBOL involves two steps. First, an estimation of the default probability for the assets of any individual bank, based on the Basel FIRB loss-distribution function. Second,

an estimation of the distribution of aggregate losses by country, on the basis of the individual banks' asset-default probability.³

Once the aggregate bank loss estimates are obtained, it is possible to extrapolate and estimate the potential risk to public finances deriving from defaults in the banking sector. The underlying assumption used is that losses generated in the banking system are first covered by banks' capital. Whenever that capital is insufficient, losses are assumed to be covered by the various tools available in the financial safety net. The losses that cannot be absorbed by these tools are assumed to be covered, where possible, by governments (as has been the case in the current financial crisis).

The sequence assumed in the analysis is that when losses from obligors materialize, they are first covered by a bank's own capital, which is defined as the sum of the minimum capital required by regulation plus any excess capital. In case that capital is not sufficient, the bank defaults, so that Deposit Guarantee Schemes (DGS) and/or Bank Resolution Funds (BRF) are called upon to intervene. The DGS aim at protecting depositors, while the BRF aim at ensuring an orderly resolution of failing banks, blocking spill-over effects and preventing contagion (Schich and Kim, 2010). In the event that the DGS/BRF funds are not sufficient to absorb the losses, it is assumed that the losses are transferred onto the government finances, as has often been the case in the current financial crisis.

The SYMBOL model estimates the probability that public finances will be hit by bank losses. It also estimates the amount of funds that should be injected into the banking system through public interventions when the protections provided by existing financial safety net tools have been exhausted.⁴

Different legislative settings, reflecting different possible regulatory scenarios are considered.⁵ Each scenario is derived by making an assumption about four factors: i) the amount of minimum regulatory capital that banks have to hold; ii) the existence (or not) of DGS/BRF; iii) the existence (or not) of bail-in arrangements; and iv) the existence (or not) of contagion effects between banks. Any combination of these four factors, determines a different scenario. For instance, the scenario that depicts the current situation is derived from the following assumptions: a minimum regulatory capital equal to 8% of the Risk Weighted Assets, as set by Basel III; the existence of some DGS/BRF and of bail-in arrangements, but the absence of an BRF mechanism that is effective in blocking contagion.

In general, the four factors can be determined as follows:

- i. The amount of minimum regulatory capital that banks have to hold depends on whether Basel II or Basel III are assumed to be in place, and on the application of the Basel III conservation buffer. Three possible situations are considered: (1) Banks are compliant with Basel II and hold enough capital to fulfill their 2009 capital requirements. This buffer is not enough when applying the new capital definition proposed in Basel III. (2) Banks have recapitalized to meet the new Basel III requirements (Basel Committee, 2009, 2010a, 2010b, 2010c; CEBS 2010) which impose a minimum regulatory capital equal to 8% level of Risk Weighted Assets. (3) Banks have recapitalized to meet the Basel III extended requirement and hold, in addition, a capital conservation buffer so that their minimum capital ratio reaches 10.5%.

- ii. As regards DGS/BRF, two possible situations are considered: (1) DGS and BRF are in place, so that part of the losses are absorbed by these two entities; or (2) they are not in place.
- iii. As regards bail-in arrangements, two situations are considered: (1) “bail-in” or (2) “no bail-in”. The two situations differ with respect to the assumption regarding the existence of a legal framework able to ensure that some of the losses of defaulted banks can be effectively bailed-in. In particular, in the “bail-in” setting, bondholders and non-covered depositors⁶ are assumed to absorb bank losses that are beyond the scope of intervention by the DGS/BRF. In the “no bail-in” setting, it is assumed that DGS/BRF are unable to intervene in a selective way, so that they end up also covering the exposure of the bondholders and the non-covered depositors of the defaulting banks.⁷
- iv. Two possible situations regarding contagion are considered: (1) contagion takes place; or (2) contagion is prevented by the effective functioning of BRF arrangements.

Five different scenarios are presented that reflect different possible combinations of the assumptions regarding the four factors listed above. The five scenarios are presented in Table 1, with scenario 1 representing the highest public-finance risk and scenario 5 the lowest.

Table 1. Definition of scenarios considered

Scenario	Capital Setting			DGS/BRF Setting		Bail in		Contagion	
	Basel II	B.III 8%	B.III 10.5%	Yes	No	Yes	No	Yes	No
1	X				X			X	
2		X		X			X	X	
3		X		X			X		X
4		X		X		X			X
5			X	X		X			X

Source: European Commission (2011).

Scenario 1 represents the situation at the beginning of the crisis. Scenario 2 represents the situation as of now, with some elements of Basel III introduced but without a functioning BRF to prevent contagion. Scenario 3 represents the situation in which a BRF is introduced, and we assume here that the BRF is effective in eliminating contagion. Scenario 4 is like scenario 3, but with the successful implementation of bail-in. Scenario 5 is like scenario 4, but with all banks increasing their capital to comply with the countercyclical buffer.

III. Data

SYMBOL estimates the probability distribution of individual bank losses based mainly on two major sources of information: i) publicly available financial statements; and ii) publicly available regulatory capital requirements imposed by the national regulators from which it is possible to estimate the implied average probability of default of a bank's asset/loan portfolio.

The main data source is Bankscope, a proprietary database of banks' financial statements produced by the private company Bureau van Dijk. The dataset covers a representative sample of banks in most EU countries. When needed and when possible, data are integrated with public information on banks' financial statements released by supervisory authorities and/or central banks. In addition, ECB data have been used to complete or adjust the dataset.

The analysis is presented here for four EU countries, as examples. Table 2 provides some information on the sample data used for the analysis. The year of reference is 2009. The first column of the Table shows the coverage of the samples, expressed as the percentage of total assets of the banks in the samples and an estimate of the total assets for the entire population of banks in each Member State. The latter is obtained from the 2010 ECB EU banking structures publication, and it is computed as the amount of total assets for all banks minus total assets of bank branches abroad.

Table 2. Description of the sample used for SYMBOL simulations

	Sample as % of bank population	Total assets	Total liabilities	Total interbank debt	Total interbank credit	Total covered deposits	Total capital
Germany	64.19%	4 648 331	4 415 620	1 086 016	790 975	1 093 841	232 711
Ireland ^(a)	101.91%	1 221 181	1 155 789	276 738	148 729	147 145	65 392
Portugal	66.49%	323 762	297 421	43 561	34 505	82 952	26 342
Sweden	52.37%	455 355	422 301	97 604	122 872	75 383	33 054

(a) Data for Ireland are from the Supervisory Authority.

Notes: In Million Euros unless indicated otherwise. Data as of year-end 2009.

Source: European Commission (2011), based on data from Bankscope and Eurostat.

IV. Results

Aggregate loss distributions computed using SYMBOL can be used to assess the sustainability of government finances with respect to defaults in the banking system generated by credit risk.

Table 3 presents selected percentiles of the probability distribution for the costs to government finances, starting from the last decile. Note that, in order to facilitate the comparison between countries, costs have been expressed as a percentage of GDP (data from 2009), and the distributions of banking system losses are rescaled on the basis of the size of the samples used (see Table 2).

Results can be interpreted as follows. For example, under scenario 1, with 99% probability, the cost to the German government deriving from a bank crisis is not higher than 0.02% of GDP.

Figure 1 shows the probabilities that public finances will be hit by losses deriving from bank defaults, by looking at the probability of having any loss occurring in any of the five scenarios.

Table 3. Selected percentiles: distribution of the costs to public finances

In percent of 2009 GDP

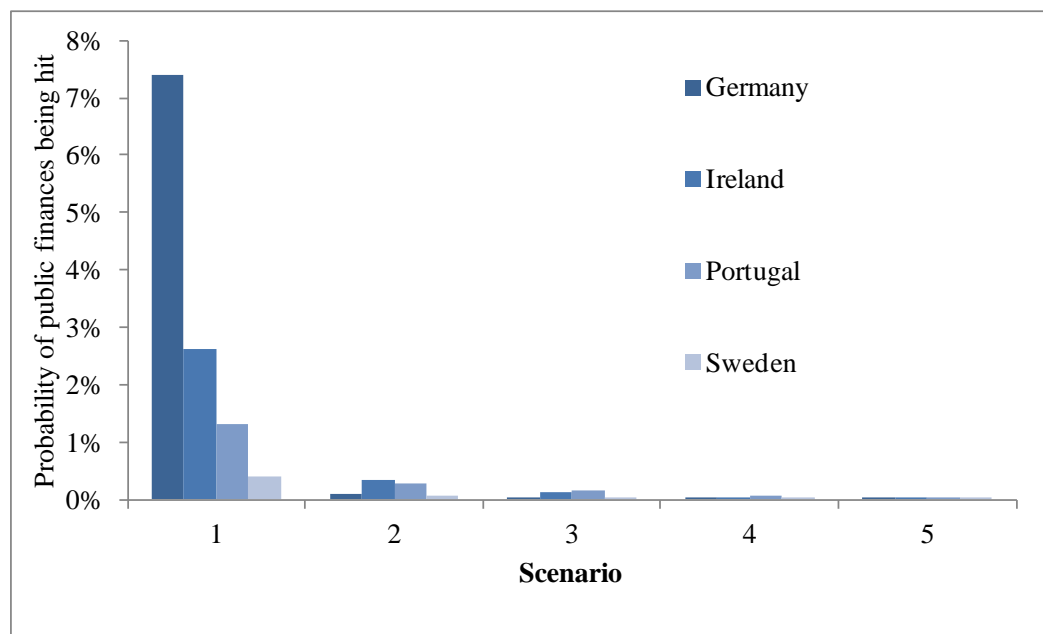
	Germany					Ireland				
	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
90	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
95	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
97	0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
99	0.020%	0.000%	0.000%	0.000%	0.000%	42.772%	0.000%	0.000%	0.000%	0.000%
99.25	0.032%	0.000%	0.000%	0.000%	0.000%	45.089%	0.000%	0.000%	0.000%	0.000%
99.5	0.056%	0.000%	0.000%	0.000%	0.000%	47.733%	0.000%	0.000%	0.000%	0.000%
99.75	0.132%	0.000%	0.000%	0.000%	0.000%	52.199%	3.380%	0.000%	0.000%	0.000%
99.9	13.550%	12.086%	0.000%	0.000%	0.000%	56.525%	40.982%	0.544%	0.000%	0.000%
99.925	14.970%	13.494%	0.000%	0.000%	0.000%	57.941%	43.253%	1.154%	0.000%	0.000%
99.95	16.363%	14.920%	0.000%	0.000%	0.000%	59.921%	46.297%	2.093%	0.000%	0.000%
99.975	17.897%	16.461%	0.000%	0.000%	0.000%	63.253%	50.599%	3.911%	0.053%	0.000%
99.99	19.497%	18.081%	0.124%	0.000%	0.000%	67.974%	55.454%	6.587%	1.024%	0.294%
99.995	20.763%	19.343%	0.739%	0.000%	0.000%	71.657%	59.219%	9.085%	1.930%	1.138%
99.999	24.052%	22.712%	2.810%	0.711%	0.759%	81.953%	69.237%	15.650%	4.312%	3.376%
	Portugal					Sweden				
	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
90	0.000%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
95	0.000%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
97	0.000%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
99	0.011%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
99.25	0.039%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
99.5	0.682%	0.000%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
99.75	3.235%	0.585%	0.000%	0.000%	0.000%	0.00%	0.00%	0.00%	0.00%	0.00%
99.9	8.547%	3.116%	0.593%	0.000%	0.000%	0.02%	0.00%	0.00%	0.00%	0.00%
99.925	9.954%	4.392%	1.057%	0.000%	0.000%	2.27%	1.41%	0.00%	0.00%	0.00%
99.95	11.560%	6.724%	1.758%	0.136%	0.000%	3.34%	2.48%	0.00%	0.00%	0.00%
99.975	13.830%	9.809%	3.029%	0.660%	0.025%	5.49%	4.64%	0.91%	0.00%	0.00%
99.99	16.659%	12.940%	4.861%	1.416%	0.722%	19.93%	19.08%	2.55%	0.52%	0.35%
99.995	19.062%	15.521%	6.440%	2.068%	1.318%	22.23%	21.37%	3.96%	1.08%	0.88%
99.999	24.947%	21.600%	10.514%	3.749%	2.927%	27.22%	26.36%	7.74%	2.60%	2.37%

Source: European Commission (2011).

This indicator shows that, for example, both in the previous regulatory situation (scenario 1) and in the current one (scenario 2,) Ireland and Portugal have a relatively high probability of being in a situation where government finances have to cover losses generated in the banking system.

However, this indicator does not give any information on the *size* of the loss that might hit public finances: it may well capture situations where there are minor defaults occurring and relatively small losses to be absorbed.

Information on the size of the losses can be extracted from Table 3. In particular, it may be worthwhile to look at the size of the losses that some countries may have to face under the current regulatory scenario, and how the situation could improve by setting in place regulatory tools.

Figure 1. Probability of public finances being hit by losses deriving from bank defaults

Source: European Commission (2011).

For instance, the case of Ireland shows that there is a probability, although relatively low (at 0.1%), that in the current regulatory setting (scenario 2) the government may have to face a loss higher than 40.982% of GDP, which is a substantial loss likely to be due to the effects of contagion among banks.

The same Table shows that the introduction of regulatory tools, and in particular of a Bank Resolution Fund that is effective in eliminating contagion, would drastically reduce the size of the loss, which in scenario 3 amounts to 0.544% of GDP.

V. Conclusions

This paper presented an application of the SYMBOL model, recently developed by the European Commission, to assess the potential impact of bank crises on public finances in four EU Member States: Germany, Ireland, Portugal and Sweden. SYMBOL allows the estimation of aggregate bank losses that potentially might have to be absorbed by government finances, as occurred in recent years.

Results show that two Member States have a relatively higher probability of being in a situation where government finances have to cover losses generated in the banking system. Moreover, it shows that regulatory tools, such as the introduction of Bank Resolution Funds, may substantially improve the situation.

The SYMBOL model has already been used by the European Commission to support various legislative proposals on banking regulation.

The model will be further developed: for example, its geographical coverage will be extended to include other EU countries.

NOTES

- ¹ The seminal work on SYMBOL has been published in De Lisa *et al.* (2010).
- ² This paper widely refers to recent research work by the European Commission to assess the sustainability of public finances in the EU. Results of this research are published in the European Commission report *Public Finance in EMU 2011*.
- ³ For more details see De Lisa *et al.* (2010).
- ⁴ The assumption is made that the total amount of funds available for DGS and BRF is the higher of 1.5% of covered deposits and 0.3% of total non- equity liabilities of the banking system, in any EU Member State.
- ⁵ The SYMBOL model is a flexible tool that allows changing the underlying assumptions so to be compliant with different regulatory settings.
- ⁶ Depositors covered by DGS are only eligible depositors up to 100,000 EUR. Non-eligible depositors are, for example, credit institutions, other financial institutions, insurances and pension funds.
- ⁷ Note that in the “No Bail-In” scenario the potential for dynamic moral hazard problems arising from the coverage of the losses of all bank creditors by DGS and BRF is currently not considered. Note also that in the bail-in setting, once the DGS/BRF funds are exhausted, the State intervenes to absorb within the same modalities as the DGS/BRF, *i.e.* not absorbing losses hitting the bondholders and the non-covered depositors.

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

The Fault Lines in Cross-Border Banking: Lessons from the Icelandic Case

by

Már Guðmundsson *

This speech discusses the fault lines in cross-border banking, both at the global level and at the European Union/European Economic Area (EU/EEA) level, using the case of the three Icelandic cross-border banks as an example. Cross-currency liquidity risk built up prior to the crisis, especially maturity mismatches in foreign currency. This risk tended to be grossly underestimated at the time. There was a run on banks' FX liabilities after the collapse of Lehman Brothers in September 2008. The Icelandic banks were highly vulnerable to such a run and lacked a credible lender of last resort (LOLR) in terms of foreign currency. The crisis also exposed serious flaws in the EU and EEA framework for cross-border banking, including deposit insurance. One of the main lessons of the Icelandic experience is that sizeable cross-border banking operations in small countries with their own currency come with very significant risks. The Icelandic experience suggests that further reforms are needed for cross-border banking activities in the Single Market, where the key issue is to match the European passport for banks with pan-European supervision, deposit insurance and LOLR. Domestic banks could remain in the domestic system.

JEL Classification: E42, E44, E58, G21, G28.

Keywords: financial safety net, cross-border banking, financial crisis prevention and resolution

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

Let me begin by thanking the OECD and other organisers and sponsors for inviting me to speak in this symposium. The title of your symposium is “Crisis management and the use of government guarantees”. This was a highly relevant issue when three cross-border banks in Iceland collapsed in early October 2008, and that is probably why I am here.¹

In the panic that gripped global financial markets after the collapse of Lehman Brothers, these banks – like so many internationally active banks around the world – were faced with a wholesale run on their foreign currency liabilities, and were therefore heading towards a default on them in the absence of lender of last resort assistance in foreign currency. However, given the size of the balance sheets involved (10 times GDP overall, with over two-thirds in foreign currency), it was impossible for the Icelandic authorities to provide such assistance on their own. It would indeed have been catastrophic if they had made a full-scale attempt to do so.

The background to these events was that the Icelandic banking system expanded very rapidly in just under five years. Its balance sheet grew from under 2 times GDP at the end of 2003 to almost 10 times GDP by mid-2008. At the same time, it extended across national borders. Just before its collapse, the three major cross-border banks that constituted the bulk of the banking system had over 40% of their total assets in foreign subsidiaries, 60% of total lending was to non-residents, 60% of income was from foreign sources, and over two-thirds of total lending and deposits were denominated in foreign currencies.

II. The EU framework and the Icelandic banks

How did this happen, and why was it allowed? I do not think we yet have the research and the consensus to provide a reasonably undisputed list of the main causal factors in this process; however, I think four factors will rank highly on that list. These are Iceland’s membership in the European Economic Area (EEA) in 1994, privatisation of the Icelandic banking system in the early 2000s in a manner that placed the major banks in the hands of risk-loving investment bankers, the global conditions of ample and cheap credit that prevailed in the years prior to the international financial crisis, and the tendency in Iceland both to adopt international and EU regulations without critical analysis of Iceland-specific risks and to base supervision to a significant degree on mechanical checks of adherence to those regulations.

Let me expand a bit on the EEA part, as it is highly relevant to my topic. The EEA Agreement provides a legal and regulatory framework based on European Union Directives, including a framework for free movement of capital and provision of financial services. The underlying principles are those of home licensing for operation anywhere in the area and of a level playing field for competition where size and location are not supposed to matter. This European “Passport” enabled the Icelandic banks to operate throughout the EEA, including through branches in other EEA countries.

I will discuss the flaws in this setup as regards banking later in my remarks, but in order to provide a proper perspective on the story, I must make two points. First, it goes against the grain of the underlying principles of the European Passport to consider the size of banks relative to GDP as a metric for concern, as is now rightly in fashion. Second, we

should see this more in the nature of a necessary rather than a sufficient condition, and it does not exonerate Icelandic banks and authorities of blame for their part in the story.

The financial crisis revealed major fault lines in cross-border banking, the most important being large foreign currency balance sheets with significant maturity mismatches but with limited lender of last resort facilities in foreign currency. The nature and magnitude of this phenomenon were not well understood before the crisis.²

Maturity mismatches are, of course, the bread and butter of modern banking, although they make banks vulnerable to runs. In the case of solvent institutions, we have known theoretically since Thornton (1802) – and probably over a century, as a practical policy – how to deal with that vulnerability in a domestic setting: with central bank lender-of-last-resort (LOLR) operations, later complemented by deposit insurance.

In the current setting, it is far from guaranteed that this process can be replicated at the international level. Of course, in normal times and with developed capital markets, banks can use foreign exchange swap markets to convert domestic liquidity into foreign exchange liquidity swiftly and relatively cheaply. However, this process broke down almost completely during the global run on cross-border non-US bank liabilities in the immediate aftermath of the Lehman collapse.

In a situation like this, the home central bank's ability to assist banks in acquiring the foreign liquidity denied them on the market and thus avoid a failure to deliver on their foreign currency payments, is limited by the size of its reserves or the willingness of the central bank issuing the international currency in question to help. Although the provision of foreign currency liquidity through reserves was clearly important during the crisis, most studies seem to support the conclusion that dollar swap lines made the pivotal difference, especially when they were uncapped vis-à-vis some key central banks. To a significant degree, this was the domestic LOLR process replicated at the international level.

Does this mean that we have the solution? At the conceptual level, yes, but at the practical level, maybe not. At present, such swap lines are not a permanent and reliable feature of the international monetary system, and there are important unresolved governance issues, such as who should decide which countries get a swap line and which do not.

Let us now move back to the EU/EEA level, where we have the contradiction between the European Passport, on the one hand, and national supervision, a national safety net of deposit insurance and LOLR, and national crisis management and resolution regimes, on the other. The crisis revealed that this framework is deeply flawed. First, it ignores the FX liquidity risk that I discussed earlier. Banks from small countries with independent currencies are more exposed to this risk than, for instance, banks within the euro area. Second, country size and bank size relative to countries are important factors in the viability of bailout options. The Icelandic banks are a good example of this.

Keeping in mind what I have said about the fault lines in cross-border banking, let us go back to the collapse of the Icelandic banks. What were the options facing the authorities? At that time, the official view was that the banks were solvent but faced a foreign currency liquidity problem. Their published CAD ratios were well above the 8% limit, and as late as August 2008, the Icelandic Financial Supervisory Authority had deemed them able to withstand severe capital shocks. Now, however, we know that this was probably not truly the case. Even if they had been solvent in the sense that equity was positive, in the aggregate they were below the 8% threshold when corrected for “weak”

capital in the form of equity financed by lending from themselves. Furthermore, we know that, over time, an unchecked liquidity problem will turn into a solvency problem.

Be that as it may, with the solvency assumption in mind, the authorities had tried to build defences against potential foreign currency liquidity problems at the banks by negotiating swap lines and by tapping foreign capital markets, in both cases with limited success. The problem was surely exacerbated by the handling of a LOLR request from one of the banks in late September 2008. The announced solution was to nationalise the bank. This would have been a disaster if it had been carried out because it would have made the Government responsible for refinancing a bleeding foreign currency balance sheet, which it did not have the resources to do. FX reserves and swap lines amounted to only 35% of GDP, and at that point the Government itself was shut out of international capital markets. Nationalising the bank would have turned a bank foreign currency refining problem into a sovereign problem with the serious risk that the sovereign might have defaulted on such foreign currency payments. The decision was, however, never implemented because of the ensuing full-scale run on the foreign liabilities of the banks and the domino effects inside the Icelandic economy. But the time to consider the options was rapidly running out.

III. The Emergency Act

Given the lack of international co-operation, the Icelandic authorities were forced at this point to consider radical solutions. Although they were not necessarily articulated fully at the time, these solutions had several goals: to preserve a functioning domestic payment system, ring-fence the state in the case of bank failures, limit the socialisation of private sector losses, and create the conditions for rebuilding a domestic banking system.

The adopted solution incorporated several elements. The Government declared that all deposits in Iceland were safe. Second, on 6 October, the so-called Emergency Act (see also Box 1) was rushed through Parliament, giving the Financial Supervisory Authority broad-based powers to intervene in failing institutions, granting all deposits seniority over other unsecured claims in case of bank failures, and giving permission for Government capital injections into new domestic banks.

The Emergency Act thus allowed new domestic banks to be created when the old cross-border banks failed and were placed in special resolution regimes followed by winding-up proceedings. In essence, the old banks became the property of the creditors, which were mostly foreign. The new banks were created by carving the domestic assets and liabilities out of the old banks, so it was not a good bank–bad bank split. The idea, then, was that the Government would recapitalise the banks and place compensation bonds in the estates of the failed banks. However, valuing the assets and liabilities proved a complicated process in the middle of an economic and financial crisis, and a solution emerged where the creditors of the failed banks became majority owners of two of the banks and kept a small equity stake in the third. This saved the Government significant expense in recapitalising the banks. The new banking system amounted to 1.7 times GDP.

As a result, the domestic payment system functioned more or less seamlessly throughout, and customers had continuous access to their deposits. The run on the domestic banks stopped, but at its peak, demand for cash tripled and the Central Bank almost ran out of banknotes. Nonetheless, international payment flows were seriously affected by the freezing order imposed by the UK, and the British authorities' suspicion that Iceland would not honour deposit insurance in UK branches of the failed Landsbanki

and by general distrust among foreign counterparties. With heavy Central Bank involvement, international payment flows were gradually restored in the months that followed.

Box 1. Emergency Act of 6 October 2008

The aim of the Act was to ensure a functioning payment system and create the conditions for continued domestic banking operations in the event of failure of major banks.

Measures

- to permit the Minister of Finance, on behalf of the Treasury, to provide financing to establish new financial firms and acquire existing such firms, wholly or in part. Financing to savings banks was limited to 20% of net worth.
- to grant the Financial Supervisory Authority (FME) broad-based powers to intervene in the operation of distressed financial firms by
 - convening shareholders' meetings.
 - appropriating the power of shareholders in order to make what may be necessary decisions to limit the power of the Board or remove it, wholly or in part; to take over the assets, rights and responsibilities of the financial firm, wholly or in part; and to dispose of the firm, including merging it with another such firm.
 - appointing a Resolution Committee
 - limiting or prohibiting the disposal of funds and assets by the financial firm, safeguarding assets earmarked to meet liabilities, having asset values assessed for payment of claims.
 - requiring financial firms to apply for a moratorium on payment, request composition of creditors, or file for bankruptcy.
- to improve the financial safety net by making the following amendments to legislation on deposit guarantee schemes:
 - identifying deposits as priority claims in case of receivership.
 - redeeming deposits in the Icelandic króna (ISK).
 - providing for repayment of term deposits in harmony with the accounts' existing requirements, so as to avoid the development of liability for the Depositors' and Investors' Guarantee Fund until withdrawal is permitted.
 - setting rules on netting out deposits and debts within the same financial firm.
- to protect homeowners, the Government-owned Housing Financing Fund was given permission to take over the mortgages of the banks.

Implementation

In October 2008, in accordance with the Act, FME placed Landsbanki, Glitnir and Kaupthing banks into receivership managed by separate resolution committees under its auspices. The domestic assets and liabilities of the old banks were transferred to new banks, and the assumptions behind the division of accounts were explained. In November and December 2008, the old banks entered formal winding-up proceedings, first with a moratorium on payment and then with resolution.

I have expanded at some length on the measures taken when the banks failed, as there are still a number of misconceptions about the process. Some have claimed that the banks were nationalised. They were not. The old banks are private companies. They are in winding-up proceedings governed by law; they are not under the control of the Government. The Government has a majority stake in only one of the new banks. Others have claimed that Iceland defaulted and got away with it. The opposite is true. The credit of the sovereign was preserved, and all debt obligations have been paid on time. This is why the sovereign was able to tap international capital markets last summer, and why its CDS spread is currently around 300 points.

IV. Deposit guarantees

Before leaving the topic of crisis management and resolution in the case of the Icelandic banks, I would like to say a few words about deposit guarantees. Why did the Government give a verbal blanket guarantee only for domestic deposits and not the deposits in the banks' foreign branches? After all, this distinction probably added fuel to the fire of the so-called Icesave dispute about the settlement of deposit guarantees in Landsbanki's Dutch and British branches. The short answer is that such a guarantee would never have been credible. As a result, it would not have stopped the run on these deposits and, if attempted, might have bankrupted the Government. At the time, the Central Bank of Iceland's FX reserves amounted to 2½ billion euros, while the foreign currency deposits in Landsbanki's Dutch and British branches totalled 11½ billion euros and payment of the EU minimum deposit insurance would have required 4½ billion euros. In economic terms, given that these deposits were used to a significant degree to finance illiquid assets in these same countries, such a payment would have amounted to a net transfer of resources from Iceland to these countries at a time when Iceland was going through its deepest financial and economic crisis in the post-war period! That made no sense, and the only solution was for the governments concerned to pay out the insurance in their own currency with the aim of settling later with Iceland. There are legal arguments about the merit of such claims that I will not comment on here. The fact of the matter is, however, that the Icelandic Government made three good faith attempts to close the issue through negotiated settlements but got caught up in political dynamics and the case might be on its way to the EFTA Court. But the financial risks for the parties involved are dwindling, as it now appears that the estimated recovery from the estate of Landsbanki will cover almost 100% of all deposits in the foreign branches. And of course, the priority given to deposits in the Emergency Act is of vital importance to that result.

V. Lessons learnt

Let us now turn to some of the lessons learnt from the crisis.

First, as regards the EU/EEA framework, the bottom line is that we cannot have a level playing field in banking, except perhaps in risk-adjusted terms, as long as the EU passport is not matched by EU supervision and an EU-wide safety net, which is the logical solution. Furthermore, EU-active banks from small countries with their own currencies should have reduced passport rights and/or face higher capital charges, as they have a less credible LOLR and are therefore more risky, other things being equal. Subjecting all banks in the EU to supervision by an EU supervisor is probably too much, and in practical terms, it might make sense to have two types of bank licences. In that case, national authorities would licence and supervise domestic banks, which would face significant restrictions on the type and scope of their cross-border activities. Their

deposits would be insured by the domestic deposit insurance system, and the national central bank would be their LOLR. Banks wanting a European passport would be licensed and supervised by an EU authority; they would be part of an EU-wide deposit insurance system, and in most cases, their LOLR would be the ECB.

Second, at the national level the key issue is that, as long as global risks and EU flaws are not dealt with, individual countries are forced to take action to protect themselves: action that might contribute further to the retreat of cross-border banking. Such action might take the form of restricting international activities of home banks and placing much stricter prudential limits on foreign currency maturity mismatches. For example, when Iceland lifts its current capital controls on outflows, it will probably impose restrictions on the size and composition of the foreign currency balance sheets of home-headquartered banks. Some might see such restrictions as capital controls in another form, but I see them as prudential rules.

Finally, deposit insurance and the LOLR are logically related and should be in the same currency. Part of the rationale behind them is to prevent and stop runs. In the final analysis, it only works if the bank liabilities are flowing into a central bank that has the duty, willingness, and capacity to recycle them against collateral and expand its balance sheet as needed. The question therefore arises whether national deposit insurance systems should cover domestic deposits only and the payout should likewise be in domestic currency only, even for foreign-denominated deposits.

In closing, let me note that the saga of the financial crisis in Iceland and its interaction with the European and global financial system is a complex one. My remarks today have only given you glimpses here and there. But as with other sagas, Icelanders will be writing about this for decades, if not centuries, and I think we can be confident that they will be better at writing about it than at running and supervising cross-border banks.

