

Improving the monitoring of the value of implicit guarantees for bank debt

by

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The value of implicit guarantees has declined from its peak at the height of the financial crisis, which is consistent with progress made regarding the bank regulatory reform agenda, as one would expect that many of the reform measures imply a more limited value of implicit guarantees for bank debt. Implicit guarantees persist however and their value continues to be significant, estimated here to be equivalent to EUR 50 billion of annual funding costs savings for a sample of more than 100 large European banks. This estimated funding cost advantage is a conservative estimate as it only focuses on one type of debt that can be measured in “real-time”, that is as data on credit ratings, debt issuance and prices of debt become available. In any case, bank debt continues to be considered “special” by market participants and this observation implies that the substantial economic distortions, including distortions to risk-taking incentives and competition, arising from this situation also persist.

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EXECUTIVE SUMMARY

Discussions at the OECD Committee on Financial Markets (CMF) have concluded that the monitoring of the value of implicit bank-debt guarantees is a useful input to assessing bank regulatory reform efforts and their effect on the value of implicit guarantees for bank debt, given that these perceived guarantees create substantial economic distortions. That said, based on the responses already received to the *CMF questionnaire on implicit guarantees for bank debt* (key findings of which to be discussed at the April 2014 meeting) close to half of all respondents have neither produced such estimates nor are aware of credible estimates for their jurisdiction, although most of these respondents are planning to produce such estimates and/or welcome producing cross-border consistent estimates within the CMF. Even in countries where estimates are available, they are not being produced on a regular basis but typically on a one-off basis, and hence not feeding into policy analysis and decisions on an ongoing basis. Against the background of these observations, this report proposes one method that permits the regular monitoring of developments in the value of implicit guarantees for bank debt, and hence the persistence of economic distortions. It also reflects suggestions made by CMF delegates at the discussions of an earlier version of the present report at the October 2013 CMF meeting and those received subsequently in writing.

The method suggested in this report exploits the information available in credit rating data. Underlying this approach is the observation that there exists a close relationship between credit ratings assigned to the debt of banks by rating agencies and bank funding costs. It considers different functional forms for that relationship.

The resulting estimates show that the value of implicit guarantees has declined from its peak a few years ago, which is consistent with progress made regarding the bank regulatory reform agenda, as one would expect that many of the reform measures imply a more limited value of implicit guarantees for bank debt. The exact determinants of the recent decline are not fully understood, however, requiring further analysis. Moreover, implicit guarantees persist and their value continues to be significant, estimated to be equivalent to EUR 50 billion of annual funding costs savings for the sample of more than 100 large European banks considered here. This observation implies that the economic distortions arising from them also persist. Bank debt continues to be considered “special” by market participants. Against this background, the bank regulatory reform agenda should not be considered closed.

The Committee welcomed the estimates of the value of implicit guarantees for bank debt developed by the Secretariat in collaboration with staff from the Netherlands Bureau for Economic Policy Analysis (CPB) and considered them plausible and helpful. It suggested that these estimates could be used to assess progress made in establishing effective and credible bank failure resolution regimes, thus complementing on-going FSB work in this area. The Committee cautioned, however, that while the estimates produced using the

existing methodology are plausible, alternative approaches should also be considered so that one can be confident that the ratings-based measure can be considered a robust reference to guide policies to end too-big-to-fail.

I. Introduction

The policy response to the financial crisis involved an extension of the borders of the financial safety net. The response was helpful, as it avoided the failure of several large and systemically important banks which would have had very severe adverse implications for real economic activity. But the response was not without costs, as noted by the OECD's Committee on Financial Markets already some time ago (Schich, 2009). Among the various costs, the policy response may have further entrenched a perception that bank debt benefits from an implicit government-supported guarantee.

This situation gives rise to substantial economic costs, as it creates undesired contingent fiscal liabilities for the perceived guarantor and it invites excessive risk-taking by banks and creates competitive distortions among them. In fact, the value of implicit guarantees differs from one bank to another and, on average, from one country to another. The persistence of implicit guarantees for bank debt favours some banks to the detriment of others and, across different economic sectors, it favours the banking sector to the detriment of other sectors that do not benefit from a similar perception. As a result, banks likely take on excessive risks and grow at the expense of other sectors.

Against the background of these observations, policymakers have decided to rein-in the value of implicit guarantees for bank debt. In fact, many bank regulatory reform measures have been proposed and implemented; others are still under consideration. An important policy question is how one can assess the effectiveness of the measures proposed or implemented?

This report proposes one specific indicator to assess bank regulatory reform progress in an indirect way, namely through the effect that reform has on the private value of implicit guarantees for bank debt. A declining value would be consistent with the intentions of such reforms, even if they are not directly targeted at reducing such values. Of course, not all bank regulatory reform efforts should be expected to be reflected in declines in the value of implicit guarantees for bank debt, although many measures either directly or indirectly would be expected to have an effect on the values of implicit guarantees for bank debt, thus reducing them.

In measuring the value of implicit guarantees for bank debt, the present report draws on Schich and Lindh (2012) and uses an extension of that approach suggested by Bijlsma and Mocking (2013). This extension has the advantage that the value of implicit guarantees for bank debt is measured in "real time", that is, as data on credit ratings, debt issuance and prices of issued debt become available. The present report applies this method to assess whether and to what extent progress has been made from mid-2012 to mid-2013 in reducing the value of implicit guarantees for bank debt.

It finds that, for the selected European banking sectors considered here, on average, the estimated private value of implicit guarantees for bank debt has changed significantly over time. It had increased on average between 2008 and 2011, while it has declined between mid-2012 and mid-2013. The main factor driving the recent decline in the private value of implicit guarantees for bank debt is a weakening relationship between credit ratings and funding costs, that is a given credit rating uplift provides less of a funding

advantage in terms of interest rates in mid-2013 than it did in mid-2012. The observed decline is consistent with the direction of bank regulatory reform, but the observation that the value of implicit guarantees continues to be substantial suggests that the reform agenda is far from complete.

The second section describes the motivation for developing an indicator to monitor the value of implicit guarantees for bank debt, the third section presents the estimated indicator, the fourth section discusses considerations regarding robustness of these estimates and the fifth section a specific extension of the set of indicators to inform policy analysis. The sixth section concludes.

II. The value of implicit guarantees as a measure of economic distortions

Issues raised by the persistence of implicit guarantees for bank debt

The recent financial crisis has added to the cumulative evidence suggesting that policy makers feel compelled under some circumstances to bail-out large or otherwise important banks in order to prevent their failure. This situation is recognized by financial market participants and is typically referred to as the “too-big-to-fail” (TBTF) or “too-systemically important-to-fail” phenomenon. That said, while the perception of implicit guarantees is primarily related to the TBTF status of banks, there are also banks that are not considered TBTF but nonetheless benefit from the perception of an implicit government-supported guarantee. The persistence of the perception of implicit guarantees for bank debt causes at least five key types of distortions.

- First, banks benefitting from this perception have lower funding costs than other banks since their creditors are seen as being protected by the government. This situation gives such banks a competitive edge over other banks, providing an incentive for them to become inefficiently large, thus worsening the TBTF problem.
- Second, the implicit subsidy increases the banks’ incentives to take risk because the market discipline by investors decreases. This effect distorts investment decisions and makes banks too risky, thus raising financial stability concerns more generally.
- Third, because lower funding costs partly accrue to banks’ clients, financial services are too cheap and more of them are produced and consumed than would be the case in absence of such a subsidy. As a result, banking sectors become too large compared to a situation where such effective subsidization would be absent, thus raising issues of allocational efficiency of resources.
- Fourth, the perceived implicit guarantees for bank debt reflect fiscal risks. As these fiscal risks stem from implicit rather than explicit guarantees, the potential contingent liabilities arising from them are typically not budgeted for and not fully disclosed, and hence not subject to the same degree of public scrutiny as some other types of contingent liabilities. Even though the liabilities are not actual but only potential contingent liabilities, they are nonetheless “real” in the sense that, for example, they are factored in credit rating agencies’ sovereign credit risk assessments. The experiences of Ireland and Spain in the recent global financial crisis have highlighted that these *potential* liabilities can become significant *actual* contingent fiscal liabilities.
- Fifth, in addition, the costs of government intervention to address a banking crisis that tends to follow episodes of excessive bank risk-taking can weigh substantially on government finances. According to Laeven and Valencia (2010) the direct fiscal costs of government intervention to restore financial stability in advanced economies amounted

to close to 6 % of domestic GDP on average. There is considerable heterogeneity across countries in this regard, however, with larger costs typically accruing in countries with larger financial sectors.