NOTES

¹ Some of the topics discussed in this speech are dealt with at greater length in the following two sources: Gudmundsson & Thorgeirsson (2010) and Gudmundsson (2010).

² My former colleagues at the BIS have been doing important research in this area, see, for example, McGuire and von Peter (2009), Baba and Packer (2008) and Baba, Packer and Nagano (2008).

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

The Macro-Prudential Authority: Powers, Scope and Accountability

by

Charles A.E. Goodhart *

Neither the achievement of price stability, via the MPC, nor the application of micro-prudential oversight, via the Financial Services Authority (FSA), led to overall financial stability. There is a gap that needs to be filled by a macro-prudential authority (M-PA), the Financial Policy Committee (FPC) in the United Kingdom. The only macro-prudential instrument used heretofore has been the publication of Financial Stability Reviews (FSR). While worthy, these have been ineffective. The M-PA should have the following powers: First, the power to alter the composition of Central Bank (CB) assets, by adding to (subtracting from) its holdings of claims on the private sector. The argument that such actions are ‘quasi-fiscal’, and should therefore not be undertaken, is not supported. Second, the power to adjust margins (Capital adequacy ratios, liquidity ratios, loan-to-value ratios, etc.) to influence the conduct of financial intermediation. The argument that the use of such powers puts the FPC in a difficult conflict with the Monetary Policy Committee (MPC) is not supported. Third, the power to propose (to the legislature) fiscal and structural amendments affecting financial intermediaries, and the duty to comment on such proposals emanating from other sources. The M-PA should not be involved in the resolution of financial intermediaries, however. As regards institutional design, because the provision of liquidity is simultaneously a key Central Bank function and an integral component of crisis prevention, the M-PA has to come under the aegis of the CB. Whether the micro-prudential authority (the FSA) is also brought under the overall control of the CB (that would include the M-PA), or remains independent, will remain a matter of national preference and history, with arguments on either side. The more complicated question relates to where to place the regulation of financial markets. It should not be placed with the conduct of business regulator, as now proposed for the UK. Procedures for crisis prevention and crisis resolution should be separated. Crisis prevention should be undertaken by the CB (that would include the M-PA) in an operationally independent manner, for exactly the same reasons as an MPC is independent. Crisis resolution involves the allocation of losses and should be the responsibility of the Treasury. The problem is how to make FPC accountable for its crisis prevention responsibilities. We advocate the adoption of a set of ‘presumptive indicators’, which, when triggered, require the FPC either to comply with remedial action, or to explain, in public, why there is no need to do so.

JEL Classification: E42, E50, E58, G28.

Keywords: macro-prudential supervision, central bank, government policy and regulation, financial crisis prevention and resolution.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

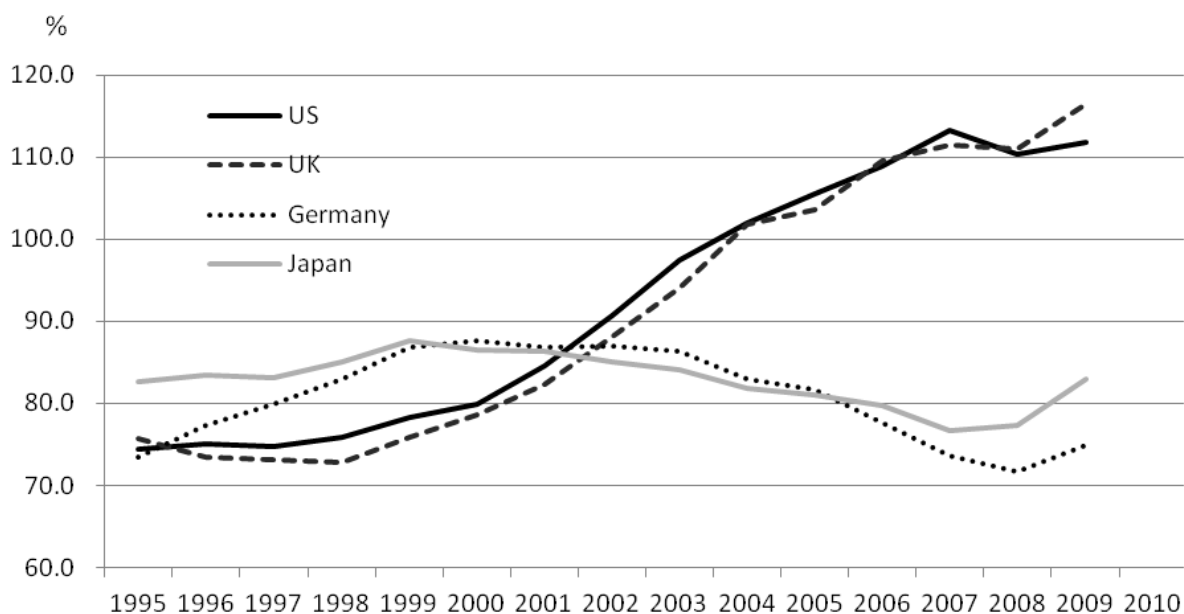
- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

The onset of the financial crisis, which began in the summer of 2007 and is still with us, led to a general realisation that there had been a missing link in the overall structure of financial regulation. Monetary policy had focussed (successfully) on price stability and general macro-economic stability. But this was not enough to ensure financial stability; indeed it might even be inimical to it, as Minsky had warned (1977, 1982, 1986). Micro-prudential regulation, as promulgated internationally by the Basel Committee on Banking Supervision (Goodhart, 2011) and operated nationally by a variety of official organisations, some within and mostly without their national Central Banks, had focussed unduly on the conditions and prospects of the *individual* financial intermediary, in particular the individual bank. Far too much weight was attached to the achievement and implementation of the Basel II Capital Accord for individual banks (and in the USA for the large investment houses). Particularly in conjunction with the increasing application of mark-to-market accounting, the regulatory apparatus had allowed the financial system as a whole to become dangerously procyclical. Leverage increased in many countries and in many guises, see Figures 1a and 1b. Not only did regulators fail to appreciate the lurking dangers, but so did markets, as illustrated by the decline in major bank CDS rates to their low point in early 2007, see Figure 2.

Figure 1a. Household leverage ratios

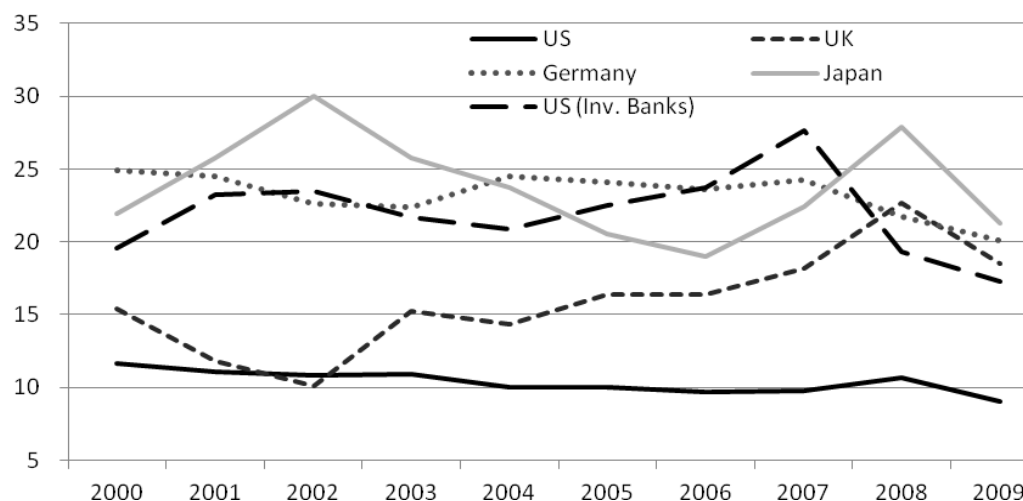
Debt to Income Ratios



Source: Author estimates based on data from the OECD.

Figure 1b. Bank leverage ratios

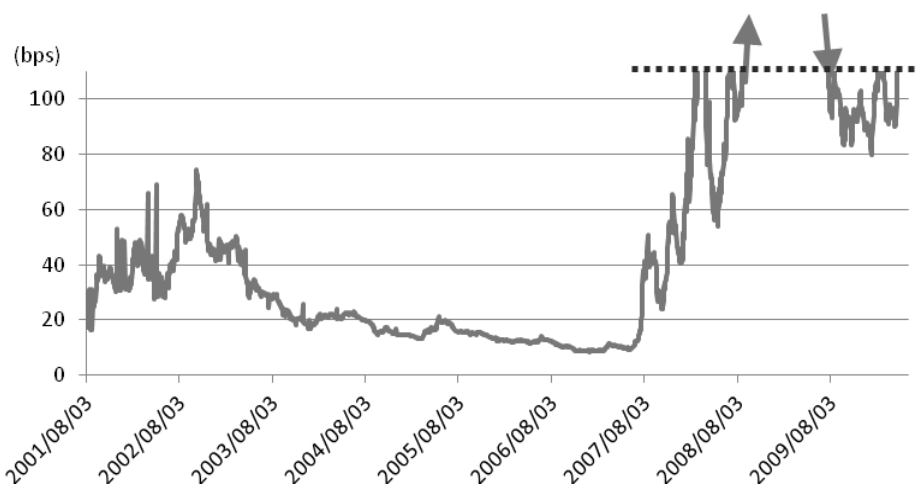
Total Asset / Capital & Reserves



Sources: US, Germany, Japan data from OECD, Japan 2009 data from World Bank, UK data from World Bank, US investment banks' (Weighted average of Goldman Sachs, JP Morgan, Morgan Stanley, Lehman Brothers (discontinues at 2008), Merrill Lynch) data from Bloomberg.

Figure 2. Average of 5 year CDS prices for 30 major global banks*

New York Intra-Day Prices



*30 major banks are American Express, BBVA, Banco Santander, JPMorgan, Bank of America, Wells Fargo, Citigroup, BNP Paribas, Societe Generale, Credit Suisse, Commerzbank, Deutsche Bank, Morgan Stanley, UBS, Goldman Sachs, Credit Agricole, HSBC Bank PLC, Barclays, ING, Lloyds TSB, RBS, Nomura, Standard Chartered PLC, Mitsubishi UFJ Financial, Intesa Sanpaolo SpA, Sumitomo Mitsui Banking, Mizuho Corporate Bank Ltd, Royal Bank of Canada, Macquarie Bank Ltd, UniCredit SpA.

Source: Bloomberg.

Even in terms of the resilience and stability of the individual bank, the Basel II requirements were flawed. Northern Rock and Anglo-Irish were Basel II compliant. The risk-weightings were as much subject to political pressures (notably for residential mortgages and sovereign debt; is it just accidental that these have been at the centre of the current crisis?) as to financial industry capture and manipulation. But the deeper problem has been that controls and reactions that seem appropriate at the level of the individual financial institution may become seriously damaging at the level of the system as a whole. Thus, faced with adverse financial conditions, the reaction of the individual bank or other financial intermediary is to retrench, to hoard liquidity, to sell assets while the opportunity to do so remains open, and to become far more restrictive in extending credit. Micro-structural regulation often reinforces such tendencies, in part by encouraging all the regulated to act in the same way at the same time, as a herd (see Persaud, 2000, and Wagner, 2010).

The obvious answer to this apparent problem is to try to get the regulators and (market) commentators to think in systemic, rather than in individual, terms; this is particularly important because each separate institution will, and should, focus on its own individual position. It is the externalities arising from interactions *amongst* financial intermediaries, notably those that are systemically important (SIFIs), that should always have been the central core of regulation; the failure to recognise this has disfigured the conduct of financial regulation since its earliest days.

Following shortly after the onset of financial crisis in 2007, this theme has been argued (Brunnermeier, et al., 2009) and has been now widely accepted. A new approach, macro-prudential, is to be adopted by the authorities, with the relevant macro-prudential organisation bridging the (now revealed) gap between the Central Bank, in its role as monetary policy authority, and the micro-prudential authority. Such macro-prudential institutions are springing up, like field mushrooms after September rain, in a wide range of countries; the Financial Policy Committee in the UK, the Financial Stability Oversight Committee in the USA, the European Systemic Risk Board; J.-C. Rochet and I have separately been involved in proposing the adoption of a similar macro-prudential authority in Sweden (Goodhart and Rochet, 2011).

Central Banks already in most countries had some titular responsibilities for financial stability, usually since their foundation. Apart, however, from their ability to provide liquidity to banks, and occasionally to other entities, in the form of Lender of Last Resort (LOLR) loans, and/or emergency liquidity assistance (ELA), they have had few ‘macro-prudential’ powers. To try to fill this lacuna, if only partially, Central Banks have sought to use the powers of publicity, in order to warn both financial institutions, markets and the public of impending dangers. The first Financial Stability Report/Review was published by the Bank of England in 1996. Since then its example has been followed by most other major Central Banks, and the IMF, see M. Cihak (2006). It would be an interesting research exercise, though one that has not (to our knowledge) yet been done, to try to assess whether such Reports/Reviews attempted forward predictions, and, if so, their relative accuracy. In any case such Reviews/Reports usually took the form of generalised warnings, with little, or no, expected follow-up in the shape of specific action. Consequently financial intermediaries and markets took far less heed of such FSRs than they did of Monetary Policy Committee pronouncements (Minutes, Inflation Reports, etc.). If the new macro-prudential authority is to have some bite and ability to provide systemic financial stability, it needs to be given the requisite powers to do so. We discuss in section II what these powers might be.

There has been insufficient discussion about what these powers might be. In contrast, there has already been extensive discussion of the organisational framework within which such a macro-prudential authority might operate. Politicians enjoy rearranging power structures, and so there has been much discussion and reallocation of the division of powers, especially between the Central Bank, the macro-prudential, and the micro-prudential authority, and also of the roles, in relation to systemic stability, of the Ministry of Finance (Treasury), and of the authority that resolves failed financial intermediaries, notably whether the latter should be separate from the Central Bank and/or the macro-prudential authority. We reprise this discussion in section III.

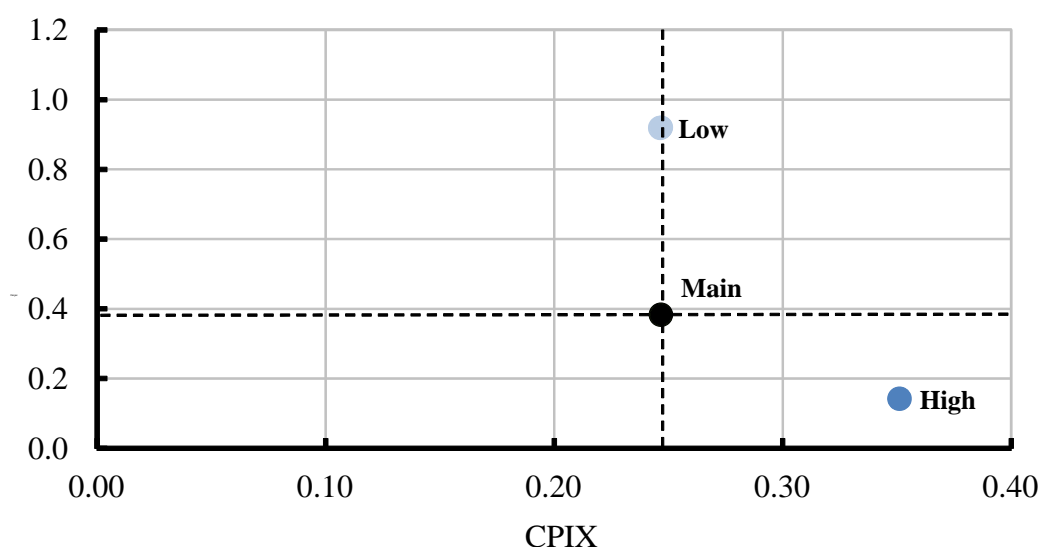
It is easier to delegate the monetary policy objective (than the financial stability aim) to an independent Central Bank, because:-

1. There is a primary, medium-term, focus, price stability (NB, the theorem that the Phillips curve becomes vertical in the medium-longer term remains unshaken).
2. This price stability target can be quantified, (subject to remaining issues about the appropriate indexation, responses to past misses, etc., and other technical issues).
3. There is one primary instrument, the official short term interest rate, that the authorities can wield for this purpose, thereby satisfying the Tinbergen rule, relating targets to instruments.

These conditions simplify the exercise of holding the delegated monetary authority accountable for its actions. Indeed, such a judgement can even be undertaken on the basis of a single, simple diagram, as developed by Lars Svensson (2009) of the mean squared gap of the forecasts for output and for inflation arising from alternative projections for the policy path of the official short term rates, (see Goodhart and Rochet, 2011, section 4.1); an example is given for Sweden from June 2007.

Figure 3. Mean squared gap for forecasts of the output gap and CPIX/CPIF inflation

June 2007- September 2008, as of June 2007



Source: The Riksbank.

No such similar quantification can be done for the objective of financial stability. There are various measures of the stability of parts of the financial system, e.g. derived from the scale/number of defaults, from the volatility of market returns/prices, from CDS rates, etc., but there is no generally agreed quantitative index of stability overall. At best there is a binary division of financial conditions into crisis/non-crisis (frequently now rephrased as war-time/peace-time), but even here both the dating, and the intensity, of crisis remains uncertain.

Moreover, unlike price stability, there are a variety of instruments that could be used to achieve financial stability, as discussed in section II. How then can one hold the macro-prudential authority accountable for such operations as are delegated to its independent control? Despite this, we shall argue that operational independence is just as essential in this case, as in the process of setting interest rates for the monetary policy objective of achieving price stability.

The question, to whom should the macro-prudential authority be accountable, is quite easily answered; in a democratic society such an authority should be accountable to the legislature, (or a Committee of that legislature). But how can its performance be assessed? The legislature cannot observe the scale of shocks to financial stability; it cannot easily discern which of the various ameliorative measures could have been deployed to counter such shocks, or the likely transmission mechanisms and overall effects of such counter-measures; it can only broadly and uncertainly assess the current condition of financial stability, remembering especially that the system often becomes most over-extended just when everything looks most rosy.

The Treasury Committee of the House of Commons is wrestling with exactly this question of the design of accountability for the Financial Policy Committee. This is the subject of the final section, section IV of this note, and derives in part from evidence that was given earlier to that Committee.

II. The powers of the Macro-Prudential Authority

1. The central bank's balance sheet

In a crisis money is 'king'. In modern economies the Central Bank is the monopoly issuer of 'high-powered' money, notably to the financial system. A macro-prudential authority by itself has no money. So, it has to have access to the Central Bank's balance sheet. Willem Buiter has argued (2008, 2010a) that such an authority could be separate from the Central Bank, but yet have independent ability to draw on the Central Bank's balance sheet without getting prior permission from the CB. In my view that would diminish the independence and powers of the CB, so much so that the macro-prudential authority (M-PA) would become itself a second CB. This would be constitutionally and institutionally difficult, and could build conflict into the heart of the regulatory system. In my view this is the central argument why the M-PA has to be located within the CB.

But such location does not, of itself, resolve the potential conflict between the price stability and the financial stability objectives of policy. Both in some large part depend upon the manipulation and control of the CB's balance sheet. Yet there is a, quite neat, potential separation between the (balance sheet) requirements for the two objectives. The official short-term interest rate requires, *i.e.* is the 'dual' of, a certain quantum of (bank) high-powered money balances. Thus the overall size, quantum, of the CB's balance sheet

must be controlled by the MPC. When such official rates hit the zero bound, further quantitative easing (QE), is again a function of the MPC. Since World War II, the greater bulk of most CBs' assets have been held in government debt. In so far as the CB wants, and feels able, to affect the yield curve of interest rates on government debt by varying the maturity/duration of public sector debt that it holds, then that also should be within the province of the MPC.

While the achievement of a chosen official interest rate requires a given quantum of CB liabilities, the nature and form of the counterpart assets in the CB's portfolio is, as a generality, irrelevant to that end. Such CB assets can take the form of claims on the public sector, claims on the private sector and claims on the rest of the world (ROW). CB claims on the ROW, part of the official reserves of each country, are in most countries determined strategically by the government, with the CB acting as agent in the tactical management of such reserves. By the same token the Financial Policy Committee (FPC) should decide on the main outlines, and quantum, of CB lending to the private sector. Such lending could take several forms; LOLR (ELA) lending to individual, or sets of, financial intermediaries is the main traditional form of such lending; but credit easing (CE), as practiced recently by the Fed in the USA, in order to restore the proper activity of dysfunctional markets, is another example. Moreover, in previous centuries the main staple of CB balance sheets had been commercial bills of exchange, rather than government debt. The purchase of such 'real bills' was then thought to be less inherently inflationary and more conducive to financial stability than that of government debt. Prior to 1914 claims on the private sector, rather than claims on the public sector, formed the main part of CB balance sheets.

Currently, however, there is a strong contention, mostly emanating from the USA, e.g. M. Goodfriend (2009) but also see Buiter (2010a, 2011), that such purchases of claims on the private sector should be minimised, or even avoided altogether. This assertion rests on a number of arguments. Some of these are better founded than others. Let me start with those that I regard as least well founded:

i) Purchasing Private Sector Claims is 'Quasi-Fiscal'

In one sense this is a ridiculous assertion. What could be more fiscal than a purchase of public sector assets, thereby changing the interest rate burden that the taxpayer has to meet. Assuming that the return is identical, the seigniorage transferred to the Treasury is the same whether the CB holds public or private sector debt.

So what is presumably meant by this assertion is that the pattern of purchases of assets by the CB alters the distribution of relative yields/returns, and so benefits one sector of the private sector relative to another, in other words that the composition of the CB's balance sheet can have a distributional effect, and that such allocative/distributional effects are properly a function of the Treasury/legislature.

There are problems with this argument. In so far as the financial system is perfectly efficient, the yield/return on all such assets should be a function of fundamentals, e.g. prospective future cash flows. So shifting the balance sheet of one (relatively small) player in the financial market should have zero effect on relative prices (and Operation Twist should fail). So, in order for the composition of the CB's balance sheet, including LOLR or ELA loans, to matter there must be frictions, asymmetric information, inefficiencies in the financial systems, as of course there are. Indeed, it is exactly those frictions, inefficiencies, etc., that require the ministration of an M-PA in the first place. It follows, therefore, that

those who believe that macro-prudential policy is needed should also believe that this might properly be undertaken, at least in part, via CB operations in private sector assets.

ii) Purchasing Private Sector Assets is Too Risky

In view of the recent travails of the sovereign debt of peripheral euro-zone countries, it is not obvious that longer-duration public sector debt is less risky than shorter-dated private sector debt. But there is an additional consideration. The CB is within the public sector. Thus a loss (gain) to the CB from valuation changes on holding its *own* government's debt is, more or less, exactly counterbalanced by an offsetting change in the net present value of the Exchequer's debt.¹ The taxpayer is not affected directly, though the associated change in interest rates will of course have an impact.

In contrast, when a CB holds claims on the private sector, then changes in the value of such claims feed through directly into changes in the net debt of the public sector; though the net wealth of the country remains unchanged, it does shift the balance between taxpayers and others. Even so, the scale of CB claims on the private sector is usually minute, relative to overall public sector indebtedness. Moreover, so long as the financial system is efficient, with prices/yields dependent on fundamentals only, purchases/sales by the CB should have minimal impact on relative prices. It is only if/when financial frictions/inefficiencies occur, that CB market intervention could have a major effect on such relative prices. But it is in exactly such conditions that macro-prudential actions can be effective and would be desirable if done appropriately.

That said, CBs can be, and are, often blamed for interventions that subsequently lose money. The recent attacks on the Swiss National Bank for their intervention in the foreign exchange market provide an illustration. The desire by the CB to obtain some prior Treasury indemnity against losses on its purchases of assets, other than its own government debt, is more a function of institutional self-protection than of economic validity. Nevertheless concerns for self-protection are deeply felt, and ground rules for CB interventions in private sector markets might need to be spelt out in advance.

iii) Private Sector Markets are Relatively Efficient

In some senses this argument is the reverse of the previous two, to wit that private sector markets are so efficient that CB intervention will, on balance, drive prices/yields further away from, rather than closer to, their fundamental equilibrium. If so, the intervention of a relatively small investor should not have much effect. Once again, it is the existence of financial frictions, of asymmetric information, of externalities and systemic effects that justifies such intervention.

Thus the first macro-prudential instrument that should be used by CBs is the ability to intervene in order to purchase (or sell) claims on the private sector, including of course loans to banks or other SIFIs.

This division of the responsibilities for the MPC, on the quantum of the CB's balance sheet, and for the FPC, for the private sector component of that balance sheet, has the further connotation that policy conflicts between the two bodies (MPC and FPC) should not be a serious issue. Of course, actions by each affect the context in which the other works, though tightening by the FPC on ratio controls can either raise, or lower, interest rates, depending on whether the strengthened ratio falls on a lender or a borrower (e.g. LTV). Nevertheless coordination problems between the MPC and FPC need be no more

severe, probably much less, than coordination between the fiscal and the monetary authorities. While this latter could become more problematical, as public sector debts and deficits rise, they have not, as yet, prevented the successful operation of an independent MPC. On this view the potentiality for conflict between the FPC and the MPC is a non-issue, especially given the overlap of Committee members.

2. *Constraints on the process of financial intermediation*

Constraints on the exercise of financial intermediation can take the form of applying various kinds of controls over the capital adequacy and liquid asset holdings of financial intermediaries. In a sense they can be viewed as margin requirements with respect to financial intermediation. They can, moreover, be accompanied by controls over the payment of dividends and certain forms of remuneration (e.g. bonuses), in some cases as sanctions should the intermediaries violate their margin (capital/liquidity) requirements, see for example the current proposals for the EC's Capital Requirements Directive, Fourth Version, (CRD4), as reported (e.g. *Financial Times*, *Times*, etc.), July 21st, 2011.

If such constraints are to bite, they presumably put those on whom the requirements fall in a less preferred position. In this sense direct constraints are somewhat similar to a tax, (as will be discussed later in section II.3 below). In a global financial system, without exchange controls, how far can any single M-PA impose penalties/taxes on its own financial intermediaries/markets without losing a large proportion of its financial business abroad? The 'level-playing-field' argument has always been the most potent argument against individual authorities' attempts to tighten regulation in its own jurisdiction, and this specifically does include the USA. Consequently almost all effective attempts to impose common ratio requirements, especially on capital, have been taken at the global, international level, e.g. by the Basel Committee on Banking Supervision (BCBS) and/or by the Financial Stability Board (FSB), previously the Financial Stability Forum (FSF).

In theory margin controls, e.g. in the form of capital adequacy ratios (CARs), ought to be tightened during periods of credit/asset price expansion, and lowered during recessions, in a counter-cyclical manner (see Borio, 2009, and Drehmann, et al., 2010). But such financial cycles are not uniform across countries, as was exemplified during the build-up to the current crisis, with the United States, the United Kingdom, Spain, Ireland, Iceland having much stronger financial cycles than Germany, France, Italy and Japan. So, if there is to be some counter-cyclical element in the application of ratio requirements, this would seem to push responsibility for such actions back to national authorities and raise again the 'level-playing-field' issue.

In this latter respect there has been one, potentially major, step forward, offset by a partial step backwards. The advance was achieved in a recent BCBS agreement on Countercyclical Capital Buffers (2010, pp 3-9) that lending into a host country, whether by an intermediary located inside, or outside, that country, should bear the capital ratio applicable within that host country. So, should Canada, for example, raise the CAR on loans to commercial property in Canada by an additional X%, then a Japanese bank making such loans out of its Tokyo office would have to apply the same extra X% CAR on them. While this complicates somewhat the administrative calculation of CARs, this does provide much more scope for individual countries to apply counter-cyclical (time and state varying) ratios, freer from the 'level-playing-field' critique.

The partial step backwards is to be found in the current proposals by the European Commission (EC) that the regulatory requirements in the EU should involve a rule-book

which not only provided minimum harmonisation, (no member state could apply lower ratios unilaterally), but also maximum harmonisation, (no country allowed to impose tougher requirements unilaterally), (see for example FT, July 20 and 21, 2011). This would prevent any member state introducing additional requirements independently. There is no necessary barrier that would prevent the option of more granular (member state/sectoral) counter-cyclical, time-varying, ratios being built into EU-wide rules, to be put in place by agreement *between* the EU regulator and the member state M-PA, but such general enthusiasm for a single, common EU-wide application of rules will, on this view, lead to a strong bias towards ‘one regulation fits all’. This is another illustration of the tension between differing national conditions, e.g. in fiscal, legal and institutional arrangements, leading to differing economic and financial conditions, and the desire for monetary and financial harmonisation within the EU.

It will be interesting to see how far the European Systemic Risk Board (ESRB) focuses on particular national dangers-spots, or confines itself, as does the ECB in its pursuit of price stability, to examining some EU average. If tiny Greece is at risk of financial explosion, but mighty Germany is robust, would the ESRB declare the average to be sound, with no worries? In view of the contagion, observed both with the ERM collapses in 1991/92 and with the current sovereign debt crisis, such a concentration on the EU average would be hard to justify. If the ESRB, then, is going to explore potential fragilities market by market, country by country, it must then endorse individual country M-PAs’ and FSAs’ ability to take independent countervailing action. So might the ESRB and the EC find themselves in some conflict over the ability of the member states to vary such required ratios?

Because of the ‘level-playing-field’ concern, the minimum level of CARs and liquidity ratios will need to be set internationally, at Basel. One perennial problem is that the BCBS/FSB has always shied away from proposing how such ratios might be enforced, regarding the application of sanctions as a national prerogative in a Westphalian system. While understandable, this stance has been most regrettable (Goodhart, 2011). The more that regulations are now tightened, to represent desirable conditions rather than irreducible minima, the more the question of designing ladders of sanctions, (slight initially, toughened steadily, and ultimately involving intervention by the State to take over the weakening institution), needs to be urgently addressed. If the international bodies continue to refuse to do this, it will have to be tackled by the national macro and micro-prudential authorities. Penalties for violation of CARs have now apparently been built into the current proposals for CRD4; the details will need to be examined to consider how appropriate these may be.

Thus, on this front, the proposal is that national M-PAs should be given the power to impose additional ratio requirements, on capital and liquidity, within their own domain, above those agreed internationally. These should be capable of counter-cyclical time variation and also be as sectorally granular as the M-PA thinks appropriate. Beyond this, the M-PA should think carefully about sanctions for intermediaries falling below the desired ratios, the more so the less willing are the international bodies to grasp this nettle.

Ratios applied to banks (and to insurance companies) alone may penalise intermediation through this particular channel, and encourage disintermediation via other shadowy sub-systems. By the same token margins on derivative transactions, (that are to be encouraged to be undertaken via centralised counter-parties (CCPs) or even on more formalised exchanges), may induce substitution into over-the-counter (OTC) transactions. As Kashyap, Berner and Goodhart (2011) argue, there needs to be a degree of

harmonisation of margin controls, between bank and non-bank, and between markets, whether formal exchanges or OTC. There is a ‘level-playing-field’ argument between institutional arrangements within countries, as well as between countries. The imposition of (asymmetric) penalties (taxes) on the most visible, largest and probably the most efficient intermediaries (*i.e.* the banks) may have an increasing effect in diverting such intermediation towards less visible, and possibly less efficient channels.

There is also a question whether margin controls should be imposed primarily on the lender, *e.g.* the bank, or on the borrower. Since money is fungible, imposing such controls on A rather than B just encourages a diversion whereby B borrows and then lends to A; and there are other ways of avoiding such controls. Nevertheless, if lending is much cheaper if it can be collateralised, as in the case of a mortgage, then restricting the extent of such securitisation via a loan to value, or a loan to income, ratio can be (partially) effective.

To date margin controls in the shape of CARs and liquidity ratios for banks (and insurance companies) have been at the centre of regulators’ attention. Particularly if such ratio controls are now to be considerably tightened (as can well be justified), much more thought needs to be given to a ladder of sanctions for transgression, and to the possible application of somewhat similar ratios to other channels of intermediation and to some sets of borrowers (*e.g.* households borrowing on mortgages for house purchase).

3. *Taxation*

In section II.2 above, the correspondence between direct regulatory controls, *e.g.* in the form of required ratios, and taxation applied to banks was noted. For any regulatory requirement, supported by some set of sanctions for violation, there is a tax regime (or regimes) applied to the same base that would achieve the same objective. Thus, if the authorities want banks, say, on average to hold 10% of core tier 1 equity capital, they can either impose a minimum requirement of, say, 8%, and sufficient penalties on violation that banks on average hold a 2% buffer margin, or they can impose a graduated tax on capital ratios below, say, 15%, such that banks choose to hold the 10% desired ratio. In that sense a requirement can be regarded as the dual of the tax.

Controlling banks, and their risk-taking, by taxation rather than by direct requirements has both advantages and disadvantages. Amongst the advantages is that it gives the individual institution (bank) more chance to optimise its position, subject to its own particular preferences/ conditions/constraints. Requirements tend to be one-size-fits-all; and when varied between institutions this is usually based on broad-brush, somewhat arbitrary characteristics (*e.g.* size). Another advantage, of course, is that this approach provides revenue to the relevant fiscal authorities, whereas direct requirements generally do not do so, (apart from pecuniary violation penalties, if any).

This latter is, however, also a disadvantage from the point of view of the macro-prudential authorities, whether national or international, since the imposition of taxes is clearly a fiscal exercise, and such M-PAs have no fiscal competence, whereas they have been accorded the ability to recommend, indeed now to require, the application of ratio (and other margin requirements). Another drawback of taxes, as a means of limiting risk-taking, is that, without considerable experience and experimentation, one does not know quite what average results one may get from a tax, whereas a minimum requirement, supported by appropriate sanctions, will deliver outcomes slightly above that minimum. Moreover those institutions keenest to take on risk, to gamble for resurrection, will choose

to absorb most tax and hold the lowest ratios, whereas ideally one would want the greatest risk-lovers to be forced to hold the highest ratios. Against this it can be argued that at least those imposing most risk on the community at least pay more for doing so (and the tax need not be linear in application).

Whatever the balance of advantages and disadvantages, what is somewhat remarkable is how little attention was given to the possibility of using taxation on intermediaries, (or on housing transactions) as a potential macro-prudential and counter-cyclical instrument, at least prior to the last couple of years. This was partly due to a mind-set whereby financial regulation was supposed to be done by direct imposition of (ratio) controls, whereas taxation was a separate fiscal exercise. The point that financial regulation was primarily justified by the existence of, socially adverse, externalities and that (Pigovian) taxes represented a feasible remedy for such externalities was simply not taken on board.

Once, however, President Obama raised the issue of potentially imposing taxes on banks, in early 2010 (New York Times, January 14), the flood-gates opened, and bank taxation has since remained a common topic of policy discussion. From the macro-prudential viewpoint, however, a disadvantage of bank tax proposals is that there are many other motives for taxing banks besides influencing their risk-taking. Such taxes raise revenue for the public sector at a time of high public sector deficit/debt. Part of such deficit/debt was due to taxpayer support for a fragile banking system, so taxing the perpetrators of the need for such support seems ‘appropriate’. Furthermore, banks are castigated not only for their behaviour but also for their excessive remuneration, so bank taxes can be seen as ‘pay-back’ time; bank taxation is politically popular. Some large part of bank activity is (loosely) described as a ‘casino’, ‘speculative’ or ‘socially useless’. In so far as such activity can be separately identified, it would seem ripe for taxation.

In the midst of this emotional cauldron the fact that any such taxation is likely to change the behaviour of banks towards risk-taking, and alter the wider financial stability of the banking system as a whole can potentially get lost. An example was the (soon abandoned) proposal (July 21st, 2011) to tax euro-zone banks to provide some private sector support for Greek sovereign debt; since much of the problem of the euro-zone periphery comes from the interaction between bank and sovereign debt, it is not immediately obvious why extra bank taxes, e.g. on Irish and Spanish banks, would be a sensible response.

In view of the many potential purposes of bank taxation, the fact that such taxation should be constitutionally introduced by the relevant legislature, and that any proposals for such taxation may get hijacked by special interest groups, what, if any, should be the role of M-PAs in relation to such taxation. In my view they should have a right and a duty in this respect. Their right should be to advocate to the executive and to the legislature proposals for the adoption of a bank tax that would in their view improve the country’s financial stability. In view of the above considerations I would not expect such a right to be exercised often. Moreover, any citizen has a right to propose a tax change, so this right is not particularly valuable. However, in so far as a Financial Policy Committee, or an ESRB, gains credibility, its authority would mean that any specific proposal by them would be taken seriously.

The duty, suggested here, is likely to be far more important. This is that the FPC should have the obligation of assessing the implications for the stability of the financial system of any proposal to tax financial intermediaries or financial transactions undertaken within the country, and to present such assessment in the shape of a public document before the (relevant Committee of the) legislature. We should not allow any such

legislation to be adopted without a careful, professional assessment of its effects on financial stability by the M-PA.

By the same token the FPC should have the right to propose legislation that would alter the structural features of the financial system, such as limits to the size or functions of banks, and the duty to comment on legislative proposals with these same effects emanating from other entities. The Independent Commission on Banking (Vickers Commission) is just such an instance. The FPC should report to the House of Commons in the UK its own view on the implications of their recommendations for the financial stability of this country.

Such structural measures should also include those that would affect the relative rights of creditors and debtors in the event of the failure of a financial intermediary, such as (changes in) deposit insurance arrangements, government guarantees to be offered to various classes of creditors, netting procedures, revisions to bankruptcy laws applicable to financial intermediaries, etc., etc. once again an MP-A should have the right to make proposals, and the duty to comment, in public, on proposals put forward by others.

These latter measures concern legal and structural circumstances relating to crisis resolution, whereas all the prior discussion had been about the role of the M-PA in crisis prevention. This brings us neatly to the next general topic of what role, if any, an M-PA should have in crisis resolution.

4. *Crisis resolution*

Although some aspects of crisis prevention have fiscal aspects, notably taxes that influence bank behaviour, most do not. As we shall discuss later in section IV, CB independence in this respect (crisis-prevention) is just as cogent and desirable as in the case of the MPC and price stability. But crisis resolution generally requires the allocation of losses, and these often fall on taxpayers. So, the control and governance of crisis resolution organisations should come under the direct control of the relevant Minister of Finance. The Chancellor of the Exchequer, George Osborne, was reported in the Press as having emphasised the need to distinguish between the governance of crisis prevention and of crisis management. He is right to do so.

Moreover, the professional skills in instances of crisis resolution will be primarily legal and accounting, and related to micro-issues such as asset managing and running-off portfolios of impaired loans, rather than the economic and analytical expertise of an M-PA. In those countries with specialised resolution agencies, such as the FDIC in the USA or the Swedish National Debt Office, there is no suggestion, nor enthusiasm, for merging these into an M-PA or an expanded CB.

Nevertheless many countries have not previously had a Special Resolution Regime for banks, or SIFIs, and many of these will not have an organisation ready to hand to undertake the resultant requirements for handling such crisis situations. The options would seem to be three. First, to create a new stand-alone body; second, to imbed it in the existing micro-prudential FSA; and third, to place it in the CB/M-PA.

The first option is the least attractive; it would be wasteful of scarce resources, especially since crises should be rare events. A stand-alone organisation would have too little to do normally, but would be overwhelmed at times of crisis. On this view the second option, to imbed the resolution organisation in the FSA is preferable to the third option. The skill profiles required match more closely; and the need for the GB/M-PA to

be (mostly) independent of government, whereas the resolution authority should work closely with the Ministry of Finance, are reasons for incorporating the resolution authority with the FSA, not with the CB/M-PA.

Yet the opposite was chosen in the UK. Under the Banking Act of 2009, establishing a Special Resolution Regime, the Bank of England was made responsible for carrying out resolutions of intermediaries subject to that Act. There was relatively little discussion whether this latter was appropriate. Now that the FSA has been disbanded, and the legacy Prudential Regulation Authority (PRA) brought under the aegis of the FPC and of the Bank of England, there is perhaps an opportunity for reconsideration, and reallocation of the organisation responsible for resolution back to the PRA, rather than having it in the BoE.

5. Summary

In this section we have established a rather neat taxonomy of macro-prudential powers and functions. These are:-

- i) The power to alter the composition of Central Bank assets, for liquidity and market interventions;
- ii) The power to adjust margins (CARs, liquidity ratios, LTVs, etc.) to influence the conduct of financial intermediation;
- iii) The power to propose fiscal and structural amendments affecting financial intermediation, and the duty to comment on such proposals emanating from other sources;
- iv) The power to undertake financial resolution.

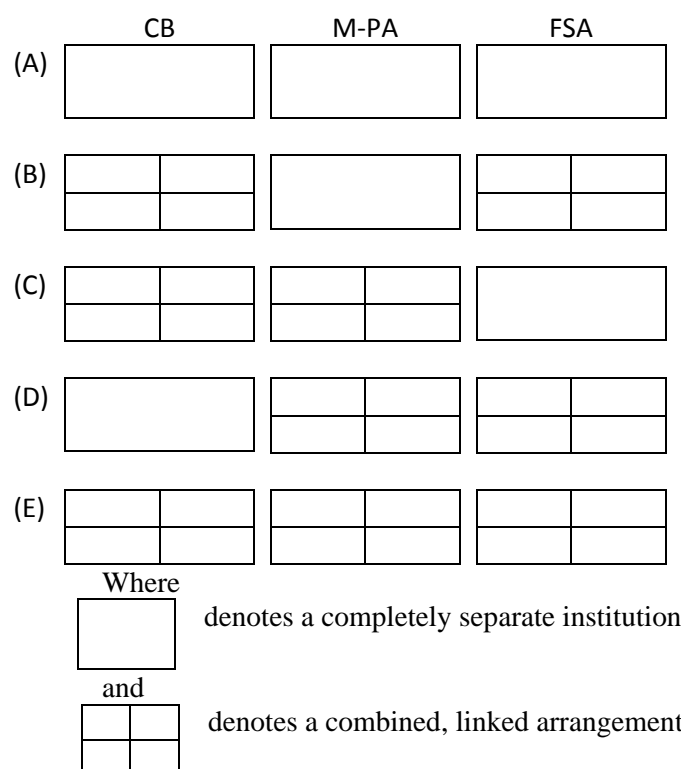
Partly because of the difference in the appropriate governance (and accountability) mechanisms, we have argued that potential power D should *not* be assigned to an M-PA, but should either go to a specialist entity, such as the FDIC, or be imbedded in the micro-prudential FSA.

So having set out what an M-PA should do, the next question is how this role should fit within the existing regulatory structure.

III. The organisational scope of a Macro-Prudential Authority

The proposed functions of a macro-prudential authority cover a somewhat new field, part way between the Central Bank on one side and the micro-prudential authority, the FSA, on the other. How should the relationships between these three institutions be organised? Logically there are five possibilities² shown diagrammatically below.

We can start, easily enough, by ruling out option B. With an M-PA coming between the CB and the FSA, and being a new institution, with no track record nor history, there would be no point in combining the CB and the FSA, and building up a completely new M-PA from scratch. By the same token, option A, with all three bodies independent, would be undesirable. It would require the establishment of a completely new body by itself, which would be wasteful of resources, and would lead to additional coordination problems, and provoke the question of ‘Who is in charge?’



There are also problems with Option D. As noted in section II, a prominent, and essential, part of macro-prudential powers involves the management of the asset portfolio of the CB. It is difficult to see how this sensibly can be done if the M-PA and the CB are separately located. Again, the CB has concerns, and titular responsibility, for the smooth running of the payments and financial system that cannot just be delegated to a separate body. Moreover, the skill profiles of the CB and M-PA are similar, but different from those of the FSA.

For all these reasons, as argued in Goodhart and Rochet (2011), the only practical alternatives, once it has been decided to establish an M-PA, are options (and E, whereby the M-PA becomes part of the CB, with (option E) or without (option C), the FSA also becoming part of a unified, overall supervisory authority.

There are pros and cons to either choice. For further discussion of such issues, see Masciandaro, Quintyn and Taylor (2008), Masciandaro (2009), and Pellegrina, Masciandaro and Pansini (2010). Option E, (everything done by the CB), simplifies the exchange of information and the coordination of decisions. It should also be most efficient in the use of resources by eliminating overlaps. On the other hand it magnifies the concentration of power, especially in the hands of an unelected Governor of the CB. It also increases the chance of reputational risk, since no micro-prudential agency can prevent all frauds and other misconduct. Having the FSA/PRA under the direction of the CB will mean that the Governor may get personally blamed for everything that goes wrong. In those cases, and committees, where the Governor, and/or a cohesive group of insiders, dominates, it could increase the danger of group-think, and focussing on a single (possibly erroneous) line of analysis and policy. In their proposals for Sweden, Goodhart and Rochet (2011) declined to give a preference between these two options. The choice should depend on the history, institutions, culture and preferences of each country.

Inevitably there remain some loose ends. For example, where should regulation of markets be placed? Market analysis and market operation are amongst the standard fare of economists, so, on the basis of professional skills, the regulation of financial market places might go to the M-PA. On the other hand, can one regulate markets independently of the individual institutions that interact in such markets. On such latter grounds their regulation should remain with the micro-prudential authority, the FSA.

Alternatively the American tradition has been to have separate financial market stand-alone regulators, the SEC and the CFTC. With some large financial intermediaries, *i.e.* the big US investment houses, Goldman Sachs, Morgan Stanley, et al., having being supervised, with the benefit of hindsight somewhat loosely, by the SEC, this led to decades of rivalry and conflict between the SEC and the banking supervisory bodies in the USA, and between the BCBS and IOSCO internationally (Goodhart, 2011). Now that all the remaining US investment houses have become banks that rivalry should reduce. Nevertheless there remains a question whether financial market regulation should be done within an M-PA or independently at the national level, and whether the BCBS and IOSCO should be merged or remain independent internationally.

Then there is the question of where to place the conduct of business, consumer protection, authority, either inside the FSA, or outside. Particularly in so far as the micro-prudential segment of the FSA comes under the overall direction of the FPC, there is a tendency towards establishing a separate body, as in the USA or the UK, for this purpose. Such an organisation should also have strong links with other anti-trust, pro-competitive, organisations. But what seems less logical is lumping financial market regulation alongside consumer protection, as now in the UK. Certainly consumers do use financial markets, but usually indirectly, *e.g.* via pension funds, and often with investment advisers. While consumers do have a direct concern about market access, the more important issues relate to the resilience, efficiency and inter-connectedness of markets, and these are, or should be, the province of the economists on the staff of the M-PA.

So one of the unresolved organisational issues is where to place financial market regulation. Most of the mechanisms so far adopted, both in the UK and the USA, seem unsatisfactory in some respects. This same issue has complicated arrangements for international cooperation in this field. Central Bank Governors, meeting together in their colloquium at Basel, got a head start in such international-regulation, setting up the BCBS in 1974. They have kept up the momentum in Europe, with the European Systemic Risk Board (ESRB) being totally dominated by CBs, and run by the ECB. Even so, insurance companies and market regulators have kept up their independent business societies, IAIS and IOSCO, and their European bodies ESMA and EIOPA. Indeed the sensitivities have been such that an umbrella body (GHOS, the Group of Governors and Heads of Supervision) had to be created to reconcile differences between them. In a tidier world all the macro concerns would go to an M-PA, dealing with all such macro/market interactions, and all the micro concerns would go to an FSA, whether the intermediary was primarily a bank, an insurance company, or a market broker. But we do not live in a tidy world. History and turf matter, and will continue to do so. Loose ends will remain.

IV. Accountability

The governance and accountability procedures for crisis resolution (war-time) should be very different from those of crisis prevention (peace-time). Crisis resolution implies burden sharing, often including (possibly temporary) imposts on taxpayers, and must

come directly under the control of the Minister of Finance. In contrast, the instruments that should be wielded in the course of crisis prevention are akin to, but different from, adjustment of the official short term interest rate, and the same arguments as are advanced for the operational independence of the MPC can be put forward in support of the same independence for the FPC.

Just as increasing interest rates involves short-term political unpopularity (time inconsistency), so raising various required ratios to check an asset price bubble will be extremely unpopular. Indeed the resistance (push-back) to proposals to raise required down-payments for housing (lower LTVs) or lower loan to income ratios may well be particularly intense, since these impinge directly on a small section of the electorate, and a section that politicians are especially keen to support; indeed it was US politicians' aim to encourage the disadvantaged of America onto the housing ladder that was a major factor in sparking the sub-prime mortgage mess, (see Wallison, 2011, and Acharya, et al., 2011).

One concern, indeed, is that the general unpopularity of taking steps to check an asset price bubble will be so unpopular that just leaving this to the discretion of an, operationally independent, M-PA or FPC will mean that such counter-cyclical measures will be used too little, if at all. 'Taking away the punch-bowl just when the party is getting going' is never going to make one beloved. Indeed there is a strong case for bolstering discretion with rules in this case, on which more later.

The need, therefore, is to separate the conduct, governance and accountability procedures of crisis resolution from those of crisis prevention. This should not be too difficult. Often crisis resolution is carried out by a different organization, e.g. the FDIC in the United States and the National Debt Office in Sweden. We argued earlier that the crisis resolution agency should, if possible, not come under the direct control of the M-PA. Even where it does, as in the United Kingdom, occasions when the issue under consideration involves crisis resolution, rather than crisis prevention, are usually obvious, and then the make-up of the controlling Committee, e.g. its Chairman, Secretariat and membership, could be altered to fit with the issue at hand.

This proposal, of separating crisis prevention from crisis resolution, and putting the first in the hands of an, operationally independent, M-PA, while having crisis resolution come more directly under the control of the Minister and the legislature is quite different from that advocated by W. Buiter (2011), who wrote (p. 3) that,

"The Treasury should be at the centre of financial stability. This ought to be obvious from the experience of the years since the financial crisis started in August 2007. Instead, the proposed new arrangement places the Treasury on the sidelines. I propose that the Chancellor of the Exchequer be the chair of the FPC, that the FPC not have a majority of voting members from the Bank's Executive, and that the FPC be constituted as an independent state body outside the Bank of England."

In some part Buiter's preference for putting the M-PA under the direct control of the Treasury, rather than of the CB, derives from his dislike of a CB undertaking any 'quasi-fiscal' activities, (see section 7, pp 14-15), an issue already addressed here earlier, section II.1.

In so far as there is to be an, operationally independent, M-PA, or FPC, how can it be made accountable for its actions? Much ink has been spilt over the proposal to make the UK FPC a committee under the Court (Board) of the Bank of England. On this view this issue is a minor diversion from the main concerns. The Court maintains an administrative oversight over the staffing, compensation, hiring and promotion, organisational efficiency

and disputes amongst senior personnel of the Bank as a whole, and can and should certainly extend that to the new, wider body of the FPC. Buiter (*ibid*) would go further and get rid of the Court altogether; Bingham (2011) is on the other hand supportive of a wider role for the Court than advocated here. The Court has played virtually no role either in policy-making or in subsequent assessments of the validity of such policies, since the Bank Rate Tribunal in 1958. Nor have appointments to the Court been based on the capacity of the candidate to assess policy. The Court may have, on a few rare occasions, been used as a go-between when there was a serious dispute between the Bank and the Treasury, but this would relate more to their characteristic as unbiased ‘great and good’ rather than as policy experts.

It is difficult, almost impossible, to believe that the involvement of the Court in the operation of the FPC was ever meant to put them in a position of opining on the validity of the FPC’s policy decisions. The Treasury Committee suggested to witness that the Court might have initiated an independent enquiry, e.g. into the conduct of financial stability actions in 2007/8. With the benefit of time to reconsider this suggestion, it seems a bad idea. When, and if, the Court should call for such an enquiry, there is a, *prima facie*, implication that there is a case of wrong-doing to answer. If it has the powers to call for an enquiry, and does not use them, the implication then is that it supports the policy. This is a recipe for putting the Court either in conflict with the Bank/FPC, or having it given partial, passive, responsibility for policies in which it took no significant part. The Court has a useful, though limited, role to play, which would even be jeopardised by giving it any policy-making or policy-assessing responsibility.

Instead, it is the Treasury Committee, and behind it the House of Commons to which the FPC should be accountable; and public enquiries into the decisions and functions of the FPC should be decided, and funded, by the Chancellor of the Exchequer, perhaps after taking advice from the Treasury Committee. In this respect the treatment of the UK FPC and MPC should be exactly similar.

The main problem is not about administrative procedures, that is *to whom* should the FPC be accountable, but of technical management, *how* can one hold the FPC accountable. In the case of the MPC there is a quantified objective for price stability, with bounds on both sides which, if transgressed, require a letter of explanation. There is also a generally accepted instrument, the official short term rate, with a well-studied transmission mechanism from instrument to objective. Finally there is an Inflation Report forecast, indicating at each quarterly date how the MPC expects inflation to unfold in future, which involves an (implicit) expected path for interest rates. Against this background, it is *relatively* easy to assess what if anything went wrong, and why.

In contrast there is no, generally agreed, quantification of financial stability; there is a plethora of potential instruments, ranging from direct market intervention, e.g. liquidity or credit expansion measures, through a whole range of margin (ratio) adjustments, through to recommendations for tax, or structural, changes, as set out earlier in section II. The transmission mechanisms of such instruments are not well understood; as an example consider the disputes about the macro-economic effects of raising the required capital ratio of banks, which supposed consequences range from almost apocalyptic to almost insignificant. As to forecasts, there are virtually none. The Financial Stability Review (FSRs) are long on generalised concerns about areas of fragility, but notably short on the likelihood, or probability, of crisis and collapse in any specific market. Like seismology or volcanology, the best that can be done is to assess growing tension before an eruption/quake, but not the timing or location of the crisis event. After a crisis, there will

be several after-shocks, dignified in economics by the term ‘auto-regressive conditional heteroscedasticity’, or ARCH, before normality gradually returns.

So what can the Treasury Committee do in such circumstances? Given the uncertainty of measurement, and the unpopularity of counter-cyclical responses, the suggestion here is that there should be more recourse to rules of conduct for the FPC, or M-PA. There are certain presumptive indicators that have tended to accompany asset price bubbles that have involved the banking sector, and have therefore been particularly deleterious for financial stability. These include excessive leverage and credit expansion. A somewhat similar argument has been put forward by Enriques and Hertig (2010).³

Banking has become increasingly involved with the property market, both residential and commercial, both for loans and collateral. This is not *necessarily* inherent in banking as such. Prior to 1929-33 the US banking system was much more intertwined with the equity market, and with agriculture. But so long as the current focus on (residential) property remains, some measure(s) of overextension in such market(s) would also be advisable, whether housing prices, or some measure of personal debt to income ratio. The one-page proposal put forward to the Treasury Committee is reproduced in Appendix 1.

Not only, however, is there much uncertainty about all these relationships, but also if any, or all, of them are translated into policy rules, then behaviour will change, the Lucas critique, or Goodhart’s Law. Yes, indeed, but the proposal is *not* that they should be hard and fast rules, but that when two or three presumptive indicators are flashing danger, then the M-PA should either comply by taking countervailing measures, or explain in public, and to the Treasury Committee why not.

At present the easiest option for an M-PA is to discuss a generalised set of worries about financial fragility, but actually do nothing specific, and unpopular, about any of them. The purpose of comply, or explain, is to shift the default choice from inaction to action. If a CB Governor has to write a letter stating that there is no need to rein in leverage or a housing bubble because the situation is well in hand, and then there is an explosion, the extra accountability and incentive mechanism is palpable.

Of course, an FPC could fulfil a remit to respond to such presumptive indicators, and still avoid political unpopularity, by taking some minimal action, e.g. raising CARs from 10% to 10.05%. Moreover given inexperience with counter-cyclical measures there will be an inevitable tendency to experiment in small steps. It would be good if M-PAs could do more analytic work on the effects of their instruments, e.g. changes in ratios, effects of intervention, etc., so that the appropriate calibration of policy response could be better ascertained, but in the immediate future it will be enough to try to make M-PAs active policy initiators rather than passive recorders of events.

One way of encouraging appropriate action where there may be conflicts of interest is to separate diagnosis from execution. While this is not easily possible within a country, though the Office of Financial Research (OFR) could act as a diagnostic agency in the USA, such a separation could happen in Europe. The ESRB will be a diagnostic body, whereas national M-PAs and FSAs will have to apply the remedial measures. The ESRB may not only point out fragilities, (and should not be fazed by the political unpopularity in a member state of doing so), but also require national financial stability authorities to select measures to remedy such fragilities. With the pressure of the ESRB’s recommendations behind them, national authorities are, once again but through this different route, introduced into a comply, or explain, regimes, and hence accountability. In such a system, the ESRB could play a key role in reinforcing financial stability.

V. Conclusions

A) Neither the achievement of price stability, via the MPC, nor the application of micro-prudential oversight, via the FSA, led to overall financial stability. There is a gap that needs to be filled by a macro-prudential authority (M-PA), FPC in the UK. The only macro-prudential instrument used heretofore has been the publication of Financial Stability Reviews (FSR). While worthy, these have been ineffective.

B) The M-PA should have the following powers:

1. The power to alter the composition of Central Bank (CB) assets, by adding to (subtracting from) its holdings of claims on the private sector. The argument that such actions are ‘quasi-fiscal’, and should therefore not be undertaken, is not supported.
2. The power to adjust margins (CARs, liquidity ratios, LTVs, etc.) to influence the conduct of financial intermediation. The argument that the use of such powers puts the FPC in a difficult conflict with the MPC is not supported.
3. The power to propose (to the legislature) fiscal and structural amendments affecting financial intermediaries, and the duty to comment on such proposals emanating from other sources.

The M-PA should not be involved in the resolution of financial intermediaries.

C) Because the provision of liquidity is simultaneously a key Central Bank function *and* an integral component of crisis prevention, the M-PA *has* to come under the aegis of the CB. Whether the micro-prudential authority (FSA) is also brought under the overall control of the CB + M-PA, or remains independent, will remain a matter of national preference and history, with arguments on either side. The more complicated question relates to where to place the regulation of financial markets. This should *not* be placed with the conduct of business regulator, as now proposed for the UK.

D) Procedures for crisis prevention and crisis resolution should be separated. Crisis prevention should be undertaken by the CB + M-PA in an operationally independent manner, for exactly the same reasons as an MPC is independent. Crisis resolution involves the allocation of losses and should be the responsibility of the Treasury. The problem is how to make FPC accountable for its crisis prevention responsibilities. We advocate the adoption of a set of ‘presumptive indicators’, which, when triggered, require the FPC either to comply with remedial action, or to explain, in public, why there is no need to do so.

NOTES

¹ When a central bank, such as the ECB, holds the debt of subsidiary states, there will then of course be differential effects on the taxpayers of each relevant state.

² Also see BIS (2011).

³ Thus they state, p. 6, that “we propose to improve supervisory market responsiveness by requiring prudential supervisors to “do something” upon material changes in market proxies of risk taking. More specifically, if the annualized return on equity (ROE) of a financial intermediary is an absolute 5% above its peer group average, or its annualized credit default swap (CDS) spread more than 30 basis points above its peer group average, financial supervisors would have an obligation to investigate whether this is due to excessive risk appetite and/or deficient risk management. Importantly, however, supervisors will keep the discretion to limit or even forgo corrective action provided they publicly disclose why (act or explain). This proposal is original in that it identifies a high RoE as a risk factor and puts the spotlight on normal times CDS spreads. By contrast, current reform debates focus on extreme events such as solvency benchmarks, which are overwhelmingly hard to read and generally give financial supervisors a choice between ‘crying wolf at the wrong time’ or reacting belatedly.” and, on p. 28, that “We propose to enlist capital markets to improve supervisory responsiveness by requiring prudential supervisors to “do something” upon material changes in openly observable market proxies of risk taking. More specifically, an annualized increase in any financial intermediary’s return on equity (ROE) or credit default swap (CDS) spreads above a predefined and publicly disclosed threshold would trigger an obligation for supervisors to investigate. Importantly, however, financial supervisors would maintain the discretion to limit or even forgo corrective action provided they disclose why (act or explain).”

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Appendix 1: Financial Policy Committee: Accountability

By C.A.E. Goodhart

The accountability of the MPC is, of course, much enhanced by the quantified nature of the inflation target and the quantified bounds, beyond which the Governor has to write a letter of explanation. In the absence of any similar quantification in the field of financial stability, it is much harder to achieve similar clear accountability.

This is a problem that I have been struggling to resolve, and I believe that there may be a viable methodology for doing so. It runs as follows:-

1. Past experience suggests that there are a number of early warning indicators which tend to precede financial crises. These include the following:
 - a) A rate of growth of (bank) credit which is significantly faster than average, and above its normal trend relationship to nominal incomes.
 - b) A rate of growth of housing (and property) prices which is significantly faster than normal and above its normal trend relationship with incomes.
 - c) A rate of growth of leverage, among the various sectors of the economy which is significantly faster than usual and above its normal trend relationship with incomes.

I would not be dogmatic about the choice and formulation of such indicators, but I would like to suggest that the FPC is required to choose somewhere between two to four such presumptive indicators. The idea is that when at least two of these indicators are showing a danger signal, that the expectation would be that the FPC should take action to counter such developments or else be prepared to explain in public to the TSC why they have not done so.