The policy response to the persistence of implicit guarantees for bank debt

Against the background of these observations, policymakers have decided to rein in the value of implicit guarantees for bank debt (see e.g. UK Treasury, 2012). In fact, as a result of various policy initiatives, several arguments suggest that the private value of the implicit guarantee is or will be decreasing.

- First, the probability that governments will have to bail out large banks will decline to the extent that banks' health is (slowly) improving due to deleveraging and the build-up of additional capital and liquidity buffers. Indeed, under proposed new capital rules, banks will be required to hold higher levels of regulatory capital. Basel III proposals are being implemented in Europe through the Capital Requirements Directive IV/CRD IV)¹ and the Capital Requirements Regulation/CRR.² As part of CRD IV systemically important banks will have to hold additional capital buffers.
- Second, the role of simple leverage ratios being a binding regulatory constraint under some circumstances is being reinforced by recent policy initiatives and actions. As excessive leverage is increasingly appreciated as having been a common theme of all past financial crisis, including the recent one, the relative role of simple (unweighted) leverage ratios as opposed to risk-weighted leverage ratios will be strengthened. Provided progress regarding comparability of international accounting standards, simple leverage ratios can be expected to address many of the shortcomings of regulatory bank capital measures based on risk-weighting of assets.
- Third, in addition to progress being made on the legal framework for allowing smooth and efficient bank failure resolution, a clear intent to involve unsecured bond holders in bank failure resolution costs is becoming apparent in some recent resolution cases, as signalled e.g. by the recent nationalisation of the Dutch bank SNS, where subordinated creditors were bailed in. Measures such as ring-fencing, bail-in debt, and living-wills are being prepared or proposed that facilitate bank resolution and hence should reduce the probability of policymakers having to resort to bail-outs. The proposed Directive on Bank Recovery and Resolution (BRRD) aims to harmonise resolution regimes in Europe and to ensure that coordinated resolution action regarding SIFIs in Europe is feasible.³ The European Commission recently presented its plans for a European resolution mechanism. Moreover, among other things to facilitate smooth bank failure resolution, several European countries are considering or have already implemented legislation that attempts to separate certain risky activities from those considered as protection-worthy, hence facilitating resolution as well as limiting undesirable cross-subsidisation between the different parts. Many of these approaches are inspired by the so-called Volcker, Vickers, or Liikanen proposals and are reviewed, and compared to the proposal supported by the OECD Secretariat, in Blundell-Wignall and Atkinson (2012).
- In Europe, another reason to expect a lower value of implicit guarantees for bank debt is the increasing centralisation of decision making regarding various aspects of the financial safety net in the region. For example, the move to delegate supervision of almost 85%⁴ of all banks (as measured by assets) to the European Central Bank and the decision to trigger resolution towards a central entity may reduce implicit guarantees, as

the institutions involved may be less inclined to bail-out banks for political reasons (if cross-border spillovers are small) and less prone to regulatory capture, thus lowering the probability of bank bail-outs. As a result, the value of implicit guarantees would not differ systematically among banks depending on where they are located. So far, however, the value of implicit guarantees systematically reflects the strength of the sovereign perceived to provide the guarantee, suggesting that the existence of a common European financial safety net (providing the same added value for all banks in the area) may not yet be credible (Schich, 2013).

Measuring progress in reducing the value of implicit guarantees for bank debt

Tracking the value of implicit guarantees for bank debt provides a useful input to assessing progress made in reforming the banking sector and the effectiveness of the measures taken, as appropriate regulatory reform measures should be expected to result in more limited values of implicit guarantees for bank debt. It is argued here that, as long as measures of implicit guarantees for bank debt continue to show them to be significantly positive, the bank regulatory reform agenda should not be considered complete, as economic distortions emanating from them persist.

It should be noted, however, that the analysis of changes in the private value of implicit guarantees for bank debt does not directly provide information about the probability of government support in case of failure. First of all, the guarantee is perceived and it is not explicit and the guarantor might even want to dispel expectations that such a guarantee exists. Also, importantly, the probability of shocks can change the private value of implicit guarantees,⁵ while the implicit guarantee itself might or might not remain in place.

In fact, the benefit that debt holders derive from the presence of an implicit guarantee equals the product of (i) the probability that the guarantee will be invoked and (ii) the haircut creditors expect to receive in this case. The benefit can therefore change if (i) the probability changes or if (ii) the expected haircut changes. The probability that the guarantee will be invoked can change because banks become safer, or because the risk of a financial crisis recedes, hence, a change in the measured implicit guarantee does not necessarily correspond to a (partial) withdrawal of the implicit guarantee.

III. An application to large banks in selected European countries

Exploiting the relationship between credit rating and funding costs

Underlying the approach used here is the observation that there exists a close relationship between funding costs and credit ratings assigned to banks by rating agencies and that credit rating agencies assign a counterfactual credit rating to banks, measuring the creditworthiness in the absence of assumed external support. This situation allows one to produce an estimate of actual funding costs and (hypothetical) funding costs in the absence of external support. The difference between the two is the funding cost advantage implied by the perception of an implicit bank debt guarantee.

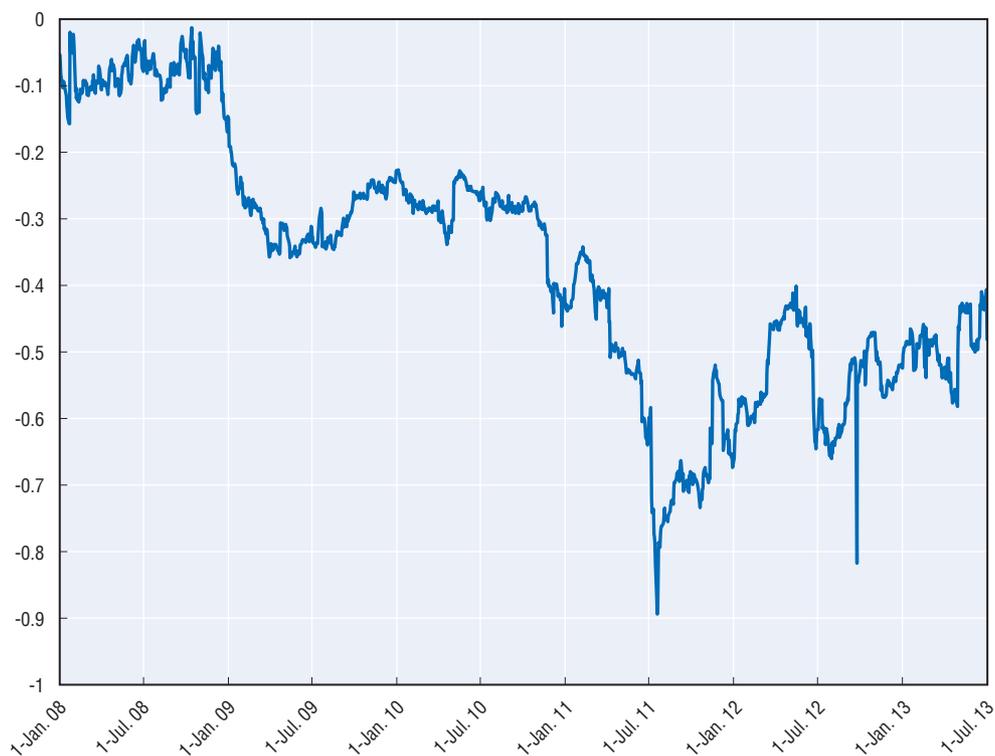
A time series of the relationship between credit ratings and funding costs is estimated first. In particular, the following relationship is estimated on a daily basis (for bond j , bank i , day t):

$$yield_{jit} = \alpha_t + \beta_t rating_{jit} + \varepsilon_{jit} \quad (1)$$

This relationship is estimated using data on credit ratings from Moody's and bank funding costs data from Datastream (i.e. data on the yield to maturity of specific bonds

issued by the banks in our sample) for a sample of 114 European banks from January 2008 to July 2013.⁶ Figure 1 shows that the relationship between credit rating assessment and debt issuance costs had become tighter from the end of 2008 until mid-2011, but that this link has again become somewhat weaker since then.