2. I would then also suggest that you should ask the FPC to undertake (econometric) research on the basis of past historical data to work out what they would think the optimal response would have been in changing certain macro-prudential instruments, such as varying capital ratios, margin requirements, or loan-to-income ratios, etc., so that there can be a prior expectation of the extent that the FSC should vary instruments in response to these presumptive indicators.

The purpose of the exercise is to try and get the FPC to give a prior indication of how they might respond to circumstances which would seem, on past evidence, to suggest increasing financial fragility. The idea is *not* to constrain the FPC's behaviour, but to put them in a position where they either have to comply with action in such circumstances, or explain to you in public why this is not necessary.

After all, the Governor has already described an Inflation Target regime as one of constrained discretion. The purpose of my proposal is to make the operational regime of achieving financial stability similarly into a regime of constrained discretion.

Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

Developing a Framework for Effective Financial Crisis Management

by

Dalvinder Singh and John Raymond LaBrosse *

This article discusses the roles and responsibilities of the various agencies that are part of the financial system safety net, and it sets out a framework for the decision-making process for these actors in the management of a financial crisis. In this context, the article discusses issues of micro- and macro-prudential oversight and argues that more needs to be done to ensure accountability, independence, transparency and integrity of the various actors of the financial system safety net.

JEL Classification: G15, G21, G28.

Keywords: Banks, contingency planning, financial crisis management, financial system safety net, financial stability, micro- and macro-prudential regulation, systemic risk.

*

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

Public confidence plays an important role in sustaining financial system stability. In normal times the regulation and supervision of banks, the promotion and use of standards of sound business and financial practice, central bank actions, explicit deposit protection and an effective bank closure mechanism all help to reduce the adverse consequences of a financial crisis emanating from bank failures. It is understood that banks, like other firms, will fail¹ and the likelihood of this happening is higher when risks in a particular banking concern are not managed appropriately, bubbles in certain markets burst or financial markets are very fragile due to either domestic or foreign reasons. In almost all circumstances private sector solutions, such as rights issues or mergers, should be pursued in the first instance to deal with problem or failing banks, as in most cases they can limit the pressure on the financial system safety net (FSN). However, when problems become systemic governments tend to play a much more active role and call upon the agencies that make up the FSN to undertake extraordinary measures. Intervention can take a variety of forms. As such, there is a clear need for officials to undertake coherent contingency planning, financial risk assessment and crisis management. A significant development on that front has been the introduction of financial stability forums in the form of committees in individual countries to oversee agencies within the official safety net and improve how they govern macro-prudential and micro-prudential issues (Nier *et al.* 2011).² However, financial stability committees are not new and the reinvigoration of a formal oversight body is unlikely to fulfil all that is expected of it. This gives rise to an expectations gap, which we explore.

It is trite to say, but financial market crises occur on a regular basis with similar causes, as explained by Reinhart and Rogoff (2009); however, recent experience suggests that very little attention has been given to how best to manage them. One explanation could be that one crisis seems to lead to another, so it is difficult to determine the endpoints. Another explanation might be that crisis management needs more attention so that lessons learned can be incorporated into improved techniques to minimise the effects of catastrophic events. Notwithstanding the fact that a considerable amount has been learnt about crisis management from past experiences, lessons from the past seem to be amiss in terms of guiding future directions, so the risk of repeating mistakes arises.

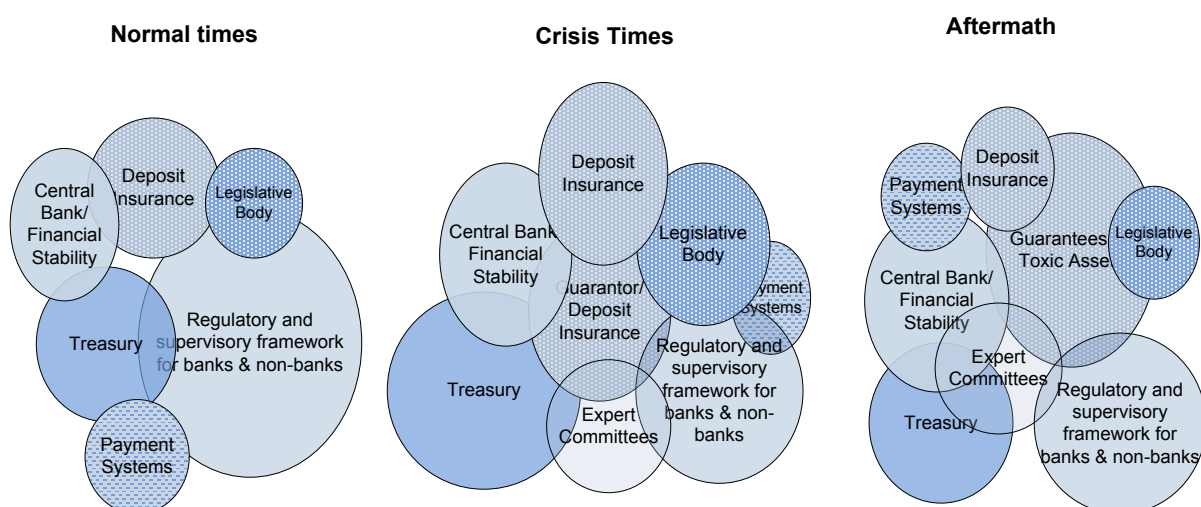
This article focuses on measures used to contain a financial crisis, and generally takes account of events in the European Union (EU). We review the experience of the crisis so far and seek to draw some conclusions on how it was overseen and managed based on that analysis. Section II sets out the main structure of a FSN and describes how the mandates, roles and responsibilities of the agencies within it tend to change during the course of a crisis. Attention is also given to the interests and impact that stakeholders, in the marketplace outside the FSN can have during a bank failure or financial disaster. The paper sets out why careful attention to the FSN and the market stakeholders is now quite important. Recent experience offers many examples of the need for more clarity in the management of a crisis. To help policy-makers a decision tree is offered and explained in section III as an alternative to the spurt of *ad hoc* pronouncements that have done little more than confuse markets and undermine the public's confidence in policy-makers. One of the clear messages is the need for more effective oversight of micro- and macro-prudential factors. But more effective oversight is not enough, as noted by the IMF, without attention to the need to ensure accountability, independence, transparency and integrity (Ingves and Quintyn 2003). In section IV, with the EU experience in mind, we examine the tools used to contain a financial crisis. Section V considers the usefulness of

a micro- and macro-prudential system of oversight to contain a crisis before we set out a means to bridge the gap with the introduction of some form of financial stability oversight body. Some conclusions are offered in the final section of the paper.

II. Reflections on the FSN players: their roles and responsibilities in promoting financial system stability

The financial crisis that began in 2008 demonstrated severe weaknesses in the FSN (FSAP, 2010; IMF 2010; LaBrosse and McCollum 2011). While the deficiencies were evident almost worldwide, the most severe problems were found in European markets, largely due to the lack of coordination, consultation and development of coherent strategies to deal with the crisis (European Commission, 2010a, 2010b). For those reasons it is important to know at the outset what organisations should be included in an FSN, including their roles and responsibilities, and why the interests of other stakeholders are also quite important. In basic terms the question becomes: who should be included in the official safety net and deemed the core stakeholders in the financial system? The answer is important because during a crisis there needs to be a high level of consultation, coordination and cooperation between the various interested parties. Figure 1 sets out the official safety net players, showing how their influence in decision-making and management of issues changes through a time spectrum.

Figure 1. Official safety net players



The official safety net players

The FSN has traditionally included a lender of last resort (central bank), prudential regulation (by a bank supervisor), a government department (Ministry of Finance or Treasury) and explicit deposit protection (insurance or other form of a limited guarantee) (Financial Stability Forum 2001; Schich 2009). But the recent financial crisis underscored that the group of official safety net players has become somewhat more elastic. There is a need to consider the roles of the legislative body, non-bank regulators such as securities commissions, housing agencies and insurance company regulators, as decisions that they take can have an important impact and threaten financial system stability. Moreover, there are compelling reasons to consider other stakeholders and bring them into the dialogue so

that financial system stability can be addressed more effectively and efficiently. The roles of shareholders, external auditors, the courts and credit rating agencies need to be appreciated and understood better in the pursuit of financial system stability as external decisions by those parties can have a direct impact on the official safety net players' response to safeguard system stability. This is not to suggest that they reside in the FSN, but to ensure the FSN is able to respond proactively rather than reactively to instil a better degree of confidence in the financial system.

The Ministries of Finance, or Treasuries, take a particular interest in the efficient functioning of FSNs. During relatively stable times the Treasury sets tax policy, manages a country's finances, is the steward of the government's accounts and provides advice on financial sector policy issues. In light of these tasks it has oversight responsibility for monetary and economic policy. The role of the Treasury inevitably brings it under the surveillance of the IMF and into OECD forums, where its performance is assessed on a regular basis. Broadly speaking the Treasury will act in good faith in terms of how it manages a country's finances. The exercise of its discretion can and may well be directed by the government with limited autonomy or, as in the case of Germany, the right to veto government decisions on public finances.

The Treasury's role in terms of financial sector policy development is broadly speaking one of oversight, with responsibility for monetary policy and financial regulation and supervision delegated to other organisations within the FSN. In the context of the euro area the European Central Bank (ECB) has the mandate for setting monetary policy. In other countries monetary policy is delegated to the central bank and the functions of regulation and supervision to a different department of the central bank or a separate authority. International forums for policy discussions on financial matters are technically the responsibility of the Treasury, but it may have the central bank, the prudential supervisor and the deposit insurer by its side. In most instances the prudential supervisor has direct responsibility for day-to-day oversight of the financial system, and may be able to initiate changes in regulatory policy with relative independence once the regulatory architecture is agreed by the government and a country's legislative body. The gaps in financial regulation could reasonably be laid at the door of the Treasury since it is its role to initiate reform in this area, which in practical terms leads it to rely on its central bank and prudential supervisor and perhaps other regulators for advice. Moreover, the move towards macro- and micro-prudential regulation highlights a need for a holistic approach to the management of financial sectors.

Central banks are responsible for safeguarding the payments system and providing liquidity against security to the financial system and, at times, to individual but still solvent banks. The primary forums for dialogue between central banks is the BIS, and in the euro context the ECB. Such activities are often called lender of last resort (LOLR) facilities or emergency liquidity assistance (Wood 2000). The facility of LOLR is used with an eye to avoiding a liquidity problem that might otherwise turn into a panic in the banking and financial system. The central bank could exercise the LOLR function either through open-market operations or by providing loans to individual banks. Central bank interventions are designed to promote and if needed stabilise market confidence and avoid unnecessary bank failures that result from temporary liquidity problems. In Bagehot's, view it should be made available provided that it is used to avoid panics when banks experience such problems (Bagehot 1915 reprint). It is given at a rate to ensure repayment is made expeditiously once the event is over; and it should also only be given against good forms of collateral. Moreover, during a crisis LOLR can be provided to solvent institutions with collateral. Another important ingredient in providing liquidity is that the

central bank must act decisively and quickly without hesitation, otherwise a panic could be prolonged and spread into other parts of the financial system which were unaffected by the original problem.

The LOLR facility is traditionally considered the preserve of the banking system, but it can be and has been used to avoid liquidity problems more widely. However, the existence of the LOLR does give rise to a number of concerns that require central banks and prudential supervisors to gauge carefully when support is given, namely moral hazard and 'too-big-to-fail' (TBTF) connotations (Wilmarth 2010). The concern over moral hazard is exacerbated by the policy of intervening with financial support if the institution is considered TBTF.

The primary member of the FSN tasked with day-to-day responsibilities for the financial system is most likely to be the prudential supervisor. It must protect the perimeter in terms of both entry to and exit from the financial system. This is notwithstanding the fact that the resolution of problem banks may be located in another part of the official safety net. A focus on adherence to prudential requirements and compliance is a way to influence and, in the extreme, change the behaviour of banking institutions either collectively or individually. The supervisor needs to be equipped with appropriate enforcement tools to ensure compliance with laws, regulations and guidelines. In relation to enforcement a problematic issue is supervisory forbearance, as it can lead to accommodations rather than formal actions, and questions about what the regulator knew about a bank that is subsequently closed or fails (Garcia 2010). It is generally asserted to be best practice that the tasks of supervision should be conducted independently of political interference. However, the extent to which this can be accomplished during a crisis is questionable, considering the political response during the recent crisis to bailout depositors and individual banks. Decisions to protect depositors or even banks when formal systems of explicit deposit insurance and a bank resolution regime are in place are primarily political rather than regulatory. Obviously, during a systemic crisis the policy rationale of letting a bank fail or providing full coverage for depositors must address the loss of confidence in financial markets. Again, it is evident that the FSN can also forbear from closing non-viable banks because they are perceived to be too big to fail (Garcia 2011).

Deposit protection has become an important feature of modern banking systems. Its role in a systemic crisis is limited, as it is generally designed to deal with either a few small bank closures or one medium-sized bank closing. What is evident from the current financial crisis is that a poorly designed system of deposit protection can escalate a bank failure into a crisis, as experienced in the United Kingdom with Northern Rock.

Deposit protection can take two basic forms – implicit or explicit insurance or guarantees. Implicit deposit protection exists when depositors will be fully reimbursed if a bank fails and in regimes where taxpayers rescue banks that might otherwise fail. The belief that depositors will be fully compensated is usually linked to past statements by government officials. Governments may also believe that the failure of one bank will precipitate a run on deposits in otherwise healthy banks. It is important to note that implicit arrangements do not have an administrative mechanism to repay depositors, which may mean using the courts to settle claims. The uncertainty that is created as to whether a government will actually step in to reimburse depositors in a failed bank encourages customers to place their savings in larger banks and banking markets tend to become less competitive. Trust in an implicit guarantee could be misjudged in light of the fact that the guarantee may mean only a partial rather than a full payout. As well, the

pressure on governments that results from depositors having reduced or no access to their funds can create instability in financial systems. These problems, coupled with the instability and uncertainty inherent in implicit systems, lead governments to consider adopting explicit deposit protection.³

Interestingly, the number of explicit deposit protection systems has increased significantly to over 100 countries.⁴ Explicit arrangements can take the form of a formalised insurance system (sometimes referred to as the ‘North American model’) or a guarantee system (the ‘European approach’) (Singh and Walker 2009; Gerhardt and Lannoo 2011). While both kinds of arrangements have many features in common (such as setting defined coverage limits and compulsory membership), the system funding facilities can be quite different. It is evident that guarantee systems often are not well funded and tend to rely on *ex post* industry levies to repay depositor claims on the estate of a failed bank. Also, many features of guarantee systems are not well understood by the public (very few such systems spend any time or money on public awareness activities). While the insurance aspects of both approaches may increase moral hazard, the North-American-style systems, if used properly, can address the hazard created in a much more direct way: they use differentiated *ex ante* premiums, which instils greater market discipline and discourages excessive risk taking, and have proactive prudential supervisors that undertake mutually reinforcing actions.

Legislative bodies obviously play a crucial role in the development of laws and holding incumbent governments and their agencies accountable. Legislative bodies principally safeguard the constitutional and public interest by calling officials to testify in open forums. The legislative body will also be the primary port of call for holding the FSN players accountable for their decisions,⁵ and may consider the interests and activities of various stakeholders. While legislative scrutiny is a continuous process, its intensity is much more marked during times like these: the level of public finances used to bail out or prop up the financial markets and the extent and depth of crisis make it vital (BBC 2011). The principle of the right to protect one’s private property is certainly controversial when the state intervenes and takes some interest in or takes control over or interferes with those property rights (Hopt *et al.*, 2009). Only through legislative means could such steps be taken.

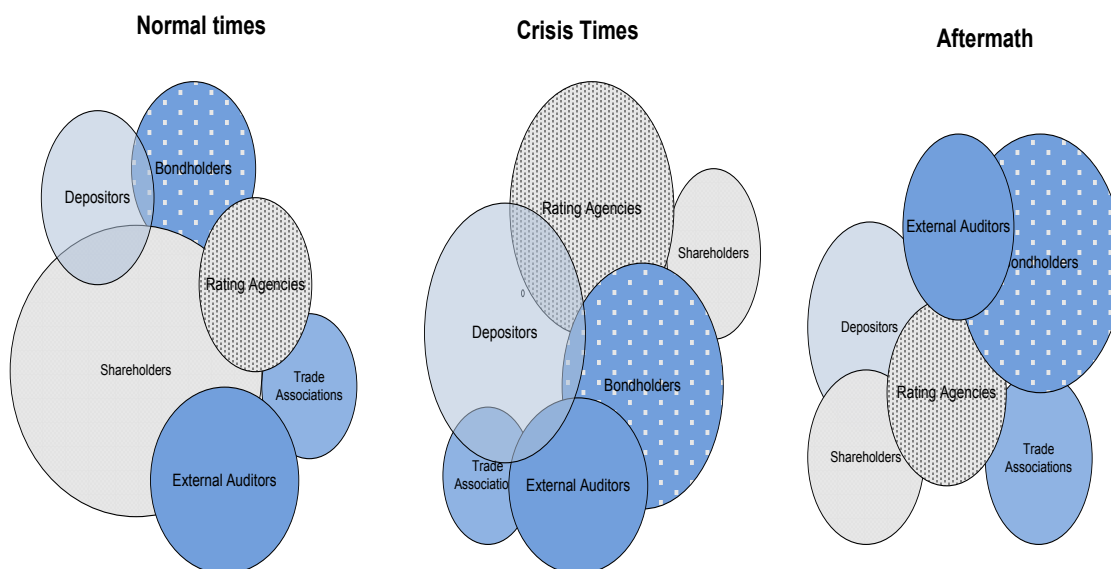
The response to the 2008 financial crisis has meant that the mandates of FSN players have been extended, either by legislative means or through delegation by the Ministry of Finance or Treasury. It is therefore important to assess what likely role the legislative body will play in any given crisis. In the country case studies explored later in this paper it is clear that the approach to initiating responses to the crisis varied quite significantly. The level of *ex ante* and or *ex post* accountability of the decisions is also evident. However, one principal ingredient in the majority of responses was the need for the legislative body to enable the FSN to use the tools necessary to contain the crisis (Darling 2011).⁶ Appropriate discussion and influence on the extended mandates certainly need formal consideration.

Stakeholders in the financial markets

The dynamics of some key stakeholders in the financial system are illustrated in Figure 2. Intervention by the authorities during the crisis was partly a result of financial intermediaries’ inability to raise funds in the markets. Figure 2 highlights only some of the stakeholders. It is suggested that in normal times the principal focus of managements is the interests of shareholders and shareholder value. The reaction of the various

stakeholders will also vary because of the asymmetry of information the principals and agents have about one another; and how distress has an impact on their interests in the institution. Interlinked is the role of the external auditor, as the party which is required to provide an opinion on the performance of the institution to the shareholders, but is also relied upon by FSN players when they conduct supervisory responsibilities for the regulator.

Figure 2. Stakeholders in the financial markets



The interests of depositors in such periods are not necessarily at the forefront of the minds of the banks, albeit there is a general duty on the FSN to protect depositors and to a lesser extent investors rather than owing a duty to the shareholders as a whole. The responsibility to exercise enforcement of regulation and supervision requirements to protect the interests of depositors and investors is an illustration.

In times of crisis the priority placed on the interests of stakeholders changes. During the crisis the interests of depositors were very much at the forefront of the FSN players' minds because of concerns of a bank run or panic selling (Mayes 2010). Once risks at a bank are publicised the prospect of a run is very real and sustaining confidence in the retail deposit market is paramount. It is normatively argued that stakeholders in the equity and debt markets can also affect the decisions of the FSN players in the course of containing a crisis. The response is likely to be coordinated rather than reactive given the speed at which these markets operate and their size and transnational nature. It is useful, however, to try to put these stakeholders into any decision-making process to reflect on their importance. A principal point of the containment process is the need to get the markets to orchestrate a response which is considered acceptable without setting off a panic. In many instances the steps to recapitalise a bank are initiated by the prudential supervisor. But the success of the rights issue offered by the institution will essentially be dependent on the market's confidence in the institution (Ferran 2008; Hupkes 2009). If it is not evident, the FSN players may intervene with public funds to recapitalise the institution. In such cases the interests of shareholders and other creditors are first in line to

be wiped out. The bondholders of distressed banks will also be concerned about any risk to the credit rating of the institution and haircuts that may need to be made.

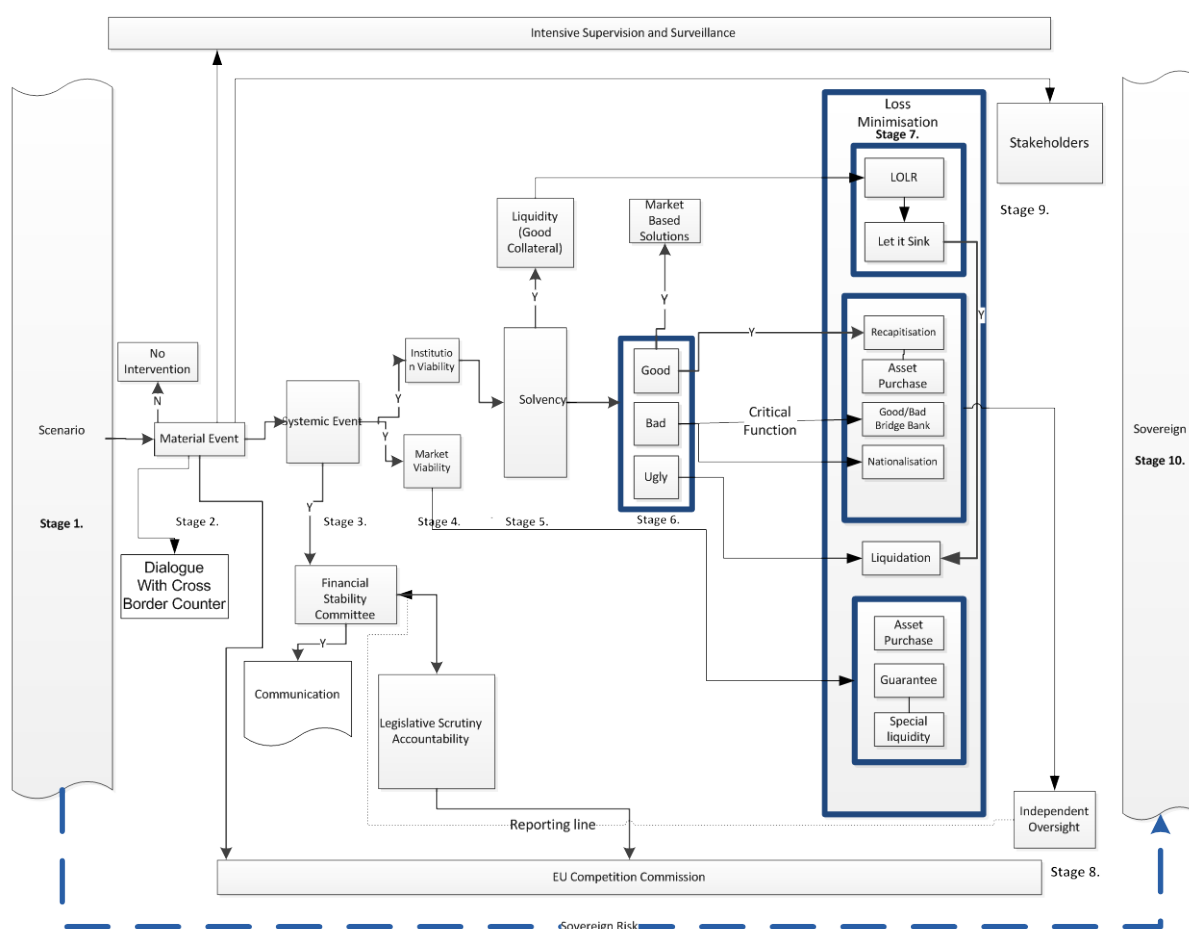
Credit rating agencies and external auditors should be viewed as ‘information intermediaries’, and also play an important role: a decision to downgrade or qualify the accounts will likely result in a panic in the markets (EFinancialNews 2011; Evans-Pritchard 2011). In light of these decisions the FSN players have to respond to restore confidence. However, the ability of the official safety net to assist with public support can burden the state and place pressure on its own credit rating. How these information intermediaries work with the official FSN players does vary when it comes to external auditors, with some governments relying heavily on undertaking day-to-day monitoring including on-site inspections (House of Lords 2011). However, how credit rating agencies are to be brought under the broad regulatory umbrella has not been given as much attention as how external auditors are used in bank supervision (Basel Committee on Banking Supervision 2008). To avoid coordination problems between the regulator and the credit rating agencies it may be an idea to devise a memorandum of understanding to assist in this matter in the first instance. It is suggested lessons learnt from how external auditors are used could provide valuable insights. This would mean both the external auditor and the credit rating agency would become ‘supervisory gatekeepers’ in one form or another (Singh 2011a; Coffee 2006). The opportunity for dialogue between the information intermediaries enables the authorities to orchestrate a response to information disclosed to the markets in a coordinated fashion rather than reacting without prior knowledge.

III. Crisis management and the decision-making process

Dealing with a failing financial institution or indeed a crisis is a complex matter and can involve numerous official FSN players and stakeholders. Figure 3 depicts a realistic decision-making tree surrounding financial crisis management. When a crisis occurs (stage 1), particularly if it involves a bank failure that becomes the focus of media attention, it is important to determine if it is a material event (stage 2). If it is not, then no action may need to be taken. On the other hand, a large bank failure or several small or medium-sized banks failing in a short period could be problematic and lead to a systemic event which could trigger a number of subsequent steps. Once a material event is identified the regulator will be required to initiate even more intensive supervision and surveillance continuously until the matter is resolved (stage 7). It would also be hoped that the issues arising are identified soon through a formal system of early intervention which could reduce the social and economic costs of any subsequent action (Krimminger and Lastra 2011; Singh 2011c). In addition to these steps officials need to initiate dialogue with overseas counterparts where the institution has a material presence to coordinate any subsequent actions (Mayes 2009a; Bliss and Kaufman 2011). One of the first initiatives should be the creation of a steering group, possibly around the financial stability committee that will oversee the management of subsequent events (stage 3). The role of the financial stability committee is explored in more detail in section V. The steering group will find value in establishing two specific committees: one charged to generate a communications plan and the other asked to develop legislative reforms that may need to be deployed at a later stage of the crisis. During stage 3 the legislative body will need to be continuously informed and required, when necessary, to empower the official safety net players with the tools to contain the crisis through legislative means, so that the public interest can be safeguarded. This is quite controversial, as the containment of a crisis may impact on property rights.

When a bank is failing policy-makers are often faced with the challenge of determining whether the bank is viable (stage 4). We believe that using a test of viability is important, as it is generally considered to be a point at a higher capital level than insolvency – the latter is the stage where there is no capital left to support the bank (stages 5–6). There is always an interest in trying to ‘ring-fence’ a failing bank (stage 6), as failure to do so may precipitate a run on other banks and thus deepen the crisis. Policy responses could include measures such as increasing a bank’s capital ratio, strengthening the quality and sources of bank capital, evaluating a bank’s liquidity plans based on future cash flows, increasing credit monitoring, undertaking special examinations that could be necessary in the event of a depositor payout and expediting asset recovery.

Figure 3. Decision tree surrounding financial crisis management



We have introduced another dimension to this discussion: market viability, which requires a different set of containment measures. In this context we argue the tools that are utilised are market-wide facilities. Compounding the problem could be a lack of liquidity, which may require closer monitoring by the prudential regulator and possibly an extension of a government guarantee. A good example of this would be the OTC derivatives market and the concentration of risk in a relatively small number of broker dealers. If the institution is viable there might be a number of options available – the ‘good’ (collateral) could be sold as part of a market-based solution and the ‘bad’ (non-

performing loans) part of the bank could be recapitalised through public funds. In that regard a bridge bank could be created to assist in a transition of parts of a bank's business to save certain critical functions (Mayes 2007; LaBrosse 2011).

Some parts of a bank's assets book might simply be 'ugly' (non-performing after three months or simply ready to be written off), but with the careful attention of a bank resolution agency could be rehabilitated. For example, if a bank has taken security on a property that would have little or no value in liquidation, a bank resolution agency might be able to minimise its exposure to loss by injecting funds or taking an equity interest in the completion of the property. Guidance respecting bank resolutions is now more widely available and some of the more important aspects have been developed based on a survey of good and effective practices and lessons learned. Research by the Financial Stability Forum (2001), encapsulated in stages 7–9, found there are many ways to resolve a failing bank, and the techniques can generally be grouped under three headings: liquidation and reimbursement of depositors' claims; purchase-and-assumption transactions (sales); and open-bank financial assistance. Clearly, the more recent attention to 'living wills' can be helpful to regulators in evaluating options (Avgouleas *et al.*, 2010). Existing bankruptcy/insolvency and other laws such as depositor priority may influence heavily the choice of resolution methods, and in some cases may make a particular resolution method difficult to implement.

The potential failure of a number of banks in a short period can threaten the stability of markets, so we have provided a separate category with bank viability to include market viability. We argue normatively that the need to maintain market viability may not necessarily be minimised by the introduction of innovative restructuring and resolution powers. So in a market where liquidity is scarce the FSN players may still be required to step in with additional liquidity support or other schemes, namely asset purchase or liability guarantee schemes. When the market as whole becomes too fragile, the option of closing several banks or non-banks may not be available.

In stage 7 we address various options and strategies for loss minimisation. The first group surrounds the role of LOLR for institutions that are experiencing short-term liquidity problems. The next set of options is for institutions that are primarily experiencing insolvency issues of various degrees. The subsections provide options either to recapitalise or restructure the bank and ring-fence the good parts from the bad. In circumstances where the bank is possibly too big to rescue, as a last resort the FSN may decide the best option is to nationalise it. A primary task with those options is to ensure that the critical functions are safeguarded (Hupkes 2005). The last set of options, the provision of guarantees to the market, gives rise to contingent liabilities that require careful monitoring. Finally, we have set out a stage 9: the FSN needs to consider the various stakeholders, as they can have a significant impact on decisions.

The 2008 financial crisis provoked extensive use of techniques such as loan guarantees, capital injections and sales of assets, banks or parts thereof (stage 7) (Singh 2011b; Lastra and Wood 2011). The exercise of these additional tools requires the setting up of an independent body (stage 8) to oversee the public interest in government assistance to private banks. As we show below, a number of countries introduced various types of independent oversight bodies, such as asset management companies or simply an entity to manage the relationship between the government and the publicly recapitalised banks. It is suggested that some kind of reporting line needs to be put in place between the newly established body and the legislative body so there is additional oversight of what they are doing. We have (stage 9) set out the need for the FSN players to have in mind the

decisions taken by key stakeholders, namely credit-rating agencies and external auditors, referred here as ‘supervisory gatekeepers’ (Singh, 2011a). The power of shareholders needs to be considered, as they can influence or potentially block any negotiated takeover during such periods. In some instances countries experienced a situation where difficulties in access to the international financial markets led to a position where the state needed either to seek assistance from the IMF (Hungary) or assistance from key regional players, for instance Iceland from certain Nordic countries. Later, as the problem with Ireland worsened, we saw the United Kingdom provide assistance to its neighbour. Both Iceland and Ireland subsequently received IMF assistance. Finally, at the bottom of the decision tree we have placed the EU Competition Commission. It is evident that the Competition Commission has been crucial to monitor the moral hazard implications of the bailout operations. The extent to which it has been able to contribute to the dialogue regarding the pricing of the bailouts is explored later.

IV. Using the tools of containment: the response

The primary objectives in containing a financial crisis are first, simply to stop it, and second, to prevent it from affecting the real economy (Gelpern 2009; Mayes 2009b; Mayes 2009c). However, pulling out all the stops to contain a crisis can have serious long-term consequences for the ‘viability’ of the state to raise finance in the future at pre-crisis rates from the markets (Sighvatsson and Gunnarsson 2011). The recent financial crisis has led to considerable costs. Panetta *et al.* (2009) note that:

The overall amount of resources committed to the various packages by the 11 countries examined totalled around EUR5 trillion or 18.8 per cent of GDP; the outlays have been EUR2 trillion or 7.6 per cent of GDP. The size of the interventions varies greatly across countries: it is higher in countries such as the UK and the Netherlands (where outlays have reached 44.1 per cent and 16.6 per cent of GDP, respectively) where the banking system is large relative to the real economy and is dominated by large institutions that have been severely hit by the crisis.

The idea is to stabilise market confidence in individual banks, reduce the risk of a bank run and prevent depositors from removing funds and thereby draining a bank. The attempts of depositors to place their money in what are perceived to be healthier banks during a crisis are not a material concern for the authorities unless those healthier banks are in other jurisdictions, which would equate to capital flight. The attempts to manage the crisis included a combination of private as well as public measures to contain the crisis and restore confidence in the markets. Examples of this include moves to recapitalise by a rights issue, and when this failed recapitalisation by government means as the last option. These strategies have been used in efforts to restore the solvency of the banking system and enable banks to continue lending and return to profitability again.

The European FSN players used a wide range of ‘extraordinary measures’, such as blanket guarantees, individual bank guarantees, recapitalisation and asset purchase and asset insurance schemes, to ease panic and contain the crisis (European Commission 2011). These measures went beyond the use of emergency liquidity for individual banks and the special liquidity schemes on a market-wide basis in place several EU members, as well as orchestrated on a concerted level internationally. While originally the liquidity facility was for the banking sector, it was soon opened up to the non-banking sector as well. In a complex financial crisis such as this, no one single means of intervention is likely to succeed, because financial crises are such complex beasts. Indeed, according to

Laeven and Valencia (2008): ‘There has been little agreement on what constitutes best practice or even good practice.’ This is an issue that we return to later in the paper.

The European responses

In Table 1 we see the variety of tools used across the EU, Iceland, Canada and the United States of America during the crisis (Pisani-Ferry *et al.*, 2009; Sherman and Sterling LLP, 2009). It shows clearly this crisis required a range of responses, from rescuing individual institutions to safeguarding the functioning of specific markets that financial firms were reliant on for liquidity. We have divided the crisis experience between individual bank bailouts and market-wide responses. The authorities have tended to focus on individual bank concerns, and then as a last resort to maintain the efficient functioning of the markets. The mix of tools used ranges from individual bank bailouts to individual guarantee, recapitalisation, nationalisation and assumption of bad assets. In the context of the wider problems we see more open-market tools such as liquidity schemes and asset-purchase schemes on an open-market basis. It is asserted that those member states with a heavy exposure to the principal conduits to the financial crisis, namely the structured finance markets, experienced the need to bail out individual banks and also provide market-wide liquidity. So for some member states the crisis response warranted individual bailouts and liquidity and guarantee schemes.

Deposit guarantee and insurance arrangements

Table 1 also indicates that once the systemic crisis gripped the EU member states, a general policy to protect retail depositors and reduce the risk of a retail bank run was a primary concern (Financial Stability Board 2010). The majority of member states increased coverage levels. The panic in some jurisdictions led them to put in place an explicit blanket deposit guarantee. The lack of a coherent crisis policy response led to individual state responses. The catalyst for these individual responses was the decision by Ireland to introduce an explicit guarantee, which provoked responses by Germany and Austria: Austria followed almost immediately once Germany had put in place its unlimited guarantee (Schich 2009). During the early part of the crisis the USD 100,000 coverage limit in the United States was deemed in the United Kingdom as a gold-plated limit and one which was considered the benchmark. However, the crisis in the United States soon meant it had to increase its coverage limit to USD 250,000. Moreover, in some jurisdictions the coverage level changed as the crisis got worse and different banks started to experience problems, notably the United Kingdom. What one can see from this experience is the low coverage levels the EU had in the first place. In hindsight, little confidence could be offered by such coverage. While all countries in Table 1 experienced the impact of the crisis and undertook to put in place tools to provide liquidity, it is evident that Canada did not experience a systemic crisis and this distinguishes it from the rest, which is partly reflected by it not needing to change its coverage level. A significant part of the reason is that it did not experience the same level of retail panic as the others; another reason is perhaps the level of public awareness. Public awareness regarding deposit insurance coverage is very high in the United States but it needed to be raised to the stave off the panic, so the key factor is arguably the systemic nature of the crisis and the level of panic. A significant part of the concern would still be with unprotected depositors and the risk of flight to safety where a blanket guarantee is a likely option, albeit with significant costs attached.

Institution-Based Solutions																														
Nationalisation	●	●				●				●			●	●		●									●	●	●	●		
Recapitalisation	●	●				●		●	●	●		●	●						●	●		●		●	●	●	●	●		
Individual guarantee	●	●				●			●		●	●						●		●					●	●	●	●		
Market-Based Solutions																														
Guarantees-based solutions	●			●		●			●	●	●	●	●		●		●	●	●		●	●	●	●	●	●	●	●		
Special liquidity schemes	●	●	●			●		●	●	●	●	●		●		●		●	●	●		●	●	●	●	●	●	●		
Deposit Guarantee																														
Deposit Guarantee/ insurance	■	+	+	+	+	■	+	+	-	■	+	+	■		+	+	+	+	+	+	+	+	+	+	+	⌚	+	-	+	
	Austria	Belgium	Bulgaria	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	Iceland	Canada	United States of America

The distinction between an explicit and an implicit guarantee in policy terms can, at times, become blurred. For example, in 2007 the authorities in the United Kingdom provided support to Northern Rock which within a year led to nationalisation of the firm. Through that process 100 per cent of the deposits of the mortgage lender were guaranteed without regard to the explicit limit of GBP 35,000 (later raised to GBP 50,000 and now GBP 85,000) that was applicable to all other United Kingdom banks under the programme administered by Financial Services Compensation Scheme Ltd. As well, the Chancellor of the Exchequer later announced that the United Kingdom would guarantee all the retail deposits booked in the United Kingdom of Icesave and Heritable (both branches of Icelandic, Landsbanki, which has been nationalised by the Icelandic government). Naturally, the banks not covered by the full guarantee raised issues of competitive advantage that was being accorded to depositors in Northern Rock, Icesave and Heritable. Their concern was heightened when the United Kingdom brought in the Banking Act 2008 (and subsequently replaced with the Banking Act 2009), allowed the authorities to nationalise the banks. Implicitly, all banks in the United Kingdom were accorded a 100 per cent guarantee. In February 2010 the government announced that it was removing the full guarantee on Northern Rock deposits. How well the lower guarantee limit is understood by the public is not clear and should a run on the deposits of another bank emerge there is every expectation that a full 100 per cent guarantee will be reinstated, which suggests that in the absence of an effective public awareness strategy depositors in failing banks will naturally expect the authorities to back deposit claims fully.

Coverage limits, we are learning, are not simple to set as a whole host of factors can be used to calculate a particular level. The move to EUR 100,000 coverage by the EU was essentially an implicit full guarantee of all retail deposits in banks. This response was headquartered in the United Kingdom, given the nationalisation of Northern Rock and the public outcry that would have ensued had the government tried to implement a less-than-full guaranteed payout after a bank failure (Shin, 2009). Moreover, several member states put in place coverage levels much higher than EUR 100,000, notably a EUR 129,000 limit in Belgium, Greece, the Netherlands, Portugal and Spain (Schich, 2011).

It is interesting to note how the coverage level in France and Italy remained the same during the course of the banking crisis but later was increased above the EU minimum. This suggests that a coverage level at EUR 90,000 or EUR 133,000 was high enough for at least a period of time to avoid retail depositors panicking about their savings or moving their funds to another jurisdiction. In addition, other EU member states appear to have increased their coverage to levels much higher than the pre-crisis position. Therefore, just as the argument above extends the concern about the implicit full guarantee in the United Kingdom, the current coverage level is itself arguably meaningless. As noted earlier, an infrastructure to fulfil the deposit guarantee mandate is left wanting.

The structure of the EU guarantee system is fraught with problems. While the logical solution would be to have a single scheme across the EU, it is still quite possibly politically contentious given the disparity in the economic circumstances of individual member states, so the middle ground would be to initiate a system of guarantee arrangements but with an improved, diversified and risk-based funding arrangement. Attention must also focus on the need for more effective Europe-wide supervision to complement the development of a fully funded and adequately resourced Europe-wide deposit insurer (Sighvatsson and Gunnarsson, 2011).

Recapitalisation on a market-wide basis and individual bank basis

The general strategy for the recapitalisation of banks is primarily to ensure that the authorities are capable of figuring out which banks are the most viable. According to Hawkins and Turner (1999), 'In theory, it is necessary to draw a three-way distinction between those banks strong enough not to require government capital, those viable only with a capital injection and those unlikely to survive even with substantial assistance.' The question is whether the authorities can actually make such a distinction. The uncertainty surrounding the quality of the banks' balance sheets and the reliability of the valuations of their assets (both of which are clouded in a considerable level of doubt during a crisis) makes this very difficult. Given the magnitude of the crisis, an attempt to discover the health of the banks by stress-testing them in extreme scenarios was the response to address concerns about the viability of the banking system. Claessens *et al.* (2011) concluded the public recapitalisation programme had been 'spread too broadly, foregoing the benefits of separating viable from nonviable institutions' *sic*. In some respects the complexity and speed with which the crisis took hold required a range of strategies which in hindsight one could argue was possibly questionable on grounds of its piecemeal approach to crisis management. During the crisis a two-pronged recapitalisation effort was put in place: one part based on the circumstances of individual institutions, and the other a market-wide project as part of a broader financial stability programme.

Market-wide recapitalisation programmes were adopted in Austria, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Poland, Portugal, Spain and Sweden (European Commission, 2009). The case of Greece (2010) epitomises the reason for recapitalisation programmes: the lack of capital in the market meant the authorities used an IMF support package to provide equity capital to the Greek banks, thereby providing a public solution to a private problem (European Commission, 2010c, 2010d). In the case of Poland the facility was for insurance firms as well as banks, highlighting the problem was not just with banks but also non-bank financial firms. The Polish programme offered up to 100 per cent capital increase if firms were unable to secure it from the financial markets (European Commission, 2009a, 2009b). The scheme introduced by the French authorities focused on the 'fundamentally sound' banks to deal with the risk of them reducing the level of credit in the economy (European Commission, 2008a, 2008b). In the French case the recapitalisation was provided with the condition that remuneration incentives were changed: 'The beneficiary banks must also undertake to adopt measures concerning the remuneration of senior management and market operators (including traders) and to observe ethical rules consistent with the general interest, including restrictions on the remuneration of senior executives. The rules also limit severance payments to senior executives and ban all severance payments where a senior executive or enterprise has failed or where a senior executive leaves voluntarily'. While the French approach is explicit and prohibits changes to the remuneration regime, the recapitalisation approach adopted by the United Kingdom was ambiguous and based on moral persuasion to do the right thing: 'At a company level, it limits managers' remuneration and requires the beneficiaries to respect good governance practices.' Sir Fred Goodwin's pension was an area of political outcry when it was announced as part of his severance package (BBC, 2009). The United States adopted a similar line with commercial banks under Federal Deposit Insurance Corporation Improvement Act of 1991 (FDICIA 1991), and prohibited such things as parachute payments (Schooner, 1996). In Denmark the recapitalisation prohibited the payment of dividends. A variety of conditions were imposed to limit the potential distortions of the programmes.

The focus on what some member states referred to as the ‘fundamentally sound institutions’ suggests that the recapitalisation programme was primarily to protect solvent institutions. The determination as to whether or not an institution was solvent at the time has been called into serious question by the markets. So the rationale behind the recapitalisation was to stop questions from the markets regarding bank viability and restore confidence. A lack of confidence in the FSN meant the markets wanted further explicit reassurances of their capital cushions being sufficient to withstand the shocks. In the case of Austria this became quite explicit: Neelie Kroes of the Competition Commission said ‘even banks that meet the regulatory solvency ratios may be required to reinforce their capital ratios to satisfy market expectations. The measure will enable Hypo Tirol to continue lending to the real economy, whilst avoiding disproportionate distortions of competition’ (European Commission, 2009c see also 2008c and 2008d). The scepticism showed that the levels of capital required by the authorities lacked credibility (Wolf, 2010).

Individual bank recapitalisation initiatives

A number of banks required tailor-made recapitalisation. In the United Kingdom the banks that participated in the recapitalisation scheme – RBS, HBOS and Lloyds TSB – were unable to access the markets at that particular time. As a result of a failure to recapitalise with private investors, the government had to intervene, and consequently took a 58 per cent stake in RBS and a 43 per cent stake in Lloyds TSB (European Commission 2008e; Singh 2011). The shares of institutions given capital injections did not rally on the news, but lost further ground before stabilising at a fraction of their previous value. The objective was to ensure the banks survived and avoided bankruptcy. In light of the position of these banks in the United Kingdom financial markets, the consequences of their collapse for world markets could have been equal to the Lehman collapse. In the case of Belgium and KBC, ‘Due to the current financial crisis, even fundamentally sound institutions like KBC Group N.V. may experience distress and be required to reassure financial markets of their stability. Against this background, it was considered necessary to strengthen KBC’s capital base against possible future losses. Thus, the capital injection will increase the tier 1 ratio of KBC Bank to above 10 per cent and the solvency ratio of KBC Insurance to 280 per cent’ (European Commission 2008f). Other components of the recapitalisation programme included protection from the write-downs experienced in the structured finance market. For instance, in the case of Germany and BayernLB, it was ‘a risk shield for part of the ABS portfolio of BayernLB for an amount of EUR4.8 billion. [To] avoid further write downs on the ABS portfolio which would weaken the capital position of BayernLB’ (European Commission 2008g).

Asset and liability purchase programmes

The principal tool to clean up the balance sheets of banks is the purchase of bad or commercially non-viable assets where the markets have lost their investment interest. The European Commission put in place guidelines to ensure a level playing field in crisis management. For example, Commissioner Charlie McCreevy said: ‘These guidelines will help Member States deal with impaired assets on bank’s balance sheets. If we don’t face up to this issue then we risk prolonging this crisis with zombie banks that are incapable of performing a useful role in our economies’ (European Commission, 2009c).

These institutions are generally referred to as ‘bad banks’, in contrast to a ‘good bank’, which has better-quality assets and performing loans that would remain with the private bank. As with the other responses to contain the crisis, the member states that

introduced schemes had to show some degree of burden sharing, such as limits or caps on remuneration or dividend payments. The scheme places the burden of managing the assets on the state, or the participating banks through an insurance facility, as was the case in the United Kingdom (European Commission, 2009d). In that scheme the participating banks were required set up their own subsidiaries for bad assets and then manage them. This a helpful step, as the bank benefits from in-house knowledge about the counterparties. It does not incentivise simply writing off assets and then burdening the state with the losses, but ensures that banks continue to manage assets and ‘maximize the economic value of their protected assets’. However, this does need to be monitored by the authorities, or the bank could seek to asset-strip and sell off, which would lead to a greater burden on the state. The scheme’s payout price would presumably be market value, which might not be the best deal for the taxpayer providing the insurance. Thus the incentive for the Ministry of Finance or Treasury is for banks to retain and manage the assets on their own balance sheets as long as possible until market conditions improve. Another type of asset purchase scheme for impaired assets introduced by Germany was to transfer assets (subject to a haircut) to a separate ‘special purpose vehicle’ and issue bonds (European Commission 2009e). The authorities in Ireland set up National Asset Management Agency (NAMA), its equivalent of a bad bank, to help its institutions transfer distressed debt off their balance sheets to the state-owned NAMA to improve their viability (European Commission, 2009f). Relieving banks of their impaired assets is a contentious process in terms of what is decided to be distressed debt (Dellway Investments, 2010): in Ireland the authorities faced litigation over the transfer of what were considered by the owner as performing loans to NAMA.

Some further reflections

In the early phase of the crisis some countries had a relatively good time, like Spain, but its position later became threatened by the ensuing contagion of the sovereign debt crisis. This suggests that policy-makers need to look at these separately rather than together. It is suggested that the crisis in confidence subsequently led to questions about other parts of the financial system, notably the sovereign debt market, with bulging levels of public debt and relatively little respite, plus poor prospects for growth easing the pain.⁷ The thesis explored below enables us to try to understand better the direction a potentially systemic event could take, whether triggered by an individual bank or a sovereign or market failure. In the context of market-wide failure the risk of contagion is a major concern, so the authorities have either provided market-wide liquidity or guarantees which give participants in those markets access to the liquidity they need.

In Europe, several countries provided guarantees against a variety of forms of bank debt. The agreements between private banks and member states covered, for example, loss or risk of loss relating to assets owned by the bank (Laeven and Valencia 2011). The rationale typically offered was that the guarantees would avoid exposure of the troubled bank to serious liquidity issues by putting in place loss-sharing, usually with the government exposed after the first tranche. The guarantees limit the volatility of the prices of asset classes, notably structured products. Naturally, when guarantees are extended by governments to individual institutions they distort markets and competitive issues become important. Government intervention had the effect of reducing the default risk of recipient banks. In accordance with rules governing state aid set under the EC Treaty, the European Commission was required to review the transactions and arrive at a determination as to how to treat the implicit subsidy. Given concern about financial stability, the EC decided not to raise any objections. In considering the specific case of Dexia the EC found that

‘several factors (including Dexia’s size, its dominant position in certain markets and the exceptional circumstances on the financial market at the time the aid was granted), the collapse of the bank would have had a snowball effect on the Belgian banking sector and, consequently, on the entire Belgian economy’. Similar justifications were used in many other cases to conclude that the rescues did not give rise to ‘disproportionate distortions of competition within the Single Market’. However, the troubles at Dexia have continued with its significant exposure to the sovereign debt crisis in Greece. Dexia required a second round of support in October 2011 by the Belgium and French governments; a part of the support includes the setting up of a bad bank for its more toxic assets. It should also be noted that European banks have become major buyers of sovereign debt, and hence the banking crisis has a direct link to the sovereign debt crisis. The Global Financial Stability Report (IMF 2011a) noted that ‘In the euro area, sovereign pressures threaten to reignite an adverse feedback loop between the banking system and the real economy. The euro area sovereign credit strain from high-spread countries is estimated to have had a direct impact of about EUR200 billion on banks in the European Union since the outbreak of the sovereign debt crisis in 2010.’ The additional support by Belgium to assist Dexia has subsequently increased the cost of borrowing for Belgium so placing it under further pressure. The effects, of course, become amplified because of the connections between highly levered banks and the exposure they have to states that also are facing severe market pressures. The IMF went on to say that ‘Banks in some economies have already lost access to private funding markets. This raises the risk of more severe deleveraging, credit contraction, and economic drag unless adequate actions are taken to deal with the sources of sovereign risk—through credible fiscal consolidation strategies—and to address the potential consequences for the financial system—through enhancing the robustness of banks.’ It is not clear where the policy-makers will be able to find the tools to address the fragility of financial markets in the coming months. Certainly, having low interest rates is a device that can be used to spur economic activity, but the current extremely low levels will do little if anything to encourage people to save. Also, many American households have little or no equity left in their mortgaged homes. These households have no real incentive to refinance their properties even at historically low interest rates as long as outstanding loan balances substantially exceed the prevailing market value of their homes. Certainly, getting a better balance in banks’ balance sheets is now a very long-term project.

V. Macro- and micro-prudential oversight and financial stability

Government support for banks has a long history. At times it is targeted and highly correlated with specific transactions or situations. Recent events have focused policy-makers on ways to make their banking and financial systems safer and more resilient to shocks. While many bank-dominated financial systems stood up well during the crisis and did not require extensive overhauls, there is a clear need to reconsider the roles and responsibilities of the FSN organisations to determine where improvements can be made. In particular, it is evident that key micro- and macro-prudential issues may not have been fully understood before the crisis began, especially the inter-linkages between deposit intermediaries and more sophisticated markets such as securitisation and derivatives. To address these matters attention has focused on prudential policies that will improve the resilience of individual institutions and the efficiency of the financial system as a whole. Moreover, how the FSN players carry out their responsibilities and the influence of stakeholders are important matters to consider.

The reforms have focused on macro-prudential and micro-prudential supervision (Milne 2009; IMF 2011b). The mutually dependent policies of macro- and micro-prudential oversight, as outlined by Crockett (2000), are a useful framework for analysing the crisis. A macro- and micro-prudential framework requires a holistic approach in overseeing the financial system and the risks that can threaten it (Galati and Moessner 2011). This means the authorities need to look not only at banks but organisations such as insurance companies that are counterparties to banks, as well as securities dealers which are regulated mainly for market conduct without much attention to capital levels. To be effective they need to consider both prudential issues and conduct of business to get a better sense of the systemic risks when institutions fail or experience distress, and the institutional linkages (such as inter-bank lending within the global financial system, guarantee and other counterparty exposures) and monitoring thereof. Moreover, the link between bank and non-bank business has become blurred with markets such as OTC derivatives and the asset-backed securities; such markets need effective oversight as well.

To be sure, the asset-backed securities market lacked what the banking system has grown accustomed to: a system of regulation and supervision where issues of systemic risk are factored in, as well as an LOLR to provide emergency liquidity support if events threaten confidence in the system. The implications of poor due diligence in the sale of mortgages in a booming property market mean it is not just the sophisticated financial instruments that can have systemic implications, but even the more mundane financial products when there are significant linkages. Reform agendas must ensure that core banking services can continue if a large bank needs to be resolved, and policies need to be developed to ensure that the cost of a bank failure falls squarely on the shoulders of shareholders and creditors. To be successful, policies need to address deficiencies in financial system safety net arrangements.

The links between the banking and sovereign debt crises are quite interesting, and we now know more about the two-way relationship. This means that the gap between macro- and micro-prudential oversight of the financial system needs to be addressed (Goodhart 2011). Viewing the recent crisis from that perspective demonstrates that the authorities need to focus on economic policies as well as their implications for the financial system and its systemic stability. The challenge to policy-makers is to elevate legislators' attention to follow through with implementing supporting legislation to provide central banks with the needed authority to carry out their added responsibilities. The dialogue about macro- and micro-prudential supervision between the FSN players will bring the FSN under a different sort of scrutiny. For instance, expansion of home ownership at unsustainable levels, the absence of mortgage underwriting standards, keeping interest rates low, inadequate bank capital and liquidity requirements and non-existent regulation of huge financial markets are macro- and micro-issues these authorities must address.

How can the gap be addressed? As we have shown, the FSN players all have mandates and roles, and benefits can be achieved through the creation of a financial stability committee (FSC): it would bring those discrete roles together so that if a change in supervision needs to take place it can be initiated from a broader vantage point. If certain stress points are detected, it would be a good platform to direct change or hold those responsible for regulation and supervision to account. The stress points in the financial markets were certainly discussed in the financial stability reports, but how the information trickled down into day-to-day regulation and supervision is not so clear.

The FSC therefore needs to have a surveillance role linking macro-oversight with micro-regulation, distinguishing it from any regulatory or supervisory role. One thing

which does seem inevitable with the introduction of the new generation of financial stability oversight is the ‘conversation’ about financial stability could flow into a range of financial and economic policy affairs. The FSC will need to have a mandate to act and initiate actions to prevent a financial and economic system overheating. This will obviously pose considerable political tensions, but as we have seen the risk to financial stability can arise from a variety of sources and bank and non-bank institutions, and the following of certain social and economic policy objectives. Nor is it likely that the FSC will extend or be allowed to extend its reach beyond concerns about the financial system, hence the political expectations will not mirror the actual reality.

The role of crisis management needs to be clearly given to one of the FSN players. But to whom is quite possibly a contentious issue. Crisis management does raise a variety of concerns about conflicts of interests over whether or not banks and markets should be assisted. One option would be to allocate crisis management and bank resolution to an independent FSC. This would be sensible on two counts: firstly, no agent responsible for the day-to-day oversight of a firm or a market will ultimately have the power to decide to use public finances for a bailout; and secondly, there would be a degree of independence over crisis management separate from the political body. This is obviously controversial but it would build on the principle of independent regulators under the Basel core principles 2006, with an extension to include independent crisis management. It could also be desirable to have a voting system on such decisions to reduce supervisory and political capture.

The creation of an FSC is well established. However, recent experience has highlighted the need for better coordination and cooperation between the official safety net players when considering stability. The preliminary research in this section suggests there is no real specific model on structuring financial stability oversight. What seems to be important is what powers it should be given. Certainly an expectation gap will grow with the introduction of a new generation of financial stability committees. At first glance it seems EU members that experienced some sort of crisis do have some responsibility for crisis management. In other jurisdictions it is implicit that maintaining financial stability will inherently mean restoring it, if and when a crisis occurs. One point that must be highlighted is the need for a separate budget and resources to enable the FSC to fulfil its mandate. It is suggested that it should be separately funded to safeguard its independent position.

VI. Conclusions

This paper has sought to recast the FSN when faced with a systemic crisis, from the traditional focus on regulation and supervision, the central bank’s role as LOLR and deposit insurance to a much wider set of players. It is suggested that elaborating on the specific roles of the various interested parties helps policy-makers better understand how the FSN should work during times of crisis. Moreover, it will assist with a better understanding of what tools are actually required to contain a crisis and whether the legislative body needs to provide those tools. A key lesson learnt during the crisis has been the need to understand the roles of the different FSN players and how they work together as a crisis intensifies. The paper has also tried to bring in the importance of the key stakeholders and the influence they can have on the decision-making associated with a systemic crisis. While the countries at the epicentre of the crisis may now recognise the importance of the FSN, those not quite gripped by the crisis can certainly learn lessons:

the importance of timely decision-making and the expectations associated with the FSN players and the wider stakeholders.

The paper then drills down into the decision-making process associated with containing a crisis and the possible policy options. It first highlights the importance of having access to a range of options. It suggests a ten-step process to dealing with a crisis and the possible issues associated with the decision-making. However, as we have explained, many of these options are not within the traditional toolkit of the narrow set of FSN players, and gaining those powers during a crisis could delay matters. Moreover, policy-makers need to recognise the importance of dividing issues into those of a liquidity-type crisis and those of a solvency-type crisis, with the latter requiring the greatest level of intervention. In the midst of this discussion is the important matter of moral hazard, which we briefly touch on.

Another facet to the discussion is how to bring the key themes of the crisis together. The perimeter of the macro-prudential and micro-prudential dialogue highlights the complexity of the causes of a financial crisis and the difficulty of trying to build them into a coherent decision-making process. The move to a separate oversight body is certainly a useful one to try and should be given appropriate attention. However, the powers and responsibilities it will have need further reflection. One issue that needs to be addressed is with whom the ultimate responsibility for crisis management should reside. It is suggested that the new generation of financial stability committees should have the responsibility in order to improve the level of independence of decision-making and quite possibly the speed with which decisions can be made. Had policy-makers better understood the roles and responsibilities of the agencies within and outside the FSN and had they adopted a better decision-making process, then perhaps the crisis might have turned out just a bit different this time.

NOTES

- ¹ Bank failures in the United States are quite common. There were only two years (2005 and 2006) since 1934 where there were no bank failures. For a full list please see www.fdic.gov/bank/historical/bank/
- ² There is growing literature on the issue of financial stability committees. A very useful analysis of the strengths and weaknesses of various forms of such groupings has been undertaken by Nier *et al.* (2011).
- ³ While we note that there are several deposit protection systems in existence, some of which like the Federal Deposit Insurance Corporation in the United States for over 75 years surprising little attention has been paid to pricing of the guarantees.
- ⁴ For a full list of deposit protection agencies either established or in the process of being developed please see www.iadi.org.
- ⁵ The usual three questions asked to officials during post mortems by Parliamentary-type committees are: What did they know about the situation, when did they find out and what did they do about the problem? Attention then focuses on who was responsible and, of course, what were the costs.
- ⁶ This is in contrast to the United Kingdom position as explained by Alistair Darling: 'I was also struck by the fact that the US president...cannot automatically get what he wants at home. He has to horse-trade. In contrast, when I effectively wrote a cheque to buy £50 billion of bank shares in the UK, I did not even have to get specific parliamentary authority to do so.'
- ⁷ We are grateful to Rodrigo Olivares-Caminal for the substantive links between banking and sovereign debt issues. The BIS found that the 'impact on banks is exacerbated by the fact that sovereigns (and other highly rated entities) often use unilateral credit support annexes (CSAs), meaning that they do not post collateral to offset mark-to-market losses on derivatives, but will receive collateral on their mark-to-market gains. This negatively affects banks in two ways. First, banks' mark-to-market claims on sovereigns are uncollateralised, increasing their CVA risk. Second, if banks hedge their derivatives positions with sovereigns using offsetting trades with other entities that are covered by bilateral CSAs, then banks can face additional funding strains as they need to post collateral in one transaction without receiving any reciprocal collateral in the corresponding hedge transaction. Banks sometimes hedge themselves against sovereign risk by buying CDS protection or short selling government bonds, but depending on the liquidity in these markets, this can push up sovereign risk *premia* and cause further CVA losses...' Please see Panetta 2011.

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

The Federal Agency for Financial Market Stabilisation in Germany: From Rescuing to Restructuring

by

Christopher Pleister *

One important element of the response to the crisis in Germany was the establishment of a new institution, the Bundesanstalt für Finanzmarktstabilisierung (Federal Agency for Financial Market Stabilisation, henceforth FMSA). The aim was to supplement the range of tasks performed by the Deutsche Bundesbank and the Bundesanstalt für Finanzdienstleistungsaufsicht (the Federal Financial Supervisory Authority). Neither one of these two institutions nor the legal framework, including especially the insolvency laws, were adequate for rescuing and restructuring stressed banks. While the FMSA was initially conceived as a temporary undertaking, the new German Restructuring Act implies that the FMSA is now a permanent part of the German banking landscape.