Figure 1. **Relationship between credit ratings and funding costs**



Note: Estimated coefficient of a regression of bond yields of bonds outstanding on the credit ratings of the issuer.
Source: Authors' calculations.

What does this relationship imply in terms of actual funding advantage and how does the change in that relationship matter? For example, a one notch rating uplift corresponds to 0.56% lower funding costs on average over the period from July 2012 to December 2012. By contrast, over the period from January 2013 to July 2013, on average, this number was only 0.49%. Thus, a credit rating uplift of one notch is worth somewhat less in terms of funding cost advantage in the first half of 2013 than it was in the second half of 2012. Nonetheless, already an uplift of just one single notch still saves the issuer close to 50 basis points in terms of funding costs.

Estimating the funding cost advantage

The approach considered here exploits the observation that credit ratings determine funding costs and that credit rating agency data can be used to extract a measure of credit rating uplift due to perceived government support (for more details see e.g. Schich and Lindh, 2012); the approach provides an estimate of how much that advantage is worth. In particular, the relationship between credit ratings and yields discussed in the previous section is used here to estimate the funding advantage of banks as follows. The funding advantage depends on three components:

the difference between the credit rating with and without external support, that is the credit rating uplift ($Uplift_{it}$),

the relationship between credit ratings and funding costs at time t , that is the relative funding cost saving (β_t);

the amount of funding for which the bank i benefits from the credit rating uplift, that is its “rating-sensitive” debt issued ($Debt\ issued_{it}$).

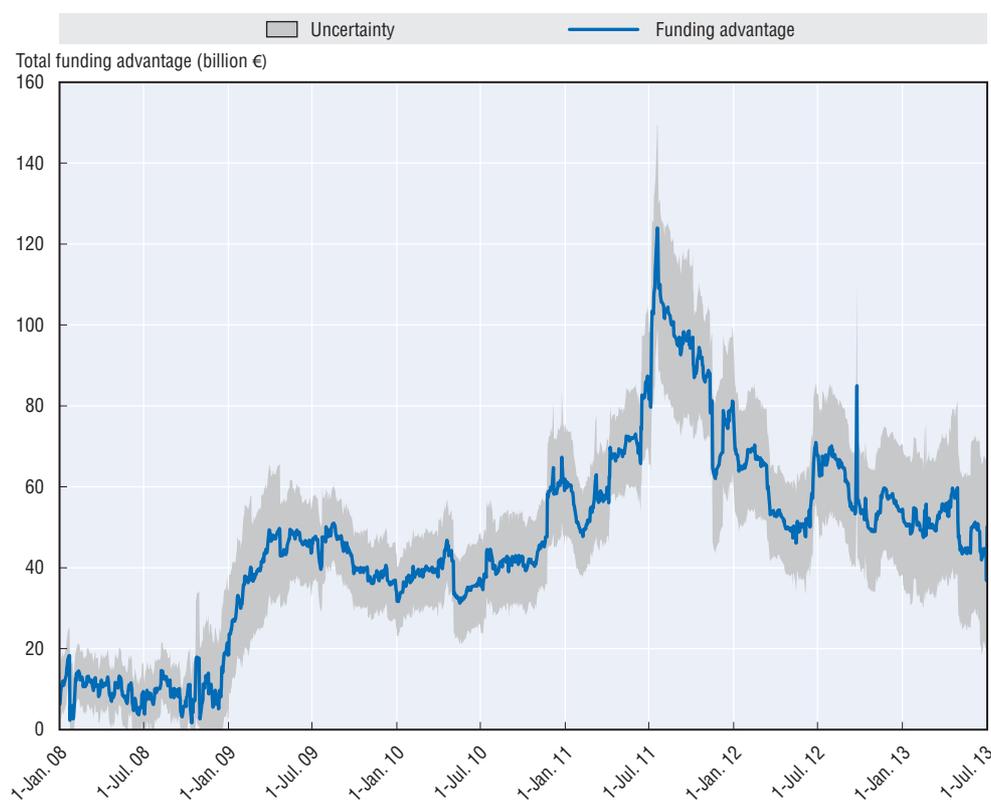
These three components are combined and the total yearly funding advantage for bank i at time t (FCA_{it}) is given by the product of these three components:⁷

$$FCA_{it} = Uplift_{it} \times \beta_t \times Debt\ issued_{it} \quad (2)$$

Estimation results

Figure 2 shows the aggregated annual funding advantages for all sample banks. The grey-shaded area is the 95%-confidence interval of the estimated funding advantage (see Appendix A.2 for details about the calculation of the confidence interval). The development over time tracks to some extent the estimated relationship between credit ratings and funding costs presented in Figure 1. During the period from July 2012 to December 2012 the average (annualised) total funding advantage fluctuated around 60 billion euro, compared to around EUR 50 billion during the period from January 2013 to July 2013. The funding advantage peaked in absolute terms at EUR 120 billion in July 2011.⁸ Before 2009, it was lower than EUR 20 billion.

Figure 2. **Development of total funding costs advantage of selected European banks over time**

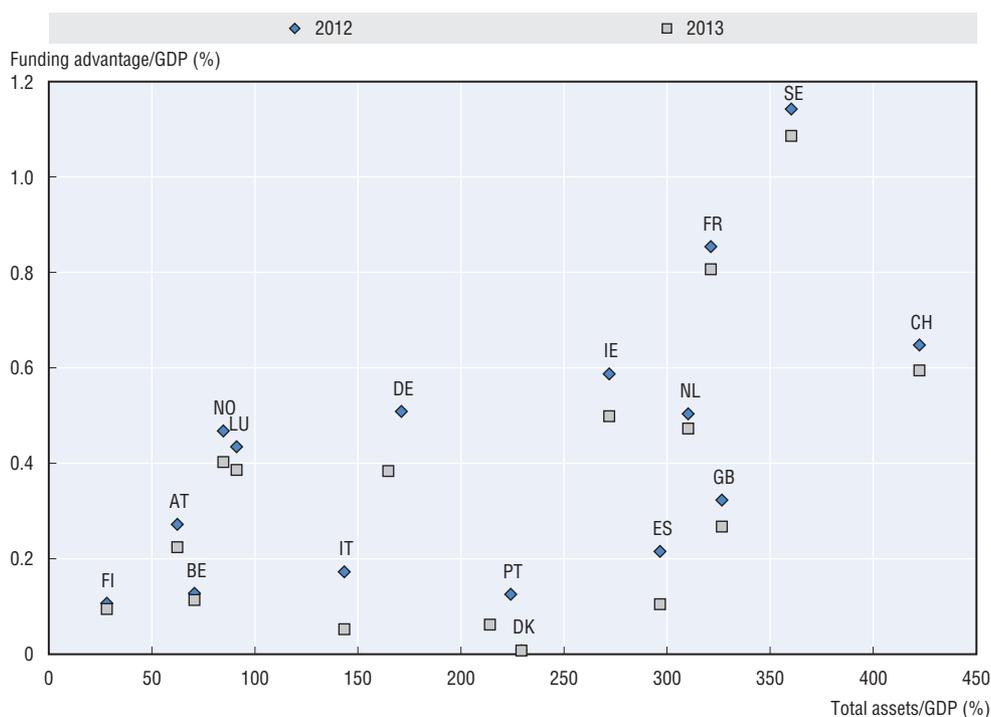


Note: Aggregated funding cost advantage in billions of euros for the European banks included in our sample. Appendix A.1 lists the banks that are included in the sample.

Source: Authors' calculations.

Figure 3 relates the aggregated annual funding advantage of banks in different countries to the size of the banking sector in these countries (as measured by banking assets relative to GDP of the banks included in our sample).⁹ The Figure highlights that the aggregated funding costs advantages are particularly pronounced in the case of countries that are characterised by large banking sectors. These estimates are not a simple linear function of the size of banking sectors, however. For example, in terms of assets under management, the group of banks considered for the United Kingdom and for France is of similar magnitude. Nonetheless, the aggregated funding advantage for banks from France is much higher than that for banks from the United Kingdom, as rating uplifts in the former are higher than those in the latter. Comparing estimates for mid-2013 with those for mid-2012, the total funding advantage of banks has decreased in almost all countries. The observation that larger banking sectors tend to benefit from larger estimated values of funding advantages as of domestic GDP still applies.