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Keywords: macro-prudential supervision, central bank, government policy and regulation, financial crisis prevention and resolution.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction

The financial market crisis has been worsening steadily since summer 2007. Distressed banks, rattled investors, the real economy's need for fresh capital and central banks' attempts to address the most severe needs have led to a bundle of problems, and the situation seemed more or less out of control. All developed economies have been affected, although to varying degrees. The effects of the fall of the US investment bank Lehman Brothers were dramatic for Germany. The order of the day was to act as fast as possible because the survival of the German banking sector was at stake.

A key element of the response to the crisis in Germany was to establish a new institution. The aim was to supplement the range of tasks already performed by the Deutsche Bundesbank and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), the Federal Financial Supervisory Authority. Neither bank-supervision instruments nor German insolvency laws were adequate for rescuing German banks that had gotten into difficulty. It was up to the government: it set up the Bundesanstalt für Finanzmarktstabilisierung (FMSA). The FMSA was initially to be of limited duration.

II. Rescue phase: post-Lehman Brothers to the end of 2010

There were several options for reacting to the type of crisis experienced recently. Paying due consideration to free market economics, one option would have been to let individual banks go out of business through an orderly process provided by the State. One could have commenced insolvency proceedings for the stressed banks. Otherwise than is commonly assumed, German insolvency proceedings do not necessarily lead to liquidation. There can indeed be a restructuring on the basis of an insolvency plan with the participation of creditors and shareholders. But this is a long drawn-out process, and whether it will succeed or not is very difficult or impossible to forecast. But in that phase of the crisis, decisions had to meet two preconditions: they had to be fast, and they had to be sustainable. Hence, aspects of timing and confidence played an overriding role when it came to coping with the financial crisis. The legal framework available in Germany at that time was inadequate, however. The German banks that had gotten into difficulty were themselves not in a position to generate the necessary funds.

The foundation of the FMSA

In the third quarter of 2008, the financial crisis peaked with the insolvency of Lehman Brothers. The ensuing loss of confidence in the interbank market and the consequent liquidity and capital problems for banks were the reasons why the FMSA was established on 17 October 2008. Within a week, the German lower house of parliament, the Bundestag, passed the FMStFG, the Act on the Establishment of a Financial Market Stabilisation Fund, which was ratified by the upper house, the Bundesrat. The declared aim was to stabilise the German financial market. Banks that had gotten into difficulty due to the crisis were to be rescued quickly, and banks in an apparently hopeless situation were to be provided with the necessary "help to help themselves"; that is, those banks that the crisis had taken out of the market were to be reintegrated into German banking. The aim was to avoid incalculable consequences for the German banking system and to quickly regain market confidence.

The FMSA and the Financial Market Stabilisation Fund (henceforth referred to as SoFFin) were set up temporarily with that aim in mind. According to the Act on the Establishment of a Financial Market Stabilisation Fund, SoFFin could undertake measures only as requested by the intended recipient of those measures. Hence, as regards the applicant, the recourse to SoFFin measures was on a voluntary basis.

SoFFin instruments

The Act provided for the granting of three support measures for banks:

1. Guarantees: the fund was able to guarantee up to €400 billion to secure bank refinancing and hence overcome short-term liquidity bottlenecks.
2. Recapitalisation: measures to strengthen the capital base in the form of equity or silent participation. Funds of €80 billion were available for that.
3. Assumption of risk positions: basically the fund was able to take on, or otherwise secure, limited amounts of banks' risk positions (claims and securities). Only one recipient had recourse to this instrument in 2009 (for some months), until the positions were transferred to a winding-up or resolution agency.

A further aspect of the German rescue package was the Supplementary Act to Stabilise the Financial Market, FMStErgG, of 7 April 2009. It enabled the FMSA in particular to take over banks more easily, *i.e.* expropriation for compensation. This Act originated in the context of the particularly difficult situation characterising Hypo Real Estate Holding AG, a real estate financing company.

In the course of the financial crisis, the FMStFG was supplemented with what was referred to as “bad bank legislation”. The resolution agency model allowed the applicants to move risk positions and business lines that were not part of their core business to an agency set up by SoFFin. The aim of that transfer was to free up capital so as to promote lending to the real economy. At the same time, by using the resolution agency, the bank was enabled to take on a new orientation for the future in the shape of a promising business model.

The FMSA set up two resolution agencies; it supervises both of them under the law. The conditions under which the loss-settlement obligations kick in are governed by the statutes of each respective agency. Basically, the obligation to settle losses and to provide fresh liquidity is incumbent upon the “former owners”, those with a stake in the transferring bank at the time of transfer. The resolution agencies are dissolved after all transferred risk positions and business lines have been wound up.

SoFFin was also able to grant guarantees to special-purpose vehicles, to which a recipient of SoFFin measures could have transferred structured securities in advance. But in practice, that instrument was not used.

The maximum amount of guarantees – up to €400 billion – was not fully drawn down, with the draw-down in peak periods amounting to €168 billion (42 %), and as of October 2011 to €28 billion (7%). The guarantees will expire by the start of 2015, at the latest. Much of the assistance made available has never been called on, or is no longer needed. Generally speaking, the taxpayer incurs costs not by the granting of a guarantee but only if the issue suffers a default. In case of such a default, SoFFin would have

recourse to the bank's assets. So far, no guarantees have been triggered, and the FSMA is currently assuming that none of the outstanding guarantees are going to be triggered.

In terms of the capital assistance, up to a maximum of € 80 billion, an amount equivalent to about € 30 billion was drawn, of which approximately € 20 billion is currently still outstanding. At a maximum level of 8% of the equity capital of German banks (about €380 billion as of 12/2008), the capitalisation made available has saved the German banking system from a scenario such as that of Lehman Brothers.

The fees and interest that SoFFin received by the end of 2010 for the guarantees granted were above expenditure. The FMSA had to make valuation adjustments to the participations in 2009 and 2010, leading to loss carryforwards of currently approximately €8 billion. This equals about 2% of the equity of the German banking system as of the end of 2008. Given the current situation of the financial markets, the losses carried forward will likely be higher in the annual financial statement for this year. The valuation adjustments/provisions for onerous contracts result from lower receipts expected in the future, and hence do not constitute realised losses for the taxpayer. The exact result as well as the time when SoFFin will present its closing statement (after repayment of all instruments) are still unknown and depend heavily on trends in the capital markets and among banks.

Since January 1, 2011, by law SoFFin has not granted any new stabilisation benefits to credit institutions. However, it continues to discharge responsibilities based on the existing stabilisation measures -- for example, controlling the conditionality of the measures. In addition, under the law, it continues to supervise the resolution agencies. Also, SoFFin may build up beyond 2010 the equity participations it had acquired, with the aim of providing security. By law, it may also replenish the existing resolution agencies and grant them guarantees.

FMSA successes

Looking back, we can see that German banks were rescued successfully. The lines provided by the Federal government did not have to be drawn down entirely, and the banks have been able to repay a high amount of the assistance already. By international comparison, the costs for the stabilisation measures are fairly moderate from a current viewpoint.

A run on deposits by small investors typical for bank crises has been avoided, and the provision of funding to the economy assured. The Deutsche Bundesbank and the European Central Bank have confirmed that there has been no credit squeeze in Germany, and hence no restrictions on the availability of finance. Insurance corporations and the fund industry have been profiting indirectly from the FMSA and its work. The various policy actions taken largely prevented the financial crisis from infecting the real economy in Germany. The problems of the banking sector have not prevented the German economy from recovering.

However, the successful recent stabilisation has not contributed to the necessary adjustment process in the German banking sector. Individual rescue measures stabilise a given bank but weaken the system over the longer term. The crisis has not led to a healthy shakeout because the policy measures have taken a lot of pressure off the banks, as far as restructuring is concerned. In addition, the stabilisation measures were based on the heroic assumption that all the banks had gotten into trouble only because of the crisis. But there has been, and still is, a doubtless long-term need to restructure German banks,

irrespective of the financial crisis, as German banks have always suffered from really weak capitalisation and low profitability.

III. Restructuring phase: rollout of the Restructuring Act in January 2011

When the Restructuring Act was passed at the beginning of 2011, it marked a turning point in the conception of the FMSA. From this time on, the focus was to be not only on the short-term rescue and stabilisation of banks; the idea of helping only because of the crisis lost importance. Instead, the aim has become to create the necessary balance between short-term restructuring and the overdue restructuring of the German banking sector, by providing an institutionalised legal framework for winding up banks that are too big to fail. The purpose of the framework is to prevent a bank that is too big to fail from sucking the German banking market into a downward spiral, making a financial crisis even worse. In the event that support measures are necessary, the required funds ought to be provided by the banks themselves and not the taxpayer.

When the Restructuring Act was passed, the FMSA became a permanent element of the architecture of the German financial system.

Instruments of the Restructuring Act

The German Banking Act, Kreditwesengesetz (KWG), has been amended as a result of the Restructuring Act. The KWG now authorises BaFin to order the transfer of assets relevant to system survival to a new legal entity, if a threatened bank endangers the stability of the system. But assets remaining at the transferring bank, and not classified as relevant to the system as a whole, are normally to be dealt with as part of an orderly wind-up.

The Restructuring Act's toolbox contains the following measures:

1. Restructuring and reorganisation procedures for banks that adopt the insolvency plan process, with the procedures beginning upon application by the banks. This involves a two-stage procedure to support banks that are restructuring on their own account, ahead of any insolvency.
2. Extended instruments for the bank regulator: right to appoint a special commissioner; obligation to submit restructuring plans; and the option to order transfer.
3. Introduction of a bank levy to finance the measures.

When a bank applies to undergo a restructuring process, this does not mean a legal intervention into the rights of shareholders and creditors. The workout plan, its implementation and the appointment of a restructuring consultant are aimed at helping to restructure the bank. The shareholders and creditors can decide on a reorganisation plan, if the reorganisation process would involve more far-reaching interventions. Both of these procedures involve BaFin, but in either case, it is necessary for a bank to apply for them.

The above situation does not describe the stage that involves the most far-reaching intervention: the transfer order. This is decreed officially by BaFin, even against the wishes of the shareholders and creditors. The prerequisite for a transfer order is that the bank's continued existence be threatened, which in turn would endanger the stability of the financial system. Under a transfer order, BaFin is entitled to transfer bank assets that

are systemically relevant to a private buyer, or to a bridge bank founded by the Restructuring Fund. Insolvency proceedings are commenced for the remaining parts of the distressed bank that are not systemically relevant. At the end of those proceedings, the distressed bank is either restructured or liquidated. The creditors of the distressed bank are paid off *pro rata*. The law foresees that the financial status of creditors, after the transfer order and wind-up of the distressed bank, should not be worse than without the transfer order.

So as to strengthen market discipline, BaFin decides only at the time of the transfer order which of the assets, liabilities and legal relationships are to be transferred to the bridge bank. Hence, in advance of that transfer order, there is no certainty about which claims or liabilities will remain at the distressed bank and which will get transferred to the bridge bank. This new set of instruments has not had to be used so far. As a purely precautionary measure, the Restructuring Fund has set up three bridge banks without specific purposes. This measure is precautionary; it allows one to be prepared for cases where a transfer order would have to be conducted under extreme time pressure.

The Restructuring Fund is intended to create a solid financial foundation for the orderly wind-up of a bank. The Restructuring Fund aims to protect systemically relevant assets, liabilities and contracts using the measures adopted vis-a-vis the legal entity accepting those assets. Financial means from this fund are available for payments under a transfer order, and especially for the granting of guarantees and providing recapitalisation funds in the case of a bridge bank. But unlike under the FMStFG, the provision of support to applicant banks is no longer possible.

FMSA manages the fund, and its funds are not unlimited. The law provides for financing through the bank levy, €100 billion worth of guarantee authorisation, and €20 billion worth of borrowing for recapitalisation.

Basically, the public sector is to be exempted from paying for bank rescue. This goal is to be achieved through the annual bank levy. The levy is raised, collected and managed by the Restructuring Fund, and banks are required to pay the levy. All banks that have a bank license under the German Banking Act and are subject to reporting requirements are required to pay the levy, except for so-called promotional banks -- that is, the German public banks set up to promote investment activity by granting loans at preferential rates. The bank levy is geared to the size of the bank, and the degree to which it is tied into the financial system. Banks that present less of a threat to the system carry lower charges than systemically relevant banks. In any case, the banks will be bearing the cost of restructuring measures in the future, and the taxpayer is thus relieved of that cost.

The target funding of the Restructuring Fund is € 70 billion, to be achieved by accumulating funds over time. If the funds required during a crisis exceed the financial means accrued under the banking levy, the Federal Republic of Germany will lend the difference, and then recover it subsequently from the Restructuring Fund over time, through the annual levy and a separate contribution rate. This structure ensures that the Fund can go into action as soon as possible, and that it does not depend on how fast financial means actually accrue in the Fund.

Under the Restructuring Act, the FMSA is no longer the saviour of failed banks but the fiduciary of healthy ones. This situation enhances market discipline and increases the pressure on German banks to restructure themselves.

IV. Requirements of the European Commission

The granting of assistance by SoFFin was predicated on meeting various requirements under the law and ordinances, such as a sustainable business model for the core bank or adherence to remuneration standards. Under EU-State aid legislation alone, the banks are to repay the measures undertaken on their behalf at market rates. Further, those drawing on the measures had recourse to recapitalisation or resolution agencies. When accessing these, they had to make wide-ranging adjustments and changes to their business models. The Federal Government has made a commitment to the European Commission to avoid competitive distortions.

At the same time, the European Commission has emphasised the participation of owners and creditors in the costs of the restructuring measures and would like to secure this participation by means of a directive.

Excursus

Crises are inherent in market economies as a necessary corrective to events having taken a wrong turn. Corrective measures should be implemented not only by regulators but also by those bearing responsibility in the finance industry. Attempts to regulate can contribute to stabilising financial markets, but regulatory attempts can never replace confidence in responsible practices by market participants. Achieving that confidence requires a change in the attitude of decision-makers in banking, as well as the set of values underlying observed practices. When all is said and done, laws and ordinances cannot replace what a vocational code of conduct must provide. The banking sector must recognise that the discretion that free markets allow also generates corresponding responsibilities. Only if this connection is fully understood by market participants can the current crisis serve as a genuine turning point for the better.

V. Summary and outlook

Prior to the Lehman crisis, there had not been any concerted State assistance in Germany, but only one-off bank rescues. When Lehman Brothers became insolvent in 2008, the FMSA was established temporarily as a government lifeline to help banks that had become distressed owing to the crisis. Thanks to its cooperation with the Bundesbank, BaFin, the Federal Finance Ministry and the European Commission, the FMSA succeeded in rescuing German banks: no German bank had to be wound up, and Lehman Mark Two was avoided. This has buttressed system stability over the short term. Whereas a one-off rescue of a distressed bank does strengthen it, that rescue saps the overall banking system in the long term. The reason is that the government's measures take a lot of pressure off the banks as far as restructuring is concerned. In addition, it is a big assumption to say that all the banks were debt-free and had gotten into trouble only because of the crisis.

Since the end of 2010, SoFFin is no longer been in a legal position to grant new stabilisation measures. Since that time, Germany has passed a Restructuring Act and hence an institutionalised legal framework for winding up banks too big to fail. That means that the task of FSMA is no longer a temporary one. It is now a permanent pillar of the German banking system and is required to rescue only the systemically relevant parts of a bank, the failure of which would endanger financial system stability. The other operations are wound up. In the future, the banks will be bearing the cost of that

restructuring themselves, by paying a bank levy into the Restructuring Fund. In the future, this fund will relieve the taxpayer. Stringent restructuring sacrifices a given bank, while underpinning the banking system over the long term. Propping up unsustainable business models is unjustified. The Restructuring Act thus ensures an appropriate balance between rescue, on the one hand, and overdue restructuring on the other.

When a shock occurs, assistance to the banking system is helpful. Such assistance achieves short-term bank stabilisation and quickly restores confidence in the entire system; the banks concerned are to be restructured by other means. Owing to the current situation in the financial markets, the politicians have already indicated that, if needed, they would be prepared to implement corresponding measures.

Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

The EU Architecture to Avert a Sovereign Debt Crisis

by

Rodrigo Olivares-Caminal*

This paper analyses what has been the EU institutional reaction to the Euro-area sovereign debt problems, focusing in particular on the new architecture designed to avert a financial crisis. It analyses (i) the European Financial Stabilisation Mechanism (EFSM), an EU financial assistance feature available to all 27 member states, (ii) the European Financial Stabilisation Facility (EFSF), a temporary credit-enhanced Special Purpose Vehicle (SPV) with minimal capitalisation created to raise funds from the capital markets (via an investment grade rating) and provide financial assistance to distressed euro-area Member States (EAMS) at comparatively lower interest rates, and (iii) the European Stability Mechanism (ESM), an intergovernmental organisation under public international law. Finally, some concluding remarks are provided.

JEL Classification: G15, F34, L22

Keywords: sovereign debt, structured finance, financial crisis, European Union, guarantees, bonds.

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OECD work on financial sector guarantees

OECD work on financial sector guarantees has intensified since the 2008 global financial crisis as most policy responses for achieving and maintaining financial stability have consisted of providing new or extended guarantees for the liabilities of financial institutions. But even before this, guarantees were becoming an instrument of first choice to address a number of financial policy objectives such as protecting consumers and investors and achieving better credit allocations.

A number of reports have been prepared that analyse financial sector guarantees in light of ongoing market developments, incoming data, discussions within the OECD Committee on Financial Markets. The reports show how the perception of the costs and benefits of financial sector guarantees has been evolving in reaction to financial market developments, including the outlook for financial stability. They are available at www.oecd.org/daf/fin.

- Financial safety net interactions
- Deposit insurance
- Funding systemic crisis resolution
- Government-guaranteed bank bonds
- Guarantees to protect consumers and financial stability

As part of that work, the Symposium on “Financial crisis management and the use of government guarantees”, held at the OECD in Paris on 3 and 4 October 2011, focused on bank failure resolution and crisis management, in particular, the use of guarantees and the interconnections between banking and sovereign debt. Conclusions from the Symposium are included at the back of this article. This article is one of nine prepared for presentation at this Symposium.

- Managing crises without guarantees: How do we get there?
- Sovereign and banking debt interconnections through guarantees
- Costs and benefits of bank bond guarantees
- Impact of banking crises on public finances
- Fault lines in cross-border banking: Lessons from Iceland
- The macro-prudential authority: Powers, Scope and Accountability
- Effective practises in crisis management
- The Federal Agency for Financial Market Stabilisation in Germany
- The new EU architecture to avert a sovereign debt crisis

I. Introduction: The global financial crisis and its impact on sovereign debt

The unprecedented global financial crisis and economic downturn that hit the world in 2007-2008 has resulted in the deterioration of budget deficits and caused an overall increase of sovereign debt levels across the world. This deterioration is mainly due to falling revenues resulting from a decreased real and financial activity. In 2010, advanced countries averaged a budget deficit of 8.3%.¹ In the same year the public debt to gross domestic product ratio in those economies reached a level of 97%, increasing from below 75% in 2006. Research by Reinhart and Rogoff shows that a debt to GDP ratio beyond the 60% to 90% level for developed countries may become counterproductive for the economy and a debt spiral may be created in cases where GDP growth falls below the weighted average interest paid on the bonds.² At the epicentre of the recent sovereign debt crisis are the euro-area Member States (EAMS), particularly Greece, Ireland and Portugal who have had to procure financial assistance from the European Union (EU), other EAMS, the International Monetary Fund, the European Central Bank and other non-EAMS sovereigns in an attempt to regain sustainability by reducing their sovereign debt burden in an orderly manner.

This paper analyses what has been the EU institutional reaction to the sovereign debt challenges, in particular focusing on the new architecture designed to avert a financial crisis. The first section provides an analysis of the impact that the global conditions had on Greece and the need for an *ad hoc* financial assistance. The case of Greece is analysed due to its triggering effect and because of it the different mechanisms that were developed and implemented. Then, section two analyses the European Financial Stabilisation Mechanism (EFSM), an EU financial assistance feature available to all 27 member states. Section three analyses the European Financial Stabilisation Facility (EFSF), a temporary credit-enhanced Special Purpose Vehicle (SPV) with minimal capitalisation created to raise funds from the capital markets (via an investment grade rating) and provide financial assistance to distressed EAMS at comparatively lower interest rates. Section four focuses on the treaty that created the European Stability Mechanism (ESM) - an intergovernmental organisation under public international law. Since the ESM treaty has a provision requesting private sector involvement in any financial assistance program to be granted, this section will be followed by the complementary analysis of the role played by the private sector in sovereign debt restructurings, i.e. the use of exchange offers, CACs and contractual enhancements. Finally, some concluding remarks and views regarding the way forward is provided.

II. The first Greek bail-out

In April of 2009, the European Council adopted a decision according to Article 126 of the TFEU on the existence of an excessive deficit in Greece.³ The Greek government deficit for 2009 was 12.7% and its debt to GDP ratio 113%, both well above the convergence criteria set by the Treaty on European Union (also known as the Maastricht Treaty).⁴ In December 2009, following article 126(8) of the TFEU, the European Council stated that Greece had failed to comply with its recommendation issued in April 2009 when an excessive deficit procedure was initiated.⁵ On 16 February 2010, on the 2994th meeting of the Economic and Financial Affairs (Ecofin) Council it was decided to (1) give notice to Greece to remedy its excessive deficit by 2012 setting budgetary consolidation measures according to a specific timetable; and, (2) to bring its economic

policies in line with the EU broad economic policy guidelines and remove the risk of jeopardising the proper functioning of the economic and monetary union (EMU).⁶

The Greek government efforts are detailed in a Stability and Growth Programme (SGP). The aim of the SGP is to bring the fiscal deficit of Greece to less than a 3% by 2012 and reduce the government consolidated debt as a percentage of GDP from 2012 onwards. In order to safeguard this deficit-reduction target, the Greek government adopted additional measures aiming at reducing costs and enhancing revenues. The Greek government's short and medium term fiscal and reform strategy measures include budget, tax, social security, and public administration reform, as well as institutional changes to enhance the credibility and sustainability of policies.⁷

Following a recent restatement of Greek data by Eurostat, Greece reached a budget deficit of (-13.6%) and a Debt/GDP ratio of 115% in 2009. The profile of deficit reduction is more modest in the revised SGP, reflecting the upward revision of estimated deficit and the downward revision to the growth projections. In the revised SGP, the Greek government is aiming for a budget deficit of (-4.9%) of GDP in 2013 with an outstanding debt/GDP ratio of 149%.

In February 2010, the Heads of State of the Government of the EU stated their support for the Greek government efforts and commitment and that they were determined to take coordinated action (if needed), to safeguard financial stability in the euro area as a whole.⁸ In this context, a month later, euro area member states (EAMS) reaffirmed their willingness to take determined and coordinated action and made available a package involving coordinated bilateral loans and IMF financing.⁹ This assistance has to be considered '*ultima ratio*' (i.e. if market financing is not a viable option) and would be subject to strong conditionality based on an assessment by the European Commission (EC) and the European Central Bank (ECB).¹⁰

In April 2010, EAMS announced that the EC in liaison with the ECB, will start working with the IMF and the Greek authorities on a joint programme (including amounts and conditionality, building on the recommendations adopted by the Ecofin Council in February¹¹).¹² Shortly after, and due to deteriorating conditions which made very costly for Greece to obtain financing from the capital markets, bilateral loans were formally requested to EAMS on 23 April 2010.

In early May, Greece and the EC (acting on behalf of the EAMS) entered into a Memorandum of Understanding (MoU) agreeing on a programme to correct fiscal and external imbalances and restore confidence.¹³ The programme's financing requirements would be covered by the EAMS and the IMF while strengthening Greece's re-access to the private capital markets. The estimated "public financing gap" for the entire length of the programme was EUR110 billion.¹⁴ It was agreed to be covered through: (1) an intergovernmental framework via pooled matching bilateral loans provided by EAMS in the amount of EUR80 billion; and, (2) an IMF Stand-by Arrangement in the amount of EUR30 billion.¹⁵ Greece will draw on these resources in parallel throughout the program period on an eight to three ratio in each disbursement.¹⁶ The coordination and management of the pooled bilateral loans is set out in an Intercreditor Agreement.

Following the execution of these agreements, an Ecofin Extraordinary Council meeting took place to address the delicate situation of Greece. In the meeting it was decided to adopt a comprehensive package of measures to preserve financial stability in Europe.¹⁷ These measures included the establishment of two additional sources of

financial assistance to complement the *ad hoc* loan facility agreed with Greece. These two new sources of financial aid are:

(1) *European Financial Stabilisation Mechanism* (EFSM): is a mechanism based on article 122(2) of the TFEU that foresees financial support for member states in difficulties caused by exceptional circumstances beyond their control.¹⁸ It is an intergovernmental agreement to provide financial assistance of up to EUR 60 billion subject to strong conditionality in the context of a joint EU and IMF support which will be on terms and conditions similar to those imposed by the IMF. This mechanism will operate irrespectively of the facility providing medium term financial assistance to non-euro EAMS balance of payments.

(2) *European Financial Stabilisation Facility* (EFSF): is a temporary credit-enhanced SPV with minimal capitalisation created to raise funds from the capital markets on its investment grade rating and provide financial assistance to distressed EAMS at lower interest rates than those available to the latter. The financial support to EAMS through the EFSF shall be provided on comparable terms to the stability support loans advanced by EAMS to Greece.

The total volume of these two mechanisms is EUR 500 billion. While EFSM is available to EAMS and non-EAMS member states, the EFSF is only available to EAMS. This two mechanisms are analysed in more detail in the following sections.

III. The European Financial Stabilisation Mechanism (EFSM)

The EFSM was put into place to facilitate a coordinated and expedited assistance to preserve the financial stability in the EU.¹⁹ It was established by the EU Council Regulation No. 407/2010. The implementing powers required for the establishment and use of this mechanism were vested in the EU Council. The EFSM will complement the existing facility providing medium-term financial assistance for non-EAMS established by Council Regulation (EC) No 332/2002.²⁰

The activation of the EFSM will be in the context of a joint EU/IMF support programme and will impose strong economic policy conditions to serve a double purpose, i.e. to preserve the sustainability of the public finances of the distressed member state and restore its capacity to obtain financing from the markets.

The financial assistance provided by EFSM is either in the form of a loan or of a credit line granted to the member state in distress.²¹ As a general rule, the loan should be in instalments.²² The ECB acts as the fiscal agent regarding the administration of the loans between the EC and the central bank of the beneficiary.²³ The costs in implementing the financial assistance will be borne by the beneficiary.²⁴

The capital required for the provision of financial assistance will be raised on behalf of the EU by the EC – in accordance with the EU Council – in the capital markets²⁵ or with financial institutions. Unless there is a default from the beneficiary, EFSM financing would not entail any budgetary expenditure due to its back-to-back nature. In the event of default, the EU Commission would draw on its cash balances and, in the event of it not being sufficient, it will draw additional cash resources from member states.²⁶

In the event that funds are raised but not disbursed, these will be kept on a dedicated cash or securities account handled in accordance with rules applying to off-budget operations and cannot be used for any other purpose than to provide financial assistance

to member states under the EFSM.²⁷ The outstanding amount of loans or credit lines to be granted to member states is limited to the margin available under the own resources ceiling for payment appropriations.²⁸ The limitation of not granting financial assistance beyond the margin available under its own resources ceiling for payment appropriations imposed on the loans/lines of credit under the EFSM to the EC, acts as a safeguard. It limits the EC from calling for own resources payments from the EU budget of member states equivalent to 1.23% of EU Gross National Income (GNI).²⁹

A member state seeking financial assistance under EFSM shall discuss its financial needs with the EC – in liaison with the ECB – and submit a draft economic and financial adjustment programme to the EC and the Economic and Financial Committee. The EU Commission will assess the submitted financial adjustment programme and make a proposal to the EU Council, who will make a decision by a qualified majority.³⁰

Upon the approval by the EU Council, the EC and the beneficiary member state shall enter a MoU detailing the general economic policy conditions approved and agreed. The MoU will be communicated to the European Parliament and the EU Council.³¹

Table 1. Capital raised by the EU Commission for the EFSM

Date	Issuance	Purpose	Observations
5 Jan. 2011	2015 2.5% EUR 5bn bond	EUR 5bn to Ireland first tranche under EFSM	300%+ oversubscription The resulting interest rate of the loan to Ireland was 5.51% (cost of borrowing for the EU at 2.59% plus a margin of 2.925% as decided by the Council on 7 Dec. 2010)
17 Mar. 2011	2018 3.25% EUR 4.6bn bond	EUR 3.4bn to Ireland under the EFSM. EUR 1.2bn to Romania under the Balance of Payments facility (EUR 4.85bn already disbursed)	300%+ oversubscription
24 May 2011	2021 3.5% EUR 4.75bn	EUR 3bn to Ireland under the EFSM EUR 1.75bn to Portugal under EFSM	300%+ oversubscription
25 May 2011	2016 2.75% EUR 4.75bn	EUR 4.75bn to Portugal under EFSM	—

Sources: Commission Press Release MEMO/11/4 of 5 January 2011, “EUR 5 billion bond issue for Ireland”; Commission Press Release MEMO/11/180 of 17 March 2011, “EUR 4.6 billion bond issued to assist Ireland and Romania”; Commission Press Release MEMO/11/336 of 24 May 2011, “EUR4.75 billion bond issued for EU’s assistance packages to Ireland and Portugal”; and, Commission Press Release MEMO/11/344 25 May 2011, “Second EUR 4.75 billion bond issued this week to support EU’s assistance packages”.

Thereafter, every six months and in consultation with the ECB, the EU Commission will re-examine the agreed general economic policy conditions and discuss with the beneficiary member state any changes that may be needed to its adjustment programme. If deemed necessary, the EC will make an adjustment proposal to the initial general economic policy conditions agreed and submit it to the consideration of the EU Council.³² This is in line with the general rule that loans should be disbursed in instalments to allow periodical revisions (and eventually suspend the release of further instalments).³³ Also, it is possible that upon request of the beneficiary member state and where circumstances permit, a revision of the applicable interest rate can be conducted aiming at improving the financial conditions and easing the burden. Therefore, the EC may refinance all or part of its initial borrowing or restructure the corresponding financial conditions.³⁴

If the member state in distress resorts to external (non-EU) financial assistance subject to economic policy conditionality (e.g. IMF), the member state shall first consult the EC to assess: (1) additional financial assistance available under the EU arrangements; and, (2) the compatibility of the envisaged economic policy conditions with pre-existing commitments.³⁵

Table 1 above summarises the issuances made by the EC in order to raise the required capital for EFSM. These issuances include the assistance packages put in place for Ireland and Portugal (and Romania under the Balance of Payments Facility under Regulation (EC) No 332/2002).

IV. European Financial Stabilisation Facility (EFSF)³⁶

The EFSF is the foundation of the current European sovereign crisis containment framework. It is a temporary credit-enhanced SPV with minimal capitalisation created to raise funds from the capital markets on its investment grade rating and provide financial assistance to distressed EAMS at lower interest rates than those available to the latter.

The EFSF is a Luxembourgish public limited liability company incorporated by the 16 countries sharing the euro in 2010.³⁷ The main purpose of the EFSF is to facilitate or provide financing to member states of the EU in the form of loan facility agreements or loans up to EUR 440 billion if: (1) their currency is the euro; (2) they are in financial difficulties; and, (3) have entered an MoU with the EC – acting on behalf of the EAMS – regarding budgetary discipline and policy conditionality. As part of assistance programmes to EAMS in financial difficulties, some of the funds received can be used to stabilise the banking sector (e.g. Ireland received a EUR 85 billion assistance programme, out of which EUR 35 billion were allocated to the immediate strengthening and comprehensive overhaul of the banking sector).³⁸

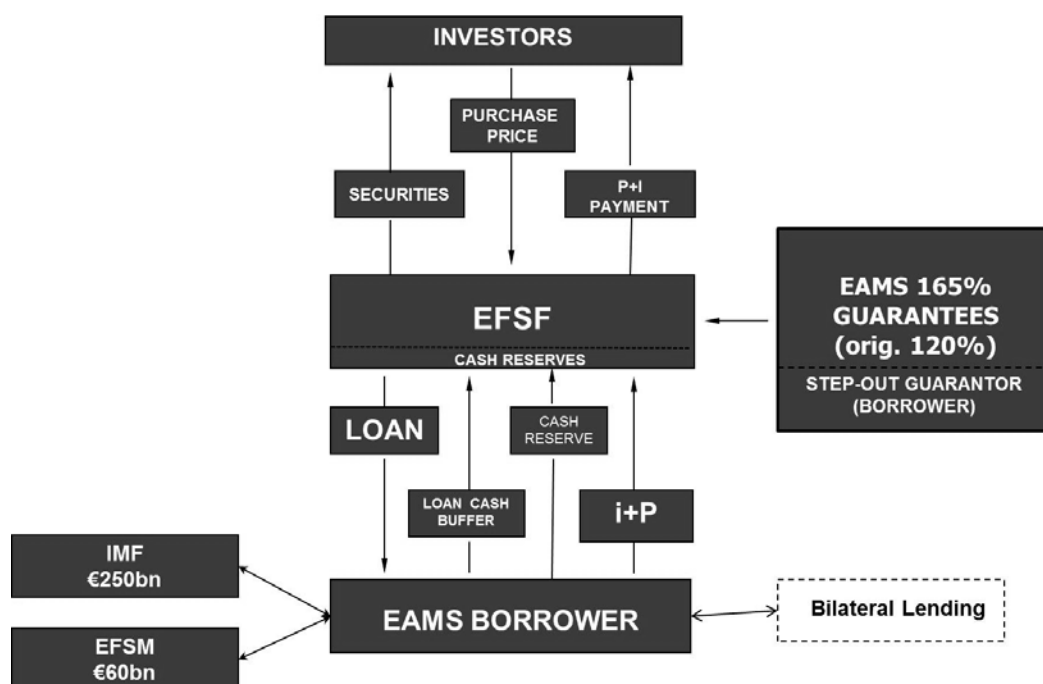
EFSF facilities are put in motion upon a stability support request made by an EAMS. The EC acting on behalf of the EAMS (and in liaison with the ECB and the IMF) will negotiate and approve a MoU with the borrower (which shall be consistent with a decision that the EU Council may adopt under Article 136 of the TFEU).³⁹ After the approval of the MoU, the EC (in liaison with the ECB), will make a proposal to the Eurogroup Working Group of the main terms of the Loan Facility Agreement to be proposed to the borrower. If the Eurogroup Working Group agrees on the main terms of the Loan Facility Agreement proposed by the EC, it will – jointly with the EFSF – negotiate the detailed and technical terms of the loan facility agreements. The terms need to be approved by the EAMS and be aligned with what has already been approved by the

EC, the Eurogroup Working Group and the ECB. The EFSF guarantors delegate powers to the EFSF to sign the loan facility agreements on their behalf, provided that there is a unanimous approval by all of the participating EAMS. Any financial assistance provided to a EAMS borrower is linked to strict policy conditions which are set out in a MoU.⁴⁰ If the country fails to meet the policy conditions agreed, the loan disbursements and the programme are interrupted until a review of the country programme is conducted and the MoU is renegotiated (if applicable).

In order to raise the money required to facilitate or provide financial assistance, the EFSF will be entitled to issue financial instruments⁴¹ or enter in financial arrangements with its shareholders, in respect of which its liabilities may be guaranteed by some or all of its shareholders or may be otherwise collateralised or benefit from credit support mechanisms.⁴² The main method used so far is the issuance of bonds to raise the funds needed for the provision of loans to countries in financial difficulties. The bond issuances are backed by timely, unconditional, irrevocable and several guarantees given by the 16 EAMS on a pro rata basis, in accordance with their share in the paid-up capital of the ECB. These guarantees will cover up to 120% (now 165%) of the value of the bonds issued to raise the required capital to grant the facility.⁴³ The granted guarantees cannot be altered due to their irrevocable nature. This notwithstanding, debt issuances might not include the same guarantors since a guarantor might need to step-out from the pool of guarantors and require financial assistance (stepping-out guarantor).

Figure 1 illustrates a simplified structure of the EFSF financing mechanism

Figure 1. Simplified structure of the EFSF financing mechanism



The EFSF maximum available assistance facility of EUR 440 billion is complemented by: (1) the EFSM financial assistance of up to EUR 60 billion; and, (2) allegedly IMF financial assistance of up to EUR 250billion,⁴⁴ creating a safety net of a maximum of

EUR 750 billion. However, it is worth stressing that there is no formal commitment between the IMF and the EU regarding the allegedly pledge of funds that can be drawn from the former to palliate the crisis. However, due to the current rating of the guarantors, not all guarantees are taken into account for purposes of the rating of the debt securities issued to secure a AAA/Aaa rating. Therefore, the effective lending capacity available under the EFSF is less than EUR 440 billion. In exceptional circumstances, the EFSF can intervene in the primary markets in the context of a programme with strict conditionality.

The debt instruments issued by EFSF to obtain financing are to be serviced by the loan repayments received from the EAMS borrower, which will match the scheduled payments under the loan granted. If a borrower fails to fulfil its obligations on time, funds shall be drawn from either the guarantees provided by the EAMS or the reserves set up to face any potential contingency. The mechanics available to face any delay or failure to pay the debt instrument holders, are sovereign guarantees and two credit enhancement mechanisms: the loan specific cash buffer and general cash reserves. The triggering of these mechanisms is:

1. **Sovereign Guarantees:** EFSF will first call on the non-borrowing EAMS' guarantees on a pro rata basis (i.e. their share in the paid-up capital of the ECB, adjusted for the share quota of those sovereigns that do not act as guarantors – the stepping-out guarantors).
2. **Loan Specific Cash Buffer:** The exact methodology to calculate this buffer has not been disclosed. It comprises a residual portion of the loan disbursement amount to ensure that all of EFSF's outstanding debt instruments are matched (factors taken into account include borrower's credit condition and EFSF's position and credit support available).
3. **General Cash Reserve:** This reserve comprises (a) a 50 basis-point service fee; and, (b) a percentage equal to the net present value (calculated on the internal rate of return (IRR) of the debt instruments to be issued to raise the capital for the loan) of the anticipated margin (interest plus fee) that would accrue on each loan at maturity.

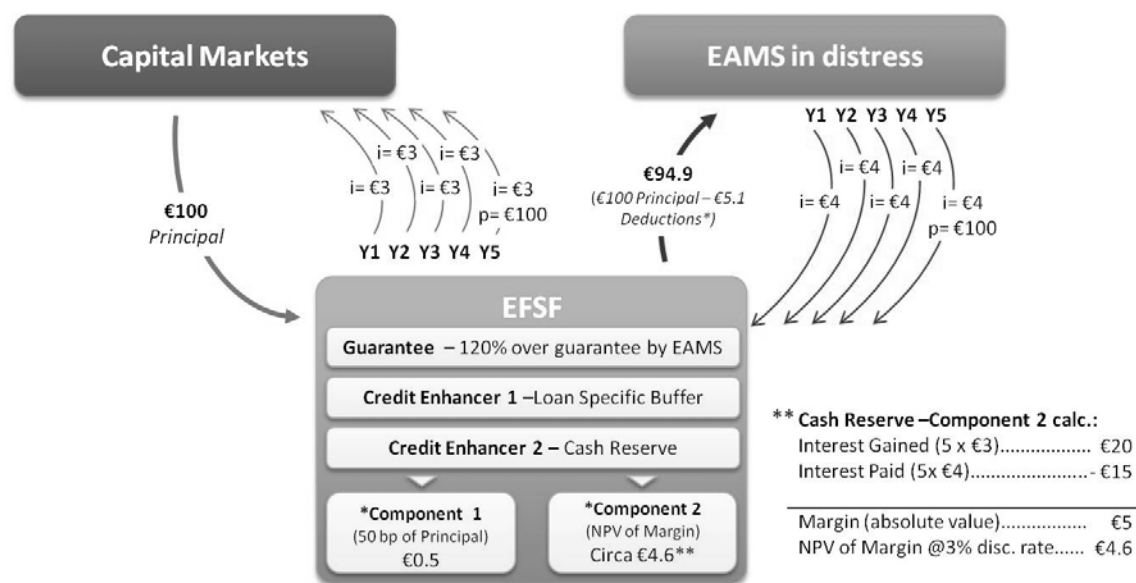
Figure 2 illustrates how do the guarantees and credit enhancements under the EFSF work.

The loan specific cash buffer and the general cash reserve are deducted from the loan made to the borrowing country and will remain invested in liquid 'AAA/Aaa' rated securities.

EFSF issuances have received the highest possible credit rating by all major credit rating agencies.⁴⁵ The main rationale behind this rating is that the credit rating agencies understand that the debt instruments used under the medium-term notes (MTN) programme are considered worthy of the maximum investment grade rating because (1) the guarantees from 'AAA/Aaa' rated EFSF members (Austria, Finland, France, Germany, Luxembourg and the Netherlands); and, (2) the liquidity reserves invested in 'AAA/Aaa' rated securities should cover all of EFSF's potential liabilities. In other words, all potential claims against the EFSF are covered by 'AAA/Aaa' guarantors and cash. However, the face value of the 'AAA/Aaa' guarantees provided by 'AAA/Aaa' rated EFSF members constitutes the actual effective limit to the total amount that the EFSF can lend to EAMS. Otherwise, an EFSF issuance beyond that limit will not achieve the maximum investment grade credit rating. The rating agency rationale can be explained as follows: if (1) the rating of one (or more) of the 'AAA/Aaa' guarantors is lowered *and*,

(2) consequently, the lower rating on the sovereign guarantor/s result in less than 100% of the 'AAA/Aaa' coverage on the debt instrument issued by EFSF; then, the credit rating agency would also lower the rating on the debt instrument issued by EFSF.⁴⁶ Therefore, the downgrade of a EAMS does not necessarily imply that the debt instruments issued by the EFSF will be downgraded.

Figure 2. Simplified EFSF Guarantee and Credit Enhancer structure



Main assumptions:

- Market pays 3% interest rate over 5 years; principal bullet payment in year 5.
- EAMS in distress pays 4% interest rate over 5 years; principal bullet payment in year 5.
- All sums are expressed in million.

The EFSF is considered as an “Agency – non credit institution” under the liquidity category II of the Eurosystem collateral framework classification. Therefore, the debt instruments issued by EFSF are considered eligible collateral for European Central Bank refinancing operations.⁴⁷ The EFSF operates with the support of the German Debt Management Office (DMO) for the issuance of bonds or other debt instruments on the market.

EFSF does not operate as an intergovernmental financial institution. Therefore, it does not have any kind of priority claim against the borrower or enjoy a preferred creditor status. It stands on a *pari passu* basis vis-a-vis other creditors.

Amendments to the EFSF

An amendment was introduced to the original EFSF Framework Agreement to increase its lending capacity and widen its scope. These are discussed below. For practical purposes and when it is required to differentiate between the original EFSF and the “enhanced” EFSF resulting from these amendments they will be referred as EFSF I and EFSF II, respectively.

On 24 June 2011, the European Council agreed to increase the maximum guarantee commitments to EUR 780 billion to reach an effective lending capacity of EUR 440 billion. This requires an increase in the over-guarantee of up to 165%. Also, it was agreed to widen the scope of the EFSF to exceptionally intervene in the secondary markets (prior to the amendments, the EFSF was able to intervene in exceptional circumstances in the primary markets).

In a statement dated 21 July 2011 the Heads of State or Government of the EAMS and EU institutions stated their intention to enlarge the scope of the EFSF. The EFSF – subject to the national ratification – now can provide financial assistance by way of:

1. Loan disbursements: this is what EFSF I was performing so far. In this respect, there are no changes to the way in which these loans are granted. The same mechanisms should be observed.
2. Precautionary facilities: The precautionary facilities work as credit lines to a non-programme countries with the objective of overcoming external temporary shocks by securing financing to revert a temporary condition and prevent a crisis from occurring. The EFSF has developed, in line with the IMF crisis prevention facilities (i.e. Precautionary Credit Line and Flexible Credit Line),⁴⁸ two types of credit lines:
 - a) Precautionary conditioned credit line (PCCL): the PCCL is limited to EAMS with robust policy frameworks and a fundamentally sound economic and financial situation. The following criteria should be met (and maintained throughout) to qualify for a PCCL:⁴⁹ (i) respect of SGP commitments (although countries under excessive deficit procedure could still access PCCL); (ii) sustainable public debt; (iii) a track record of access to international capital markets on reasonable terms; (iv) a sustainable external position; and, (v) the absence of bank solvency problems that can pose systemic threats to the euro. EAMSs under an excessive imbalance procedure could still access a PCCL subject to demonstrating a formal commitment to address the imbalances identified by the European Council. The average size of this credit line is 2-10% of the EAMS GDP and it would be granted for a year, renewable for two periods of six months. An availability fee will be charged to cover EFSF's costs.
 - b) Enhanced conditions credit line (ECCL): the ECCL is a credit line to EAMS with a sound general economic and financial situation but which do not comply with the eligibility criteria required for accessing a PCCL. Since the ECCL will be granted with conditions, the EAMS (after consultation of the EU Commission and the ECB) shall adopt the required corrective measures to revert the systemic weaknesses and maintain its sound general economic and financial situation. The average size of this credit line is 2-10% of the EAMS GDP and it would be granted for a year, renewable for two periods of six months. An availability fee will be charged to cover EFSF's costs.
3. Facilities to finance the recapitalisation of financial institutions in a EAMS through loans including non-programme countries: it is important to stress that any facility granted for purposes of recapitalising financial institutions will be granted to EAMS and not directly to a particular financial institution.⁵⁰ Therefore, it should be expected that it would be performed by means of a three-party approach whereby the private sector and the public sector contribute to the

recapitalisation of the financial institutions. The three parties involved are: (a) the institution's shareholders; (b) the domestic public sector (EAMS); and, (c) the regional or European public sector (other EAMSs via the EFSF). The conditionality attached to these facilities could be the restructuring of the distressed or undercapitalised entity or the provision of the necessary capital for its resolution. According to the EFSF the conditionality would be "lighter" due to the sectorial nature of these facilities and the need for expediency.⁵¹ Since these facilities will constitute state aid, the European rules on state aid shall be observed.⁵²

4. Facilities for the purchase of bonds in the secondary markets (in cases where the ECB analysis recognises the existence of exceptional financial market circumstances and risks to financial stability): secondary market intervention by EFSF aims at supporting the functioning of debt markets and the appropriate price formation in bonds of governments undergoing exceptional circumstances of limited liquidity. The financing of a security market programme will be conditioned. The conditions will vary depending on whether the EAMS is already under a support programme or not. For those already under a programme, the macro-economic policy conditions of such programme will apply. For those that are not already under a support programme, the fulfilment of the ex-ante eligibility criteria based on the European fiscal and macro-economic surveillance framework and the required necessary corrective actions will be imposed as conditions. Upon proper market conditions, the holdings of EFSF as result of a secondary market intervention could be of-loaded to private investors freeing EFSF's lending capacity. Other options include: holding until maturity, selling back to issuer or use as for repos with commercial banks. The amount of EFSF's purchases is limited to a 50% of the issued amount.
5. Primary market intervention: the participation in primary market purchases is a complementary approach to EFSF loans under a macroeconomic adjustment programme or a precautionary credit line and the conditions attached to the financing would be those under such programmes. According to EFSF, this "[t]his complementary financing tool would primarily be used towards the end of an adjustment programme to facilitate the return of the beneficiary country to the market or as an alternative to the draw-down of funds under a precautionary programme".⁵³ The aim of the purchase of securities in the primary market is to allow EAMS to maintain or restore its relationship with the dealer/investment community. Upon proper market conditions, the holdings of EFSF as result of a primary market intervention could be of-loaded to private investors freeing EFSF's lending capacity. Other options include: holding until maturity, selling back to issuer or use as for repos with commercial banks. The amount of EFSF's purchases is limited to a 50% of the issued amount.

The granting of the financial assistance will be subject to entering a MoU with strict conditionality with the EC (acting on behalf of the EAMS). The financial assistance required for the purchase of debt instruments in the primary or secondary market or the recapitalisation of financial institutions and their terms thereof shall be in accordance with guidelines adopted by the board of directors of EFSF acting unanimously.⁵⁴

Some of these amendments (e.g. over-guarantee increase, precautionary programmes, etc.) required an amendment to the EFSF Framework Agreement and their entry in force

was subject to national ratification procedures. The procedure was completed on 18 October 2011 when these amendments entered into force.

V. European Stability Mechanism (ESM)

In October 2010 (after financial assistance was provided to Greece and while conditions continued deteriorating), with the aim of ensuring balanced and sustainable growth, the EU Council agreed on the need for member states to establish a permanent crisis mechanism to safeguard the financial stability of the euro area as a whole.⁵⁵ It was resolved that consultations should be undertaken towards a limited treaty change for said purpose but not modifying the so-called “no bail-out” clause included in article 125 of the TFEU.⁵⁶ Further, the EU Council agreed in December 2010 that there is a need for EAMS to establish a permanent stability mechanism, i.e. the ESM. This was shortly followed by the Conclusions of the European Council⁵⁷ and the EU Council decision 2011/199/EU amending Article 136 of the TFEU with regard to a stability mechanism for EAMS,⁵⁸ both were adopted on 25 March 2011.

This section analyses the features of the ESM and the text of the agreed treaty (Treaty). The Treaty is still subject to ratification, approval or acceptance by the signatories. The Treaty will enter into force on the first day of the second month following the date when instruments of ratification, approval or acceptance have been deposited by signatories representing no less than 95 % of the total subscriptions.

The ESM will be an international financial institution based in Luxembourg. It was created by EAMS to mobilise funding and provide financial assistance under strict economic policy conditionality to its members, when they are threatened or experiencing severe financing problems. The main rationale behind the ESM is safeguarding the financial stability of the euro area as a whole under a macro-economic adjustment programme, proportionate with the severity of the economic and financial imbalances of the EAMS.

The Treaty starts by restating the importance of the EU framework and its economic governance rules (e.g. Stability and Growth Pact and the macroeconomic imbalances framework), whereby the ESM should be seen as an extraordinary mechanism to safeguard the financial stability of the euro area as a whole.

Due to the extraordinary nature of the ESM, the access to financial assistance is conditioned to strict economic policy conditionality under a macro-economic adjustment programme and a rigorous analysis of public debt sustainability. In line with the EFSM and EFSF, the ESM will require active participation of the IMF on both, technical and financial aspects. It is important to stress that in one of the whereas of the Treaty it is stated that financial assistance to the Treaty contracting parties (ESM Members) is provided in cases where “*regular access to market financing is impaired*”. This reflects the extraordinary nature of the lending under circumstances that no other party would be willing to lend, i.e. international lender of last resort (ILOLR). The role of the ILOLR is usually played by the IMF,⁵⁹ therefore the whereas states that the ESM “*will enjoy preferred creditor status in a similar fashion to IMF, while accepting preferred creditor status of the IMF over the ESM*”. It is worth stressing that the IMF priority is not established anywhere and acts *de facto*, the Treaty is the first formal official document where it has been acknowledged. The Treaty has created another super-priority although subordinated to that of the IMF.

The required funding is obtained either by: (1) issuing financial instruments; (2) entering into financial or other agreements with third parties; and/or (3) arrangements with ESM Members. ESM shall use risk management tools to minimise potential risks.

The ESM has an authorised capital stock of EUR 700 billion divided into paid-in (EUR 80 billion) and callable shares (EUR 620 billion). If an ESM Member fails to meet the required payment under a capital call a capital call will be made to all other ESM Members to cover for the short-fall, ensuring that the ESM receives the total amount of paid-in capital needed.

The participation of each EAMS is based on the key for subscription, by the national central banks of ESM Members of the ECB's capital pursuant to Article 29 of Protocol (No 4) on the Statute of the European System of Central Banks and of the ECB.⁶⁰ The initial maximum lending volume is of EUR 500 billion and will assume the tasks that are currently performed by the EFSM and EFSF on July 2013.⁶¹

The governance structure of the ESM comprises a Board of Governors, a Board of Directors and a Managing Director. The Board of Governors are in charge of setting the guidelines and policies of the ESM, while the Board of Directors are entrusted with the running and day-to-day operations of the ESM in accordance with the Treaty and the by-laws.⁶² Considering the way in which the duties have been split, to certain extent an analogy can be made between the governance structure of ESM and that of a company in regard to shareholding meetings and their role, as well as board of directors meetings and agenda. However, each member, irrespective of their percentage participation has one vote. The Board of Governors is comprised by one appointee by each EMS Member. Each Governor shall appoint a member to the Board of Directors, whose appointment is revocable at any time. Appointments to both boards also include the appointment of an alternate member in case of absence or impossibility to participate. Both, the Board of Governors and the Board of Directors require a double threshold quorum of two thirds of the members (number of ESM Members) with voting rights representing at least two thirds of the voting rights (number of votes). The decisions by the Board of Governors can be adopted either by mutual agreement (i.e. unanimity, although abstentions do not prevent a mutual agreement decision) or an 80% qualified majority. The decisions of the Board can be adopted by mutual agreement, qualified majority and/or simple majority. For a detailed description of the responsibilities of the Boards of Governors and Directors and the required majorities to adopt decisions see Appendix 1. Finally, the Managing Director is the legal representative of the ESM and will chair the meetings of the Board of Directors and shall participate in the meetings of the Board of Governors.

There will also be an Auditing Board comprised of three independent members not taking instructions from the ESM governing bodies, the ESM Members or any other public or private body and external auditors who will audit its accounts.

The financial assistance to be provided by ESM is short-term or medium-term stability support in the form of a loan. The pricing for the loan shall cover funding costs plus a margin determined by the Board of Governors. In exceptional circumstances, the Board of Governors can decide to proceed with bond purchases in the primary market in order to maximise cost efficiency.

ESM Members undertook the irrevocable and unconditional obligation to provide their percentile contribution to the authorised capital stock, which is the limit of their liabilities. The Board of Governors has the mandate to establish a reserve fund and if required, other funds. In the event of losses arising in the ESM, these shall be supported

against (in order of priority): (1) the reserve fund; (2) the paid-in capital; and, (3) the appropriate amount of the authorised unpaid capital, which shall be called in.

Any new member state adopting the euro will become an ESM member with full rights and obligations as from the entry into force of the decision of the EU Council taken in accordance with Article 140(2) TFEU. New ESM Members will be admitted on the same terms and conditions as existing ESM Members receiving shares in the ESM in exchange for its capital contribution.

The Treaty encourages member states (EAMS and non-EAMS) to provide financial assistance on an *ad-hoc* basis (e.g. Denmark, Sweden and the UK provided bilateral assistance to Ireland to complement the EFSM/EFSS/IMF programme). In those cases, the EAMS (i.e. ESM Members) will support equivalent creditor status to those involved in bilateral lending alongside the ESM.

Non-EAMS providing financial assistance on an *ad-hoc* basis will participate as observers in the ESM meetings when the financial assistance and its monitoring is discussed and will have access to any available information in this respect.

The 27 EU member states authorised the EAMS to request the EU Commission and the ECB to perform the tasks required by the Treaty. The EC and the EU Council are entrusted with post-programme surveillance duties within the framework established by Articles 121 and 136 of the TFEU.

Any disputes concerning the interpretation and application of the Treaty arising between the ESM Members or between them and the ESM should be submitted to the Board of Governors. If the decision of the Board of Governors is contested, the dispute shall be submitted to the jurisdiction of the EU Court of Justice, following the criteria set forth in Article 273 of the TFEU (EU Court of Justice Jurisdiction).

The procedure for the granting of the financial assistance is as follows:

1. A formal request for financial assistance to the Chairperson of the Board of Governors by an EMS Member.
2. Upon receipt of a request, the Chairperson of the Board of Governors will request the EC (in liaison with the ECB) to: (a) assess the existence of a risk to the financial stability of the euro area as a whole; (b) to undertake (jointly with the IMF) an analysis of the debt sustainability of the ESM Member in distress; and, (c) assess the financing needs of the ESM Member and the type of private sector involvement that is required (i.e. maintenance of exposure or a reprofiling/restructuring).
3. Based on the European Commission's assessment, the Board of Governors may decide to grant – in principle – financial assistance to the ESM Member.
4. If the decision of the Board of Governors is favourable, the EC (jointly with the IMF and in liaison with the ECB) will negotiate with the ESM Member an MoU detailing the economic policy conditionality, contained in a macro-economic adjustment programme, to be attached to the financial assistance.
5. The draft MoU will be considered by the Board of Governors and subject to their approval, the EC will sign the MoU on behalf of the ESM.

6. The Board of Directors will approve the financial assistance agreement drafted by the Managing Director detailing the technical aspects of the financial assistance and the disbursement of the first tranche of the assistance.
7. A warning system will be put in place by the ESM to ensure that it receives the repayments due under financial assistance in a timely manner.
8. The EC (jointly with the IMF and in liaison with the ECB) will be entrusted with monitoring the compliance with the economic policy conditionality attached to the financial assistance (a mutual agreement decision by the Board of Directors, based on the monitoring performed by the European Commission, is required prior to any further disbursement of the tranches of the financial assistance).

The Treaty expressly indicates that jointly with the provision of financial assistance, some form of private sector involvement should be sought on a case-by-case basis. The nature and the extent of the private sector involvement will be limited to the envisaged outcome of the macro-prudential adjustment programme. In this regard, the Treaty observes two possible scenarios: (1) that the macro-economic adjustment programme can restore public debt to sustainable levels, the beneficiary shall take initiatives to encourage private investors to maintain their exposure; and, (2) that the macro-economic adjustment programme cannot (by itself) restore the public debt to sustainable levels, therefore, the beneficiary shall engage in good faith in active negotiations with private creditors to secure their involvement in restoring debt sustainability. In the second scenario, financial assistance and future disbursements is conditioned to a satisfactory assessment of the degree of involvement and its effectiveness aiming to safeguard ESM's resources.

An additional feature to be observed as a complementary measure to safeguard the stability of the euro, is the mandatory inclusion of standardised and identical Collective Action Clauses (CACs) in the terms and conditions of all new euro area government bonds as of July 2013. The irony is that a Treaty was required despite the fact that the EU member states agreed in April 2003 to lead by example.⁶³ In a statement in 2003 by the Chairman of the EU Council of Economic and Finance Ministers (a former Minister of Economy and Finance of Greece) stated that "... *EU Member States will no longer issue such bonds without any CACs*".⁶⁴ Probably, the Treaty is not the best place to have included such provision since the Treaty creates a new international financial institution and therefore, micromanaging the legislation of EAMS on something that the EU as a whole has been working since 2003 should be adopted in a different forum. This notwithstanding, such initiative undoubtedly should be welcomed, although extended to non-EAMS.

VI. Available mechanisms⁶⁵

Different mechanisms have been made available and/or developed at both, the EU and EAMS, levels to tackle the EU sovereign debt crisis. These include:

1. Balance of Payment loans to non-EAMS as per Council Regulation 332/2002;
2. Bilateral Loans;
3. Pooled ad-hoc bilateral loans;
4. EFSM assistance;
5. EFSF precautionary lines;

6. EFSF bank recapitalisations;
7. EFSF loans;
8. EFSF bond purchases (in the primary and secondary markets).

The mechanisms listed under five through eight above are only available to EAMSs and are going to be replaced by the ESM. However, based on the current wording of the ESM Treaty, it would not be able to intervene in the secondary markets, grant precautionary lines or intervene to recapitalise banks. However, due to the circumstances forced the need to widen the scope of the EFSM, it should be expected that the treaty of the ESM would be amended to reflect this changes since they took place after the ESM treaty was finalised.

This financial assistance is complemented by: (1) IMF stand-by arrangements and the mandatory inclusion of CACs on new debt instruments that would facilitate a restructuring of the outstanding private debt, if required.

VII. Concluding remarks

As it has already been established, the EFSF is a temporary credit-enhanced SPV with minimal capitalization created to raise funds from the capital markets (via an investment grade rating) and provide financial assistance to distressed EAMS at comparatively lower interest rates. The EFSF has already raised concern due to its similarity with other SPVs or structured vehicles that were at the epicentre of the US sub-prime mortgage crisis (e.g. Collateralised Debt Obligations or CDOs and structured investment vehicles or SIVs). Although the CEO of the EFSF has openly denied the similarities between the EFSF and a CDO, the fact that it has been needed to do so is already a bad indication.⁶⁶ Several academics and industry participants claim that there is no difference between the two⁶⁷ and credit rating agencies have used CDO rating methodology to rate the EFSF debt issuances.⁶⁸ Actually, an Investment Bank recently published a report titled “CDO + Monoline = SPIV” where several similarities with structured products financing and reminiscences from the practices that contributed to the sub-prime mortgage crisis are established.⁶⁹

In addition, with an increasing participation in primary and secondary markets, the thin line that differentiates the EFSF from a traditional SIVs could easily erode. The use of the EFSF (despite its similarities with those structure products that were allegedly blamed for the subprime mortgage crisis) should be embraced if its aim is to correct a short term market failure. However, it should not be seen as a tool to solve long-term structural problem.