Figure 3. **Funding cost advantage and relative size of the banking sector**



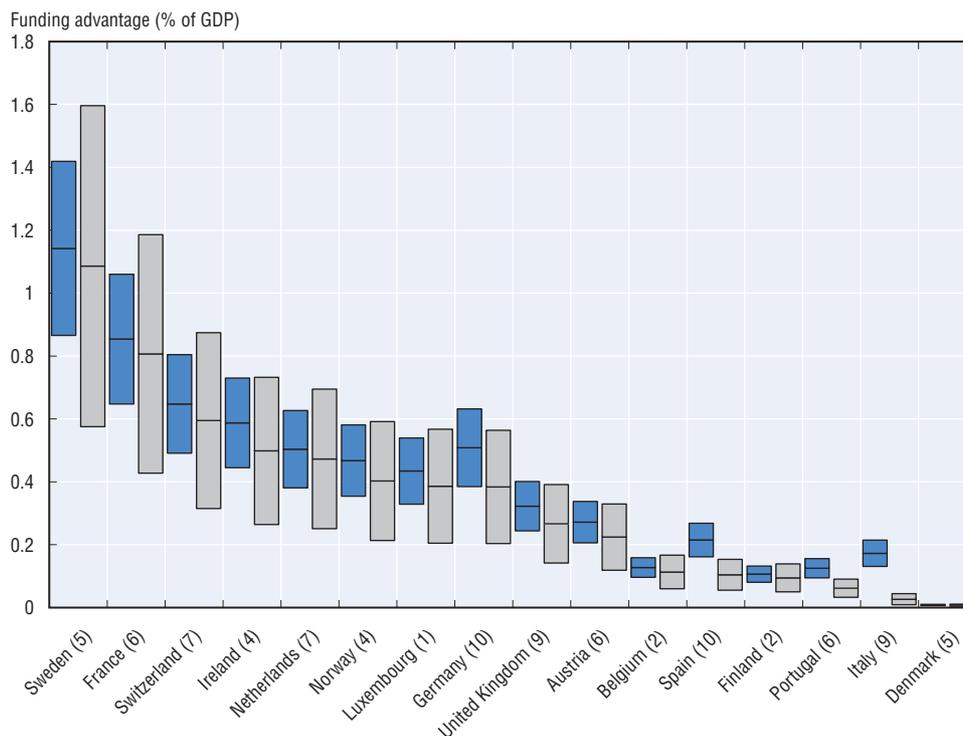
Note: Total assets as of GDP is calculated as the sum of total assets of all sample banks in the country shown, divided by the country's domestic GDP in 2012. Squares indicate estimates for mid-2013 and diamonds indicate estimates for mid-2012. There is little variation along the horizontal axis, except for Germany and Portugal, where a small bank dropped out of the sample in each case. Otherwise, one large bank also dropped out of the sample towards the end of the observation period in the case of Italy, but this change is abstracted from by considering bank asset data for April 2013 rather than for mid-2013 in the case of that country.

Source: Authors' calculations.

Interpretation of changes in the estimated value of implicit guarantees

One advantage of the method used here is that it allows distinguishing between changes in the value of implicit guarantees for bank debt resulting from i) changes in the rating uplift, ii) changes in the funding cost value of a one notch credit rating uplift, and iii) changes in the amount of outstanding debt.¹⁰ Table 1 illustrates the relative roles of these

Figure 4. **Aggregated bank funding cost advantage**
In percentage of GDP, for mid-2012 and mid-2013



Note: Average estimated aggregated funding advantage in June 2012 (blank) and June 2013 (grey-shaded) and 95% confidence interval around estimates (see for more detail Appendix A2).

Source: Authors' calculations.

Table 1. **Summary statistics of three components of the estimated funding cost advantage**

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|-------|-------|-------|-------|-------|-------|
| Average long-term debt rating | 18.1 | 17.5 | 16.9 | 15.7 | 14.5 | 13.9 |
| Average bank financial strength rating | 15.6 | 14.1 | 13.2 | 12.8 | 11.9 | 11.3 |
| Average uplift (in credit rating notches) | 2.5 | 3.4 | 3.7 | 2.9 | 2.6 | 2.7 |
| Effect of one notch rating uplift on funding cost | 0.08 | 0.30 | 0.29 | 0.57 | 0.54 | 0.49 |
| Total average effect of rating uplift on funding cost (in basis points) | 20 | 102 | 107.3 | 165.3 | 140.4 | 132.3 |
| Total long-term funding (in billion euros) | 5 350 | 5 410 | 4 980 | 4 890 | 4 490 | 4 450 |
| Total long-term funding advantage (in billion euros) | 10.7 | 55.2 | 53.4 | 80.8 | 63.1 | 58.9 |
| Memo item: Number of banks in the sample | 100 | 102 | 104 | 107 | 98 | 95 |

Note: Average long-term debt rating and average bank financial strength are expressed in notches, with an Aaa rating corresponding to 21 notches, and Aa2 rating to 20, etc. (see for explanation of the calculation of numerical equivalents also Figures 2 and 3 in Schich and Lindh, 2013). The total number of banks considered in the sample is 114, but data for all banks are not available for all years as a result of bank failures, rating withdrawals, or mergers. Fluctuations in the number of banks do not lead to large fluctuations in the estimated funding advantage, but they do affect the estimates of long-term debt issuance.

Source: Authors' calculations.

three different components of the estimated funding cost advantage. The average uplift increased from 2008 to 2009 and then peaked in 2010; it declined to somewhat less than three notches in 2011 and has remained fairly constant at around that level since then. The

estimated relationship between credit ratings and funding costs has changed considerably over time; the relationship was strongest in 2011. The total average effect of the observed rating uplift on funding costs in basis points was also highest in 2011 with more than 165 basis points. More recently, in 2013, despite a decline from its peak, it nonetheless amounts to 132 basis points.

IV. Considerations regarding robustness of estimates

Allowing for the relationship between credit ratings and funding costs to be non-linear

Checking for robustness of results, as was suggested by CMF delegates at the October 2013 meeting, alternative specifications of the estimated relationship between credit ratings and funding costs were also considered. In particular, these alternative specifications allow for the possibility of non-linearities in that relationship.

As a consequence, the private value of one notch of credit rating uplift will not be the same for any bank but instead it will be dependent on the *level* of the banks' stand-alone rating; for example, a one-notch uplift likely matters more for a single-A than for a double-A rated bank, while the assumption of linearity implies that the funding costs advantage of one notch of uplift is the same irrespective of what the intrinsic strength of the bank is.

In particular, alternatively specifications are considered where the yields are explained by ratings that enter both in form of levels and in quadratic form and another specification where the ratings are considered in logarithmic form so as to capture potential non-linearities in that relation. Thus, instead of estimating equation (1), equations (3) and (4) are estimated:

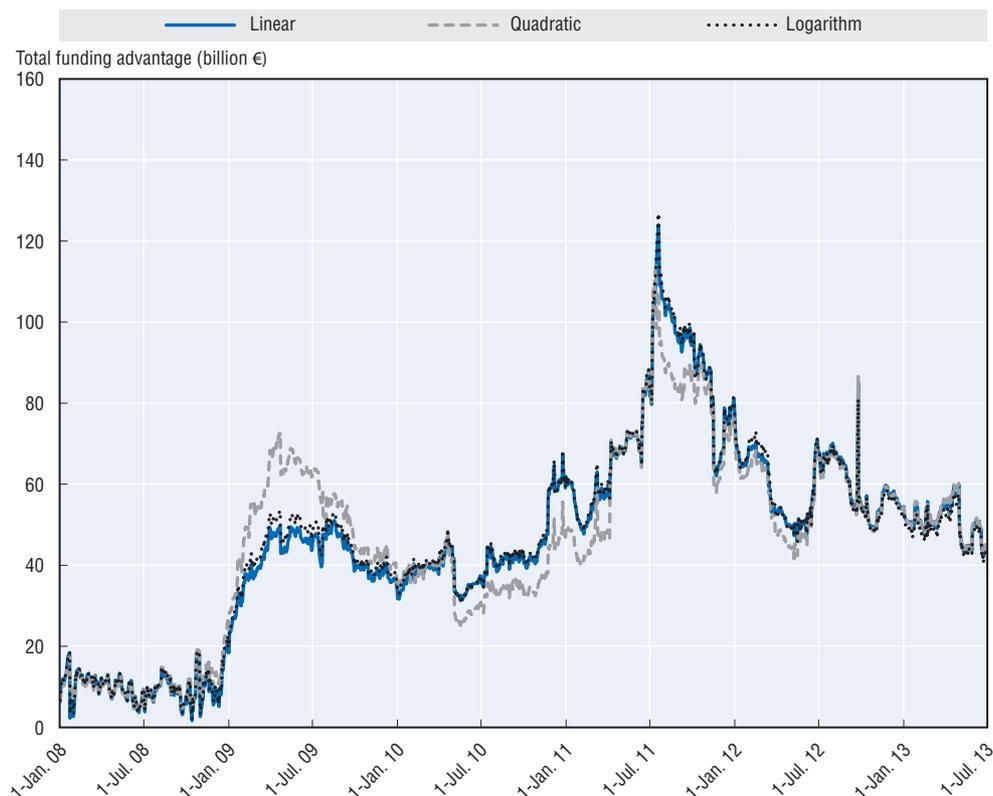
$$yield_{jit} = \alpha_t + \beta_t rating_{jit} + \gamma_t rating_{jit}^2 + \varepsilon_{jit} \quad (3)$$

$$yield_{jit} = \alpha_t + \beta_t \ln rating_{jit} + \varepsilon_{jit} \quad (4)$$

It turns out that the results allowing for some forms of non-linearities are broadly similar to the estimates obtained using a linear specification. Appendix Figures A.4.1 and A.4.2 show the development over time of the total funding advantage resulting from the quadratic (3) and from the logarithmic specification (4), respectively, which are of the same order of magnitude as those obtained from the linear estimates of equation (1). Compared to the linear specification, the quadratic specification shows a higher peak in 2009 and a lower peak in 2011. The uncertainty interval is a bit wider in the quadratic specification. The logarithmic specification is very similar to the linear specification, both in terms of the point estimates and the confidence interval. Figure 5 plots the estimated funding advantages from specifications (1), (3), and (4) in one figure.

As mentioned, the interpretation of results obtained using specifications allowing for non-linearities in the rating-yield relationship is somewhat less straightforward than in the linear case, as the funding cost advantage of a given amount of notches of uplift differs depending on where the bank under consideration "comes from", that is what its intrinsic strength rating is. Table 2 lists the basis point advantages per one notch uplift for different levels of stand-alone ratings for the three different specifications and it shows the following.

Figure 5. **Funding cost advantage over time using alternative specifications for the rating-funding cost relation**



Note: Aggregated funding cost advantage in billions of euros for the European banks included in our sample, considering three alternative specifications for the rating-yield relationship. Appendix A.1 lists the banks that are included in the sample.

Source: Authors' calculations.

Panel a of Table 2 shows the results using a quadratic specification; they are somewhat difficult to interpret. For example, in 2010 and 2013 the relationship in terms of relative advantages are inversed in the sense that (intrinsically) strong banks benefit more from a one notch rating uplift than weak banks. Also, in 2008 and 2009, for strong banks, the funding cost implication of an uplift of one notch is negative, which is difficult to interpret.

Panel b of Table 2 shows that the logarithmic specification implies relatively higher funding advantages for banks with lower stand-alone credit ratings than for those that are considered strong on a stand-alone basis. In other words, weaker banks benefit relatively more from a one notch rating uplift than intrinsically stronger banks, which is consistent with theoretical considerations based on contingent claims analysis.

The estimates obtained from either the linear specification (Panel c) or the logarithmic specification (Panel b) show a similar pattern over time and both differ significantly from those obtained from the quadratic specification, especially in 2010 and 2013.

Comparison of results with those obtained using alternative estimation methods

The Committee welcomed the estimates of the value of implicit guarantees for bank debt and considered them plausible and helpful, suggesting that these estimates could be used to assess progress made in establishing effective and credible bank failure resolution

Table 2. Funding cost advantages in basis points per one notch uplift
For different levels of bank stand-alone ratings

| Panel a: Quadratic specification | | | | | | |
|------------------------------------|------|------|------|------|------|------|
| Average uplift | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Aa1 to Aaa | -4.0 | -9.0 | 61.1 | 18.6 | 12.7 | 59.5 |
| A1 to Aa3 | 10.3 | 32.8 | 34.2 | 39.0 | 32.5 | 55.2 |
| Baa1 to A3 | 24.7 | 74.4 | 7.2 | 59.4 | 52.3 | 50.9 |
| Panel b: Logarithmic specification | | | | | | |
| Average uplift | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| Aa1 to Aaa | 7.5 | 25.9 | 23.6 | 43.8 | 36.1 | 30.7 |
| A1 to Aa3 | 8.7 | 30.3 | 27.7 | 51.3 | 42.2 | 36.0 |
| Baa1 to A3 | 10.6 | 36.6 | 33.4 | 61.9 | 51.0 | 43.4 |
| Panel c: Linear specification | | | | | | |
| Average uplift | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| All ratings | 8 | 30 | 29 | 57 | 54 | 49 |

regimes, thus complementing on-going FSB work in this area. The Committee cautioned, however, that while the estimates produced using the existing methodology are plausible, alternative approaches should also be considered so that one can be confident that the ratings-based measure can be considered as a robust reference to guide policies to end too-big-to-fail.

In fact, while the method described in this report exploits credit rating agencies' assessments, several alternative approaches exist. For example, event studies try to assess the impact of events that affect market beliefs concerning too-big-to-fail (TBTF) subsidies on market prices. A seminal study by O'Hara and Shaw (1990) used the announcement in September 1984 of the US Comptroller of the Currency, which stated that the eleven largest banks were considered as TBTF to compare equity prices before and after that announcement. The authors identify a significantly positive excess return on the assets of the concerned banks of about 1.3% on the day of the announcement.

A variation of the mentioned event-study methodology involves studying the effect of mergers and acquisitions between banks, which make banks bigger and more likely TBTF. Brewer and Jagtiani (2009) focus on merger premiums and test the hypothesis that banks are willing to pay higher premiums to become TBTF. For a total number of 406 US bank merger cases, they find that the total extra premium paid by the eight acquiring banks that became TBTF after merging is estimated to be about USD 16 billion.

Another strategy is to use a contingent claims method to model the implicit subsidy as a put option with the underlying total assets of banks as a stochastic variable and, hence, to apply an option pricing framework to price the implicit subsidy. Noss and Sowerbutts (2012) apply this method and estimate the value of the subsidy to be GBP 120 billion for UK banks in 2010, which is higher than the estimates produced by these authors on the basis of credit rating data. Their analysis is remarkable in that they directly compare estimates using two very different methods, showing among other things that funding cost advantage estimates obtained from using the contingent claims analysis are very sensitive to small variations in assumptions.

Finally, one can analyse the distortion caused by the TBTF status focusing directly on market prices. For example, Völz and Wedow (2009) analyse a dataset containing monthly average CDS spreads of 91 banks from 24 countries during the period 2002-07. Also, Schweikhard and Tsesmelidakis (2012) compare credit market estimates of default with equity market estimates of default for 498 US companies in the period 2003-09. They estimate the magnitude of the support to be about USD 129 billion over the period 2007-10. A recent study by Bijlsma, Lukkezen and Marinova (2013) looks at a sample of European banks in six major European countries for the period 2009-11. The authors estimate a model explaining credit default (CDS) spreads of small banks as a function of market fundamentals and bank-specific characteristics to generate out-of-sample predictions for the CDS spreads of large banks, based on the estimated parameters. Under the assumption that small banks are not TBTF while big banks are, this approach allows one to use the difference between the predicted and the observed CDS spread for large banks as an estimate of the funding advantage these banks derive from being TBTF. They find that the funding advantage for large banks is 60 basis points on average, while that for banks being considered to be globally significant by the Financial Stability Board is another (additional) 40 basis points.

V. Additional indicators to monitor progress in limiting implicit guarantees for bank debt

CMF delegates considered the estimates of the value of implicit guarantees for bank debt discussed in section III useful to inform policy analysis and decisions. It was pointed out that the measure might be particularly helpful to assess the extent of distortions introduced by the existence of implicit guarantees for bank debt. For example, the measure provides most direct benefit in the case of policies aimed at compensating or undoing the funding advantage by imposing additional charges on banks, including through fees or taxes.

By contrast, CMF delegates cautioned, an alternative could be considered if the aim is to assess the impact of policy decisions on an ongoing basis. The measure described in the present report consists of three components, which are (i) the credit rating uplift, (ii) the sensitivity of funding costs to ratings and (iii) the amount of rating sensitive debt. Policy decisions would be expected to have a fairly direct impact on (i), but perhaps less so on (ii) and (iii). Thus, to obtain a more direct measure to assess the impact of regulatory and policy measures, CMF delegates recommended focusing directly on the extent of funding cost advantages in basis points of interest rates. Such an approach would also facilitate comparison of estimates across borders involving different currencies.

Pursuant to that suggestion, Figure 6 shows indicators of the funding costs advantages of large European banks in terms of basis points of interest rate savings on debt issued. In particular, to provide a sense of the distribution of the funding cost advantages within the sample of banks considered here, the figure shows the 10th percentile, 90th percentile, mean and median estimates of the funding cost advantages in basis points of all banks in the sample. The mean and median are similar during much of the period from 2008 to mid-2013; they remain significantly greater than zero throughout the sample period.

There is considerable variation in the basis point funding advantage per individual bank, which is reflected in particular in substantial variations in estimates of the top decile. In relative terms, the funding advantage of the banks in the top decile fluctuates around twice as much as that of the mean or median banks. As regards the lowest decile,

the estimated funding advantage declined to 0 in 2011 and has not increased again, implying that the number of banks that do not benefit from implicit guarantees increased.¹¹ To what extent that observation should be interpreted as signalling some success of measures aimed at making bank debt less special is not clear, especially as at least part of the decline owes to the declining strength of the sovereigns seen as providing the guarantee (Schich and Lindh, 2012).

Figure 6. **Mean, median, 10th percentile, and 90th percentile of basis point funding advantage estimates**



Note: The estimates shown were obtained as follows. First, the daily funding advantages for all banks in the sample are calculated. Next, the mean, median, 10th percentile, and 90th percentile values of the funding advantage for the sample of all banks is computed for each day from 2008 to mid-2013.

Source: Authors' calculations.

VI. Concluding remarks and future work

Policymakers have announced their intention to rein-in the value of implicit guarantees and regulatory reform efforts should be expected to have an effect on these values. Implicit guarantees for bank debt create incentives for excessive risk taking by banks as market discipline is reduced and creditors shielded from the consequences of default. They distort the level playing field of competition between banks as different banks benefit from different values of implicit guarantees. To the extent that the funding cost advantage is passed on to final users it lowers the cost of financial products, thus likely leading to overconsumption of financial services (Noss and Sowerbutts, 2012).

This report proposes an indicator that can be used to track developments in the value of implicit guarantees for bank debt over time. This indicator allows policymakers to assess

whether and to what extent the effect of the various types of bank regulatory reform measures taken or considered is reflected in noticeable changes of the value of implicit guarantees for bank debt in the desired direction. In fact, it is argued here that monitoring the development of this (or an alternative) measure of implicit guarantees for bank debt provides a useful input to the discussion on banking regulatory reform more generally. Even when the measures were not designed per se to reduce the value of implicit guarantees for bank debt, they should be expected to have such an effect.

The Committee on Financial Markets, at its meeting in October 2013, welcomed the estimates of the value of implicit guarantees for bank debt and suggested that these estimates could be used to assess progress made in establishing effective and credible bank failure resolution regimes, thus complementing on-going FSB work in this area. The Committee cautioned, however, that while the estimates produced using the existing methodology are plausible, alternative approaches should also be considered so that one can be confident that the ratings-based measure can be considered as a robust reference to guide policies to end too-big-to-fail. Pursuant to this suggestion, the present report already considers some alternative assumptions when estimating the value of implicit guarantees for bank debt, remaining however within the same type of overall approach, which is to estimate funding cost advantages exploiting credit rating agency data and observed yields for rated debtors.

For the selected European banking sectors considered here, on average, the results of the measure proposed in this report show that the private value of the implicit guarantee changes significantly over time. It has declined over the last year, while it had increased on average between 2008 and 2011. While credit rating uplifts remain more or less unchanged, the main factor driving the recent decline in the private value of implicit guarantees for bank debt is a weakening relationship between credit ratings and funding costs, that is a given credit rating uplift provides less of a funding advantage in terms of interest rates in mid-2013 than it did in mid-2012.

The observed decline is consistent with the direction of bank regulatory reform, as one would expect the reform measures, especially but not exclusively those towards facilitating bank failure resolution, to lower the perception that bank debt is special.

That said, the value of implicit guarantees continues to be substantial at the equivalent of around EUR 50 billion annually for the sample of more than 100 large European banks considered here. The estimated value is significantly different from zero and this observation suggests that the reform agenda should not be considered complete. Bank debt continues to be special.

Moreover, even the decline observed so far cannot be fully attributed to the suggestion that policymakers have been successful in withdrawing the guarantee they are seen as being providing. In fact, the observed decline in the value of implicit guarantees for bank debt reflects to some extent the decline in the strength of the sovereigns seen as providing the guarantee and, in addition, it could also simply reflect that the likelihood of financial market stress is receding, in which case the value of a guarantee would be lessened. Future work should try to disentangle the effect of these different components driving the private value of implicit guarantees.

Notes

1. Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.
2. Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No. 648/2012.
3. For example, at the ECOFIN Council of 27 June 2013, finance ministers of EU Member States agreed on a General Approach on the draft directive establishing a framework for the recovery and resolution of failing banks, which is currently subject to negotiations between the Council, the Commission and the Parliament, see http://ec.europa.eu/internal_market/bank/crisis_management/.
4. According to ECB estimates (see www.ecb.europa.eu/ssm/html/index.en.html).
5. Private value refers to both banks as well as consumers and firms, as in the presence of competition, the benefit will be partly passed on to consumers and firms.
6. Data is obtained from three sources: Credit rating data from Moody's, bank balance sheet data from *Bankscope*, and data on bond yields from Thomson Reuters *Datastream*. The sample consists of 114 relatively large European banks for which ratings data is available from Moody's. See Appendix A.1 for a list of banks. Details of the estimation method are explained in Appendix A.2.
7. To measure the amount of rating sensitive debt, (*Debt issued_{it}*), data from *Bankscope* on annual total long-term funding is used. As data for 2013 was not yet available at the time of estimation, 2012 data was used instead. As the number of banks varies from 2012 to 2013, the bank funding estimate also varies.
8. The estimated funding advantage is lower than that estimated in Bijlsma and Mocking (2013). The peak in 2011 reported here, at around 125 billion, whereas it was at about 140 billion in the former estimates. The main reason for the discrepancy is that the present sample contains fewer bank subsidiaries, implying that the total rating-sensitive funding is lower. The pattern of estimates over time is similar however.
9. For Italy we present the funding advantage in April 2013. In May 2013 the rating including support for one large Italian bank was downgraded to a level for which we are unable to predict funding costs (we do not have such low ratings in our dataset with yields and ratings and do not predict out of sample funding costs). For both Germany and Portugal, one bank is no longer in the sample in June 2013 since ratings have been withdrawn. In case of Germany, total funding dropped by 5%. In case of Portugal, total funding dropped by 14%. This partly explains the drop in the estimated funding advantage of Portuguese banks.
10. Some estimation issues should be acknowledged. In particular, some changes in the estimated relationship might also be related to data availability and, as can be seen from Figure 2, there are indeed some jumps in the estimated funding advantage. For example, the jump in November 2010 is related to the sample of bond yields available: From one day to another, the sample size increases from 338 to 380 bonds and this increase have a noticeable effect on the estimated relationship between yields and ratings. That said, the very visible jump in July 2011 cannot be explained by data availability. The number of bonds in the sample is the same and the ratings of banks did not change as well. In this case, the estimated relationship between yields and ratings simply becomes much stronger within only a few days.
11. Note however, that this effect is partly caused by a likely underestimation of the extent of yield reduction for weak banks. In fact, some banks have such a low stand-alone rating that the method used is not able to predict yields for their rating classes for lack of data (i.e. there are no such low ratings included in the sample on yield observations).