It should also be kept in mind that an extensive financial assistance from the EFSF (and eventually) the ESM could produce a crowding-out effect among private lenders. These creditors in a second stage can even be subordinated to the priority granted to the ESM acting as ‘lender of last resort’ (LOLR). As widely known, the LOLR role of the central bank remains the major rationale for most central banks around the world, both in developed and developing countries.⁷⁰ The LOLR role is to provide credit in emergency situations. This role of the LOLR has been adopted by the IMF in the international level (ILOLR), towards its member states during economic and/or financial crises. Since the IMF is not a commercial organisation seeking profitable lending opportunities and often lends at a time when other creditors are reluctant to do so – and at interest rates that are

below those that would be charged at that juncture by the private sector⁷¹ – preferred creditor status is to be assigned to this lending. The IMF has clearly explained that the ILOLR role benefits not just Fund members but official and private creditors alike by allowing the Fund to assist member countries in regaining a sustainable financial path and helping to promote orderly resolutions to debt problems, when necessary.⁷² As noted by Lastra, the IMF plays different roles by wearing different ‘hats’. Among these are: (1) that of an ‘honest broker’ or arbiter between creditors and debtors; (2) a primary lender by means of providing financial assistance to countries experiencing balance of payment needs; (3) a preferred creditor with an interest at stake; (4) an ILOLR; (5) a crisis manager; and, (6) a standard setter.⁷³ Therefore, putting the IMF claims together with commercial claims in a workout would fundamentally undermine the Fund’s capacity to play those vital roles in future.⁷⁴

The reasons outlined in the previous paragraph, are the rationale for the de facto priority claimed by and implicitly assigned to the IMF, World Bank and regional developing banks.⁷⁵ But, most importantly, the preferred status is as result of the ILOLR role of the IMF that not only benefits its members but other creditors (bilateral and private) that see themselves in a better position by the assistance provided by the IMF to the sovereign to regain sustainability and therefore an orderly restructuring. The ILOLR is performed by the IMF when other credit providers are not willing to lend as result of the deteriorated situation of the country.⁷⁶

The ESM will be providing ILOLR lending and therefore, should be granted priority. However, it will not be exempt from challenges in courts of law since its priority is not pre-established but one formally imposed by the ESM Treaty. On a more practical note, the preferred-creditor status assigned to the ESM (jointly – although inferior – to the IMF) will subordinate the sovereign debt market diminishing the payment prospects. This can be translated in an increased cost of financing and – as previously mentioned – a crowding-out of the market of the private sector.

VIII. Epilogue – Post 26 October 2011 Eurogroup Summit

On 26 October another meeting of the Heads of State or Government of the EAMS took place to address the deteriorating sovereign debt crisis in the euro-area. The main issues agreed were: (1) a greater private-sector involvement in the resolution of the Greek debt problem (with a nominal discount of 50% on notional Greek debt excluding ECB’s holdings and a EUR 30 billion sweetener) and the agreement on a second financial assistance programme; (2) two leveraging options for the EFSF to enhance its resources (credit enhancement/insurance and the use of SPVs); (3) measures to restore confidence in the banking sector mainly focusing on their recapitalisation and the need to provide lending to the real economy; (4) to further improve the economic governance of the euro-area; and, (5) reinforce – once more – the notion that EAMSs will do whatever it takes to safeguard financial stability.⁷⁷

Of particular interest is what has been agreed regarding the EFSF. The two new leveraging options to enhance EFSF’s available resources are:

1. **Credit Enhancement/Insurance Option:** to provide a partial credit enhancement in the form of risk insurance or credit default swap to investors acquiring EFSF debt instruments in the primary market. This would be an optional 'ad-on' available when buying the debt instruments and it is estimated that could cover up to a 20% of the value of the bonds. This credit enhancement certificate can be detached from the underlying instrument and traded separately. Of particular note is that instead of relying on the widely known and accepted common practice of a 'credit event' of the International Swaps and Derivatives Association (ISDA) as the triggering event of the right to collect on the credit enhancement mechanism, the EFSF will use a definition provided by the EAMS defaulting on the obligation.⁷⁸ The credit enhancement will be provided and backed by EFSF being the EFSF the holder of the counterparty risk.
2. **Structuring SPVs Option:** to set up special purpose vehicles to raise funds and provide financing to EAMS or acquire their bonds in the primary and/or secondary markets, pooling together the EFSF, private and public investors. The SPV can issue different instruments (senior, convertible, capital participation or subordinated instruments) with a different risk/return profile. The capital of the SPV would be structured in a way in which the EFSF's capital could be subordinated (absorb the first tranche of losses) to increase participation of investors.

These two options can be used simultaneously based on the needs and the market conditions. It has been estimated that under the proper market conditions the leverage could be of up to one trillion euro. The details of these two options will be finalised in a Eurogroup meeting to take place in November 2011 and based on the work by the European Working Group, the European Commission and the EFSF.

The market has reacted negatively to the new two-option scheme. A debt issuance scheduled for 2 November 2011 to raise the funds required for a disbursement to Ireland on its assistance programme had to be rescheduled due to the volatility of the markets. This bond auction took place on 7 November 2011 and the EFSF had to pay an interest rate close to 3.6% for EUR 3 billion (177 basis points higher than German 10-year bonds). This has raised several questions among investors regarding the credibility of the EFSF to raise funds⁷⁹ and whether it is the best vehicle for that purpose.⁸⁰

The EFSF is mutating from a temporary credit-enhanced SPV with minimal capitalisation created to raise funds from the capital markets to a multi-optional over complex structured entity. It is also important to stress that its core is its investment grade which could deteriorate due to the increasing volatility of the financial markets, particularly in the euro-area.

Appendix:

Governance structure and functioning of the main bodies of the ESM

Majority Required	Board of Governors	Board of Directors
100% abstentions do not prevent a mutual agreement decision	Issue new shares on terms other than at par (Art. 8(2))	Decide on the disbursement of the tranches of the financial assistance subsequent to the first tranche based on the report provided by the European Commission (jointly with the IMF and in liason with the ECB) (Art.13(7).
	Capital calls (Art. 9(1))	Any decision delegated by the Board of Governors that requires mutual agreement (Art. 6(5))
	Change the authorised capital stock and adapt the maximum lending volume (Art. 10(1))	
	Updates of the subscription key (Art. 11(3) and 11(6))	
	Grant of financial assistance + economic policy conditionality included in the MoU (Art. 13(3)) and set the financial terms and conditions, and the choice of instruments (Art. 12 to 15)	
	Give mandate to the EU Commission to negotiate (jointly with ECB) the economic policy conditionality attached to each financial assistance (Art. 13(3))	
	Change the pricing structure/ policy for financial assistance (Art. 14(4))	
	Change the list of financial assistance instruments that may be used (Art. 16)	
	Establish modalities of the transfer of EFSF support to the ESM (Art. 35)	
	Approval of new members and any required adaptation to the Treaty (Art. 39)	
	Delegations to the BoD (5(6))	
80%	Setting out the detailed technical terms of accession of a new member (Art. 39)	Any decision not listed above or below.
	Election of Chairperson and Vice-Chairperson (5(2))	
	Set the by-laws of the ESM and the rules of procedure applicable to the Board of Governors and Board of Directors (5(9))	
	Determine the list of Directors' incompatibilities (Art. 6(8))	
	Appointment and removal of the Managing Director (Art. 7)	

Majority Required	Board of Governors	Board of Directors
80%	Establishment of other funds (Art. 20)	
	Actions for debt recovery (Art. 21(2) and 21(3))	
	Approve annual accounts (Art. 23(1))	
	Appoint members of the Internal Auditing Board (Art. 24)	
	Approve external auditors (Art. 25)	
	Waive the immunity of the Chairperson of the Board of Governors, a Governor, alternate Governor, Director, alternate Director or the Managing Director (Art. 30(2))	
	Determine the taxation regime applicable to the ESM staff (Art. 31(5))	
	on a dispute between an ESM Member and the ESM, or between ESM Members, in connection with the interpretation and application of the Treaty (Art. 32(2))	
	Any other necessary decision not contemplated (Art 5(7))	
+50%	n.a.	Call in authorised unpaid capital to restore the level of paid-in capital if the amount that the latter is reduced by the absorption of losses below the level established in Article 8(2) (EUR 80bn), as may be amended by the Board of Governors following the procedure provided for in Article 10, and set an appropriate period of time for its payment by the ESM Members (Art. 9(2))
		Distribute a dividend to the ESM Members if the amount of paid-in capital and the reserve fund exceeds the level required to maintain the lending capacity of the ESM and proceeds from the investment are not required to avoid a payment shortfall to creditors (Art. 19(2))

NOTES

- ¹ International Monetary Fund (2010).
- ² See Reinhart and Rogoff (2009). Also see Reinhart *et al.* (2003).
- ³ See Article 1 of the Council Decision of 27 April 2009 on the existence of an excessive deficit in Greece (2009/415/EC).
- ⁴ According to article 104(c) of the Maastricht Treaty (1992 OJ (C 191) 1), the annual government deficit measured as government deficit to gross domestic product (GDP) must not exceed 3% at the end of the preceding fiscal year. The Treaty also indicates that the ratio of gross government debt to GDP must not exceed 60% at the end of the preceding fiscal year. The reference values for government deficit is set at 3% and for gross government debt to GDP at 60%. The criteria set forth in the Maastricht Treaty is no longer applicable for those countries that adopted the euro. The fiscal policy framework applicable to them is the Council Regulation (EC) No. 3605/93 of 22 November 1993 on the application of the Protocol on the excessive deficit procedure annexed to the Treaty establishing the European Community, which heavily relies on the convergence criteria and includes reporting procedures and sanctions.
- ⁵ See the 2981st Economic and Financial Affairs Council meeting held on 2 December 2009, Press Release No. 16838/09 (Presse 352).
- ⁶ See Council of the European Union, Press Release 6477/10 (Presse 28), 16 February 2010.
- ⁷ See Ministry of Finance of Greece,
<http://www.minfin.gr/portal/en/resource/contentObject/contentTypes/genericContentResourceObject,fileResourceObject,arrayOfFileResourceTypeObject/topicNames/stabilityGrowthProgram/pageNumber/1/resourceRepresentationTemplate/contentObjectListAlternativeTemplate#fragment-6>.
- ⁸ Statement of the Heads of State or Government of the European Union, 11 February 2010, available at
http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/113563.pdf
- ⁹ Statement by the Heads of State and Government of the Euro Area, 25 March 2010, available at
http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/113563.pdf
- ¹⁰ See *supra* 9.
- ¹¹ See *supra* 6.
- ¹² See Statement on the support to Greece by Euro area Members States, 11 April 2010, available at
http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/113686.pdf.
- ¹³ See Section 5 of the MoU between the European Commission, acting on behalf of the EAMS and the Hellenic Republic, dated 3 May 2010 (on file with the author).
- ¹⁴ See Section 23 of the MoU between the European Commission, acting on behalf of the EAMS and the Hellenic Republic, dated 3 May 2010 (on file with the author).

- 15 Greece requested a Stand-By Arrangement in an amount equivalent to SDR 26,432.9 million (EUR 30 billion) for a period from 9 May 2010 through 8 May 2013 which was approved on 9 May 2010.
- 16 See *supra* 14.
- 17 See Council of the European Union, Extraordinary Council Meeting, 9-10 May 2010, Press Release No. 9596/10 (Presse 108).
- 18 As noted in Council Regulation (EU) No. 407/2010, these difficulties may be caused by a serious deterioration in the international economic and financial environment. See Council Regulation (EU) No. 407/2010 (OJ L 118/1).
- 19 The EC should regularly review whether the exceptional circumstances threatening the financial stability of the EU as a whole exist.
- 20 Article 143(1) and 143(2) of the TFEU provide for the EU Council to grant assistance up to EUR 12 billion to non-EAMS when it is in difficulties or is seriously threatened with difficulties regarding its balance of payments. To this extent, if immediate action is required, a loan or a facility providing medium-term financial assistance would be extended and it would be linked to economic policy measures designed to re-establish or ensure a sustainable balance of payments. The purpose of this facility is to serve the needs of non-EAMS and those of new member states until they adopt the euro. The loans are financed by recourse to the capital markets and financial institutions. Article 352 of the TFEU grants the powers for these loans to be financed exclusively with funds raised in the capital markets in lieu of funds from other member states. EU Council Regulation No. 332/2002 (OJ L53/1) repealed Regulation (EEC) No. 1969/1988 (OJ L 178). Currently, Romania, Latvia and Hungary have benefitted from this facility.
- 21 See Article 2 of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 22 See Article 4 of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 23 See the decision of the ECB of 14 October 2010 concerning the administration of the borrowing and lending operations concluded by the Union under the European financial stabilisation mechanism, ECB/2010/17 (OJ L 275/10).
- 24 See Article 7 of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 25 The Offering Circular of the EU's Programme for Euro Medium Term Notes (EMTN) used to issue notes to raise capital to finance Euratom loans, balance of payment loans (Council Regulation 332/2002) and macro-financial assistance to third countries (Articles 212 and 213 of the TFEU) has been increased by EUR 60 billion to reflect EFSM's financing needs. See Communication from the Commission to the Council and the Economic and Financial Committee on the European Financial Stabilisation Mechanism, COM(2010)713.
- 26 The EU Commission can request additional resources based on Article 12 of Council Regulation No 1150/2000/EC, Euratom of 22 May 2000 implementing Decision 2007/436/EC, Euratom on the system of Communities own resources. Also see Communication from the Commission to the Council and the Economic and Financial Committee on the European Financial Stabilisation Mechanism, COM(2010)713.
- 27 See Article 6(3) of EU Council Regulation No. 407/2010 (OJ L 118/1).

- 28 The ceiling for payment appropriations relates to the amount of money expected to be paid out during the financial year. See Article 2(2) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 29 In the event of a default, the EC will be able to call additional own resources from member States from (1) the Multi-Annual Financial Framework (MFF) ceiling for payment appropriations (or the payment appropriations authorised in the annual budget, if already known); and, (2) the total amount of guaranteed reimbursements due (principal + interest). However, this must not exceed 1.23% of EU GNI in any given budget year. See 2007/436/EC, Euratom; and, see Communication from the Commission to the Council and the Economic and Financial Committee on the European Financial Stabilisation Mechanism, COM(2010)713.
- 30 A minimum of 255 votes out of 345 (73.9%) is required to reach a qualified majority.
- 31 See Article 3(5) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 32 See Article 3(7) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 33 See Article 4(2) and 4(3) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 34 See Article 6(5) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 35 See Article 3(8) of EU Council Regulation No. 407/2010 (OJ L 118/1).
- 36 At the moment that this article was drafted, the amendments to the EFSF Framework Agreement were still subject to national ratification processes. Therefore, the numbering of the Articles referenced in this section might change as result of the modifications being considered. Also, some new features will be included conditional to the ratification by each EAMS. This article includes a specific section addressing the most salient changes to the EFSF.
- 37 EFSF Articles of Incorporation, Section 3.
- 38 See MoU between Ireland and the EC dated 11 May 2010 available at http://ec.europa.eu/economy_finance/eu_borrower/ireland/index_en.htm.
- 39 If an MoU has already been entered under a EFSM arrangement, there is no need to negotiate a different one provided that it also covers EFSF stability support. See Article 2(1) of the EFSF Framework Agreement.
- 40 In the case of Ireland, the main agreed policy issues rested on three pillars: (1) strengthening and comprehensive overhaul of the banking system; (2) ambitious fiscal adjustment; and, (3) growth enhancing reforms, in particular on the labour market (see MoU between Ireland and the EC dated 11 May 2010 available at http://ec.europa.eu/economy_finance/eu_borrower/ireland/index_en.htm). In the case of Portugal, the main agreed policy issues included a three year joint EU/IMF programme based on three pillars: (1) fiscal adjustment (including better control over Public-Private-Partnerships and State-Owned Enterprises; reforms of the health system and of public administration; ambitious privatisation programme); (2) growth and competitiveness enhancing reforms of the labour market, the judicial system, network industries and housing and services sectors; and, (3) measures to ensure a balanced and orderly deleveraging of the financial sector and to strengthen the capital of banks, including adequate support facilities (see MoU between Portugal and the EC dated 15 May 2011 available at http://ec.europa.eu/economy_finance/eu_borrower/portugal/index_en.htm).

- 41 According to Section 9 of the EFSF Articles of Incorporation, it can issue bonds,
notes or debt instruments under registered or bearer form. Those issued in registered
form cannot be converted into bearer form.
- 42 See supra 37.
- 43 Each EAMS providing a guarantee has entered a Deed of Guarantee governed by
English law to unconditionally and irrevocably guarantee the due and punctual
payment of its guarantee contribution key percentage of all sums. See the EFSF
Framework Agreement, particularly Article 2(3) and (6) and Articles 1(1) of each
Deed of Guarantee agreement.
- 44 The IMF funds can be provided as stand-by arrangements as in the case of Greece (see
supra note 15) or Extended Fund Facilities (EFF) as in the cases of Ireland and
Portugal. Ireland's EFF arrangement was agreed on 16 December 2010 and it expires
on 15 December 2013. The total approved amount of the Irish EFF is SDR 19,465.80
million (circa USD 30 billion), out of which SDR 6,422.43 million were drawn (circa
USD 10 billion). Portugal's EFF arrangement was agreed on 20 May 2011 and it
expires on 19 May 2014. The total approved amount of the Portuguese EFF is SDR
23,742.00 million (circa USD 37 billion), out of which SDR 5,611.43 million were
drawn (circa USD 8.75 billion).
- 45 Standards and Poor's assigned a AAA rating (See Standard & Poor's 'European
Financial Stability Facility's EUR 27 Billion Debt Issuance Program Rated 'AAA'',
19 January 2011); Moody's assigned a Aaa long-term rating (see Moody's 'Key
Elements of the Aaa Rating of the First Drawdown under EFSF's First Issuance
Programme', 1 February 2011) and Fitch has assigned a AAA rating (see 'Fitch Rates
Europea Financial stability Facility's Guaranteed Debt Issuance Programme 'AAA'',
19 January 2011).
- 46 See Standard & Poor's, 'European Financial Stability Facility', 24 January 2011.
- 47 See <http://www.ecb.int/paym/coll/html/index.en.html>
- 48 See IMF, 'IMF Lending', IMF Factsheet, available at
<http://www.imf.org/external/np/exr/facts/pdf/howlend.pdf>
- 49 See EFSF, Draft EFSF Guideline on Precautionary Programmes, dated 19 October
2011, unpublished draft on file with the author. Available at
<http://publicintelligence.net/efsf-draft-guidelines/>.
- 50 See Article 2(1)(a) of the EFSF Framework Agreement.
- 51 See EFSF frequently asked questions dated 26 October 2011, available at
http://www.efsf.europa.eu/attachments/faq_en.pdf
- 52 For an enlargement on state aid in periods of crisis see I. Kokkoris and R. Olivares-
Caminal, *Antitrust Law Amidst Financial Crisis*, Cambridge University Press, 2010.
For a complete list of the European rules on State aid see
http://europa.eu/legislation_summaries/competition/state_aid/index_en.htm.
- 53 See EFSF, Draft EFSF Guideline on Primary Market Purchases, dated 19 October
2011, unpublished draft on file with the author. Available at
<http://publicintelligence.net/efsf-draft-guidelines/>
- 54 See Article 2(1)(b) and 2(1)(c) of the Amendment to the EFSF Framework
Agreement.
- 55 EU Council, 30 November 2010, EUCO 25/1/10 (REV 1), CO EUR 18 (CONCL 4)

- 56 See supra 55.
- 57 EUCO 10/11 (D/11/3).
- 58 See 2011/199/EU (L 91/1). The following paragraph has been added to article 136 of the TFEU: “[t]he Member States whose currency is the euro may establish a stability mechanism to be activated if indispensable to safeguard the stability of the euro area as a whole. The granting of any required financial assistance under the mechanism will be made subject to strict conditionality”.
- 59 Regarding the ILOLR role of the IMF, see Jeffrey Sachs, ‘Do We Need an International Lender of Last Resort’, 1995, Frank D. Graham Lecture at Princeton University, 20 April 1995 (unpublished manuscript); Charles W. Calomiris, ‘The IMF’s Imprudent Role as Lender of Last Resort’, *The Cato Journal*, 1998, Vol. 17, No. 3, pp. 275–294; Stanley Fischer, ‘On the Need for an International Lender of Last Resort’, 1999, *Journal of Economic Perspectives* 13, pp. 85–104; Adam Lerrick and Allan H. Meltzer, ‘Blueprint For An International Lender Of Last Resort’, 2003, *Journal of Monetary Economics* 50, 289–303; Giancarlo Corsetti, Bernardo Guimarães and Nouriel Roubini, ‘The Tradeoff between an International Lender of Last Resort to Deal with Liquidity Crisis and Moral Hazard Distortions: A Model of the IMF’s Catalytic Finance Approach’, 2003, Mimeo, Yale University and New York University.
- 60 OJ C 115, 9/5/2008, page 230
- 61 There will be a transitional phase from the establishment of the ESM and until the complete run-down of the EFSF. During this period, the consolidated ESM and EFSF lending shall not exceed EUR 500 billion (See Article 34 of the ESM Treaty). Also, subject to the authorisation of the Board of Governors in re acquiring the rights and assume the obligations of the EFSF (Article 35 of the ESM Treaty).
- 62 The ESM by-laws are going to be adopted by the Board of Governors.
- 63 See ECFIN/CEFCPE(2004)REP/50483, 12 November 2004.
- 64 Statement by Mr. Christodoulakis, Minister of Economy and Finance of Greece, in his capacity as Chairman of the EU Council of Economic and Finance Ministers, to the International Monetary and Financial Committee, 12 April 2003. It becomes even more amusing when, particularly analysing Greek sovereign bonds it can be concluded that not all issuances after 2003 include CACs.
- 65 Macro-financial assistance to non-EU countries is not included as part of the array of options since the focus of this paper is EU assistance tools. For an enlargement on macro-financial assistance to non-EU countries see COM(92)400 of 16 September 1992; COM(94)229 of 7 June 1994; COM(95)572 of 27 November 1995; COM(96)695 of 8 January 1997; COM(98)3 of 13 January 1998.
- 66 See Klaus Regling, “No Grounds to compare EFSF to CDO”, *Financial Times*, 28 February 2011. This letter was a response to an article by Anousha Sakoui published in the *Financial Times* on 25 February 2011 titled ‘Sovereigns turn to pre-financial crisis wizardry’.
- 67 For example, Nouriel Roubini tweeted that the “EFSF [is] a CDO as you take a bunch of dodgy less than AAA sovereigns (& some semi-insolvent) and try to package an vehicle that gets AAA rating” (available at <http://twitter.com/#!/Nouriel/status/25242967098789889>). Others include: (1) Satyajit Das, ‘Debt suffling will be a self-defeating exercise’, the *Financial Times*, 12 July

2010; (2) Nomura, 'The CDO at the Heart of the Eurozone'; European Rates Flash, 29 June 2011; (3) Nomura, 'EFSF 2.0, 3.0 and Beyond', European Rates, Insights, 29 September 2011; (4) Andrew Roberts, 'Overview: CDO2 Again?!', RBS European Rates Weekly, 30 September 2011; and, (5) Tracy Alloway, 'Debt Crisis Efforts Carry Crisis-Boom Echos', the Financial Times, 29 September 2011.

⁶⁸ See for example Moody's, 'Key Elements of EFSF's (P)Aaa Rating', Global Sovereign Special Comment, 20 September 2010.

⁶⁹ See Citi, 'European Credit Weekly: CDO + Monoline = SPIV', 28 October 2011.

⁷⁰ See Lastra (2006), pages 491-498 (Legal Foundations); and Lastra (1999), pages 340-361.

⁷¹ See International Monetary Fund (2003).

⁷² See International Monetary Fund (2004).

⁷³ See Lastra Legal Foundations *supra* 70, page 499.

⁷⁴ See *supra* 71.

⁷⁵ See Roubini and Setser (2003), page 4; Lastra Legal Foundations *supra* 70, page 486; Schwarcz (2000 and 2004); IMF *supra* 71 and 72.

⁷⁶ However, Bolton and Skeel Jr. contend that this *de facto* priority is partly an illusion because the IMF has generally agreed to roll over its loans when the sovereign is unable or unwilling to pay (see Bolton and Skeel, 2005).

⁷⁷ See Euro Summit Statement, 26 October 2011, available at http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/125644.pdf

⁷⁸ See EFSF frequently asked questions dated 26 October 2011, page 12, available at http://www.efsf.europa.eu/attachments/faq_en.pdf

⁷⁹ See Oakley (2011).

⁸⁰ See Spiegel (2011).

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Symposium on “Financial crisis management and the use of government guarantees”^{a)}

OECD, Paris, 3 and 4 October 2011

Background

Almost three years after what many observers had considered the peak of this global financial crisis, we are still waiting for normalcy to prevail. Instead, tensions in funding markets have risen very significantly in recent weeks mainly as a consequence of the sovereign debt crisis in Europe. Currently, we find ourselves once again contemplating guarantees, with some observers calling for the creation of explicit government-supported arrangements for guaranteeing bank debt, such as those temporarily put in place by many governments in 2008/09. In this context, the Symposium on “Financial crisis management and the use of government guarantees” held on 3 and 4 October 2011 turned out to be very topical, certainly more topical than policy makers would have wished.

The Symposium was characterised by an open and frank dialogue between policy makers, policy consultants and other academics on the policy response to the financial crisis, the use of guarantees, failure resolution, banking and sovereign debt interconnections, as well as other financial safety net aspects. The mix of participants from academia and the public and private sector, and both from the economic and the legal profession helped participants appreciate some of the institutional details that get lost in much of the public debate on the topic. Numerous policy suggestions were made as to how to improve the use of government-supported guarantees and the design of the financial safety net, so as to improve existing mechanisms to avert future crises or check them at an early stage. One key message was that guarantees can be a powerful policy tool, but that they need to be employed with limits and priced appropriately.

Costs and benefits of the use of government guarantees

The use of guarantees, where they worked well and where they precipitated other problems, were issues that came up throughout the Symposium. Together with measures to enhance liquidity and capital of financial institutions, sovereigns effectively provided the function of the guarantor of last resort for financial claims in response to the global banking crisis. Despite the rather ad hoc nature of some policy measures, the policy response helped avoid the worst outcome, which could have been a series of failures of systemically important financial institutions, with dire consequences for real activity. Despite their associated problems, guarantees have been an important element in preserving liquidity and restoring market functionality, and it would be difficult to manage financial crises without them. Moreover, other forms of intervention are likely to be more intrusive.

Nonetheless, guarantees were not without cost. Further to administrative costs, they created significant contingent potential liabilities for sovereigns, which was compounded by a failure to charge fees commensurate with the risk which created additional costs. The costs of such underpriced insurance included potential distortions to competition and incentives, which give rise to moral hazard and the potential for additional problems down the road.

Pricing government guarantees

In principle, pricing structures should be designed in such a way that the premiums paid by beneficiaries of guarantees reflect the costs that they would have incurred if markets had functioned properly. As it turns out, however, pricing was not always appropriate. For example, the case of Ireland has highlighted the risk of underestimating losses from already existing claims, but where the ultimate extent of losses arising from those claims is uncertain. Guarantees have also been introduced for new liabilities, such as bank bonds, in many OECD countries in an effort to help banks regain access to markets. This effort was generally considered a success. However, fees typically were set as a function of the characteristics of the issue or the issuer and, in practice, were on average broadly flat across countries. In Europe, an effort was undertaken to harmonise fee structures across borders, making them a close function of a measure of the history of credit default swap spreads for the issuer, with the explicit aim being to avoid competitive distortions between banks.

Unfortunately, the costs for banks of issuing such government-guaranteed bonds turned out to be significantly affected by the identity of the guarantor. This is not so surprising, as theory suggests that the market value of a sovereign guarantee is not only a positive function of the weakness of the borrower but also a positive function of the creditworthiness of the sovereign. Thus, to avoid competitive distortions, the strength of the sovereign should be taken into account in the pricing of government-provided guarantees.

Crisis management experiences and changes in the financial safety net

The costs and benefits of guarantees have to be weighed against the alternatives. In Iceland, for example, an all-encompassing guarantee would not have been credible. The more limited guarantee announced together with the resolution approach adopted implied that shareholders were wiped out and that unsecured non-priority creditors bore losses. The link between bank and sovereign credit risk was severed. Whether that approach was available elsewhere is questionable. In fact, extensive guarantees were in many cases introduced precisely because alternative tools for resolving severe problems were either not available or not trusted to work smoothly enough to avoid a systemic fallout. In particular, effective failure resolution mechanisms for some types of troubled financial institutions tended to be absent.

In the meantime, special legislation for dealing with stressed financial institutions has been introduced in many countries, which has successfully addressed some issues. For example, new institutions and legal frameworks have been introduced that facilitate the restructuring of stressed banks and the rescue of systemically relevant parts of banks. Other issues prevail, however, including the issue of how to resolve stressed large financial institutions in a cross-border context. For example, further reforms are needed for cross-border banking activities in the European Single Market, where the issue is to match the European passport for banks with a pan-European safety net including deposit insurance and supervision.

While use of guarantees was a central theme, the Symposium also analysed other aspects of the design of safety nets. There is a need for policymakers to elaborate on the specific roles of the various safety net participants and stakeholders so as to better understand how the financial safety net should work during times of crisis. Moreover, the traditional three-tier safety net, consisting of a lender of last resort, bank deposit insurance, and a (micro-prudential) regulator-supervisor was considered incomplete, which led to calls for the creation of additional players or functions, including:

- a macro-prudential authority, with the power to alter the composition of central bank assets, to adjust capital adequacy and liquidity ratios, and to propose fiscal and structural changes affecting financial intermediaries;
- an institutionalised tiered systemic crisis insurance function, inspired by mechanisms developed for funding resolution of natural or man-made catastrophes. To limit moral hazard, a layered approach with self-insurance as the first layer, private insurance and reinsurance as another layer and the government as a reinsurer of last resort was suggested;
- a bank failure resolution fund, which would be separate from the general government budget and funded through ex ante contributions of financial intermediaries according to their systemic importance, to finance resolution measures that require the rapid availability of funds in systemic crises;
- an institutionalised investor of last resort, which would establish ex ante conditions for providing support and establish credible bounds to the extent of support in systemic crises, thus helping to legitimise future support measures and limit associated moral hazard.

^{a)} OECD Secretariat assessment, facilitated by the rapporteur James McCollum. The opinions expressed here do not necessarily reflect the official views of the Organisation or of the governments of its member countries. For further enquiries please contact Sebastian Schich at Sebastian.Schich@oecd.org.