APPENDIX A.1

List of banks included in the analysis

| | Bank name | From | To |
|----------------|---|------|------|
| Austria | BAWAGPSK | 2008 | 2013 |
| | Erste Bank der Oesterreichischen Sparkassen AG | 2008 | 2013 |
| | Hypo Alpe-Adria Bank AG | 2008 | 2011 |
| | Kommunalkredit Austria AG | 2009 | 2013 |
| | Oesterreichische Volksbanken AG | 2008 | 2013 |
| | Raiffeisen Zentralbank Oesterreich AG - RZB | 2008 | 2010 |
| | Raiffeisenlandesbank Niederösterreich-Wien AG | 2008 | 2013 |
| | Raiffeisenlandesbank Oberösterreich AG | 2008 | 2013 |
| Belgium | AXA Bank Europe SA/NV | 2011 | 2013 |
| | KBC Bank NV | 2008 | 2013 |
| Switzerland | Bank Julius Baer & Co. Ltd | 2008 | 2013 |
| | Banque Cantonale Vaudoise | 2009 | 2013 |
| | Clariden Leu AG | 2008 | 2010 |
| | Credit Suisse AG | 2008 | 2013 |
| | Raiffeisen Schweiz Genossenschaft-Raiffeisen Suisse société coopérative | 2008 | 2013 |
| | St. Galler Kantonalbank AG | 2008 | 2013 |
| | UBS AG | 2008 | 2013 |
| | Valiant Bank AG | 2008 | 2009 |
| | Zürcher Kantonalbank-Zurich Cantonal Bank | 2008 | 2013 |
| Czech Republic | Ceska Sportelna a.s. | 2008 | 2013 |
| Germany | Bayerische Landesbank | 2008 | 2013 |
| | Commerzbank AG | 2008 | 2013 |
| | Deutsche Bank AG | 2008 | 2013 |
| | Deutsche Pfandbriefbank AG | 2008 | 2013 |
| | DZ Bank AG-Deutsche Zentral-Genossenschaftsbank | 2008 | 2013 |
| | HSH Nordbank AG | 2008 | 2013 |
| | Landesbank Baden-Wuerttemberg | 2008 | 2013 |
| | Landesbank Hessen-Thueringen Girozentrale – HELABA | 2008 | 2013 |
| | Norddeutsche Landesbank Girozentrale NORD/LB | 2008 | 2013 |
| | Portigon AG | 2008 | 2012 |
| Denmark | Danske Bank A/S | 2008 | 2013 |
| | FIH Erhvervsbank A/S-Finance for Danish Industry A/S – FIH Group | 2008 | 2013 |
| | Jyske Bank A/S (Group) | 2008 | 2013 |
| | Nykredit Bank A/S | 2008 | 2013 |
| | Sydbank A/S | 2008 | 2013 |

| | Bank name | From | To |
|-------------|--|------|------|
| Spain | Banco Bilbao Vizcaya Argentaria SA | 2008 | 2013 |
| | Banco de Sabadell SA | 2008 | 2013 |
| | Banco Popular Espanol SA | 2008 | 2013 |
| | Banco Santander SA | 2008 | 2013 |
| | Bankia, SA | 2011 | 2013 |
| | Bankinter SA | 2008 | 2013 |
| | Caixa de Aforros de Galicia Vigo Ourense e Pontevedra-NovacaixaGalicia | 2010 | 2010 |
| | Caixa d'Estalvis de Catalunya, Tarragona i Manresa-Catalunya Caixa | 2010 | 2011 |
| | Caixabank | 2011 | 2013 |
| | Caja de Ahorros y Monte de Piedad de Zaragoza, Aragon y Rioja-Ibercaja | 2008 | 2011 |
| | Caja de Ahorros y Pensiones de Barcelona-LA CAIXA | 2008 | 2011 |
| | Catalunya Banc SA | 2011 | 2013 |
| | Liberbank SA | 2011 | 2013 |
| | NCG Banco SA | 2011 | 2013 |
| Finland | Aktia Bank Plc | 2008 | 2013 |
| | Pohjola Bank plc-Pohjola PankkiOyj | 2008 | 2013 |
| France | Banque Fédérative du Crédit Mutuel | 2008 | 2013 |
| | BNP Paribas | 2008 | 2013 |
| | BPCE SA | 2009 | 2013 |
| | Crédit Agricole S.A. | 2008 | 2013 |
| | Dexia Crédit Local SA | 2008 | 2013 |
| | Société Générale | 2008 | 2013 |
| Greece | Agricultural Bank of Greece | 2008 | 2010 |
| | Alpha Bank AE | 2008 | 2011 |
| | EurobankErgasias SA | 2008 | 2011 |
| | National Bank of Greece SA | 2008 | 2011 |
| | Piraeus Bank SA | 2008 | 2011 |
| Hungary | Erste Bank Hungary Nyrt | 2008 | 2013 |
| | OTP Bank Plc | 2008 | 2013 |
| Ireland | Allied Irish Banks plc | 2008 | 2013 |
| | Bank of Ireland-Governor and Company of the Bank of Ireland | 2008 | 2013 |
| | Depfa Bank Plc | 2008 | 2013 |
| | Irish Bank Resolution Corporation Limited-IBRC | 2008 | 2012 |
| | Permanent TSB Plc | 2008 | 2013 |
| Italy | Banca Carige SpA | 2008 | 2013 |
| | Banca Monte dei Paschidi Siena SpA-Gruppo Monte dei Paschidi Siena | 2008 | 2013 |
| | Banca Popolare di Milano SCaRL | 2008 | 2013 |
| | Banco Popolare | 2008 | 2013 |
| | Credito Emiliano SpA-CREDEM | 2010 | 2013 |
| | Credito Valtellinese Soc Coop | 2008 | 2013 |
| | Intesa Sanpaolo | 2008 | 2013 |
| | UniCredit SpA | 2008 | 2013 |
| | Unione di Banche Italiane Scpa-UBI Banca | 2008 | 2013 |
| Luxembourg | Banque et Caisse d'Epargne de l'Etat Luxembourg | 2008 | 2013 |
| Netherlands | Credit Europe Bank N.V. | 2011 | 2013 |
| | ING Bank NV | 2008 | 2013 |
| | Lease Plan Corporation NV | 2011 | 2013 |
| | NIBC Bank NV | 2008 | 2013 |
| | Rabobank Nederland-Rabobank Group | 2008 | 2013 |
| | Royal Bank of Scotland NV (The)-RBS NV | 2008 | 2013 |
| | SNS Bank N.V. | 2008 | 2013 |
| Norway | DNB Bank ASA | 2008 | 2013 |
| | SpareBank 1 SMN | 2008 | 2013 |
| | SpareBank 1 SR-Bank | 2008 | 2013 |
| | Sparebanken Vest | 2008 | 2013 |

| | Bank name | From | To |
|----------------|---|------|------|
| Poland | Powszechna Kasa Oszczednosci Bank Polski SA – PKO BP SA | 2008 | 2013 |
| Portugal | Banco BPI SA | 2008 | 2013 |
| | Banco Comercial Português, SA-Millennium bcp | 2008 | 2013 |
| | Banco Espirito Santo SA | 2008 | 2013 |
| | BANIF – Banco Internacional do Funchal, SA | 2008 | 2012 |
| | Caixa Economica Montepio Geral | 2008 | 2013 |
| | Caixa Geral de Depositos | 2008 | 2013 |
| Sweden | Länsförsäkringar Bank AB (Publ) | 2008 | 2013 |
| | Nordea Bank AB (publ) | 2008 | 2013 |
| | Skandinaviska Enskilda Banken AB | 2008 | 2013 |
| | Svenska Handelsbanken | 2008 | 2013 |
| | Swedbank AB | 2008 | 2013 |
| Slovenia | NLBdd-Nova Ljubljanska Banka d.d. | 2008 | 2012 |
| Slovakia | Slovenskasporitel'na as-Slovak Savings Bank | 2008 | 2009 |
| United Kingdom | Barclays Bank Plc | 2008 | 2013 |
| | Co-operative Bank Plc (The) | 2008 | 2013 |
| | Coventry Building Society | 2008 | 2013 |
| | HSBC Bank plc | 2008 | 2013 |
| | Lloyds TSB Bank Plc | 2008 | 2013 |
| | Nationwide Building Society | 2008 | 2013 |
| | Northern Rock (Asset Management) Plc | 2008 | 2010 |
| | Royal Bank of Scotland Plc (The) | 2008 | 2013 |
| | Standard Chartered Bank | 2008 | 2013 |
| | Yorkshire Building Society | 2008 | 2013 |

APPENDIX A.2

Details on the funding, rating and interest rate data

Our calculation of the funding cost advantage combines data from a number of sources and involves essentially three different steps. First, from Moody's website we construct a dataset containing the daily Long Term Deposits rating (LTD) and the Bank Financial Strength rating (BFS) for the 114 European banks in our sample over the period from January 2008 to July 2013. For a given bank, these two measures combined allow us to calculate the bank-specific credit rating uplift.

Second, we use historical data on bond prices from Datastream to determine the relationship between deposit ratings and bond yields. We download daily bond yields of bonds issued by the banks in our sample. We select all bonds that have fixed, positive, and annual coupon payments with a maturity between one and five years. We exclude bonds that are somehow guaranteed, for instance by (local) governments, parent banks, or with some form of collateral coverage. We then determine the relationship between bond yields of bank i at day t (y_{it}) and the LTD-rating (LTD_{it}) by estimating equation (1) using OLS (with robust standard errors):

$$y_{it} = \alpha + \beta LTD_{it} + \varepsilon_i \quad (1)$$

We run the regression in equation (1) for every day t to allow the relationship between ratings and bond yields to change over time. Our sample period spans four and a half year altogether, so that the regression is run 1 160 times (for each business day in the sample). We use the estimated coefficients $\hat{\alpha}$ and $\hat{\beta}$ to estimate the predicted yield \hat{y}_{it}^r for rating r . In order to take the uncertainty in our regressions into account we also obtain the variance of the prediction $VAR(y_{it}^r)$ from our estimates. The yield reduction is then given by $\hat{y}_{it}^{BFS} - \hat{y}_{it}^{LTD}$ and the related estimated uncertainty is given by

$$VAR(\hat{y}_{it}^{BFS} - \hat{y}_{it}^{LTD}) = VAR(\hat{y}_{it}^{BFS}) + VAR(\hat{y}_{it}^{LTD}) - 2cov(\hat{y}_{it}^{BFS}, \hat{y}_{it}^{LTD}). \quad (2)$$

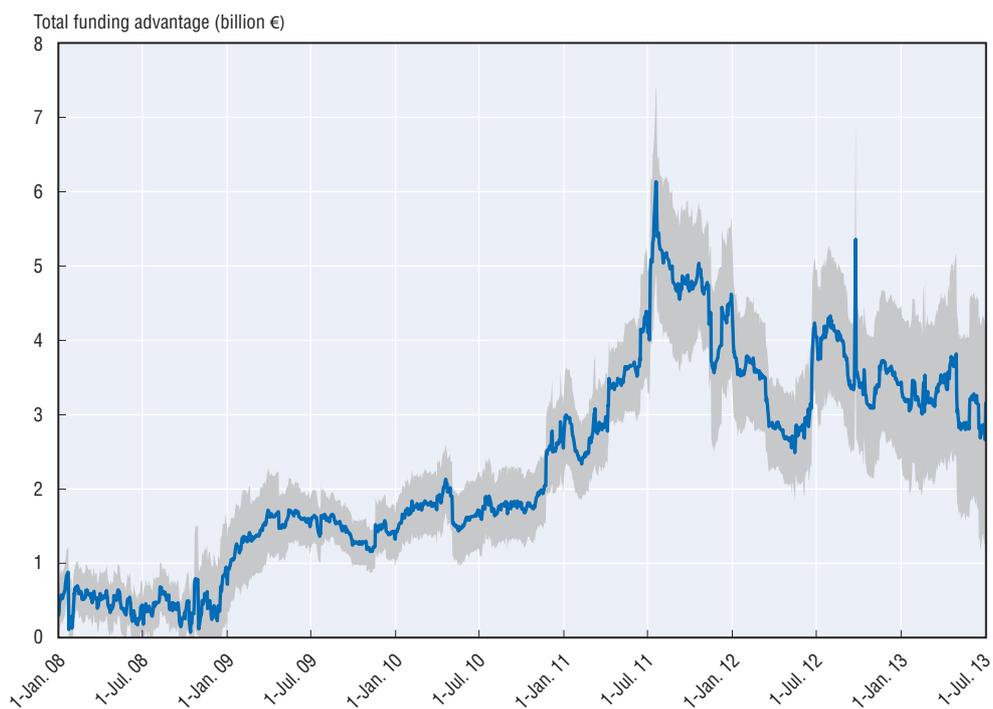
Third, we use yearly balance-sheet data on long-term funding (LTF) obtained from Bankscope to construct a measure of the amount of debt for which a bank benefits from a funding cost advantage. Long-term funding is defined by Bankscope as the sum of i) preferential shares and hybrid capital accounted for as debt and ii) total long-term funding, which in turn is defined as the sum of i) senior debt maturing after one year, ii) subordinated borrowing, and iii) other funding. For example, in the case of one large bank, the LTF reported by Bankscope corresponds to the sum of i) subordinated loans and ii) long-term debt securities

with a maturity exceeding one year, as reported in the banks' annual report. The funding cost advantage is calculated by multiplying the estimated yield reduction by the amount of outstanding long-term funding. We thus obtain day-by-day estimates of the annual funding advantage and the uncertainty surrounding these estimates for each bank in our sample. Figure 2 in the main text shows the estimates on an aggregated basis.

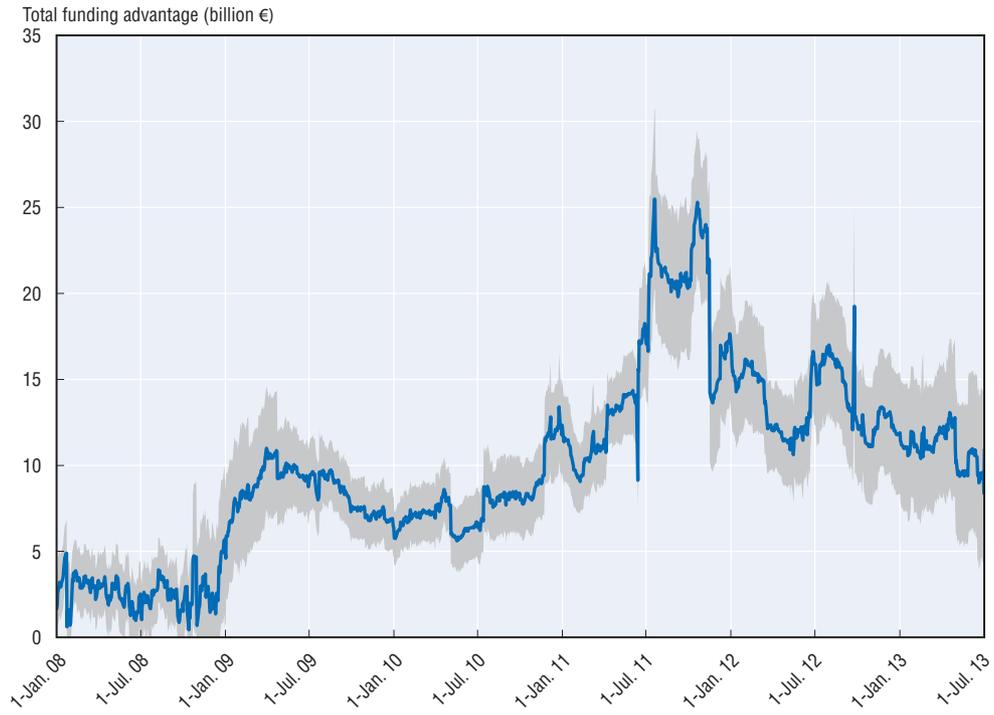
APPENDIX A.3

Funding advantages in selected banking sectors

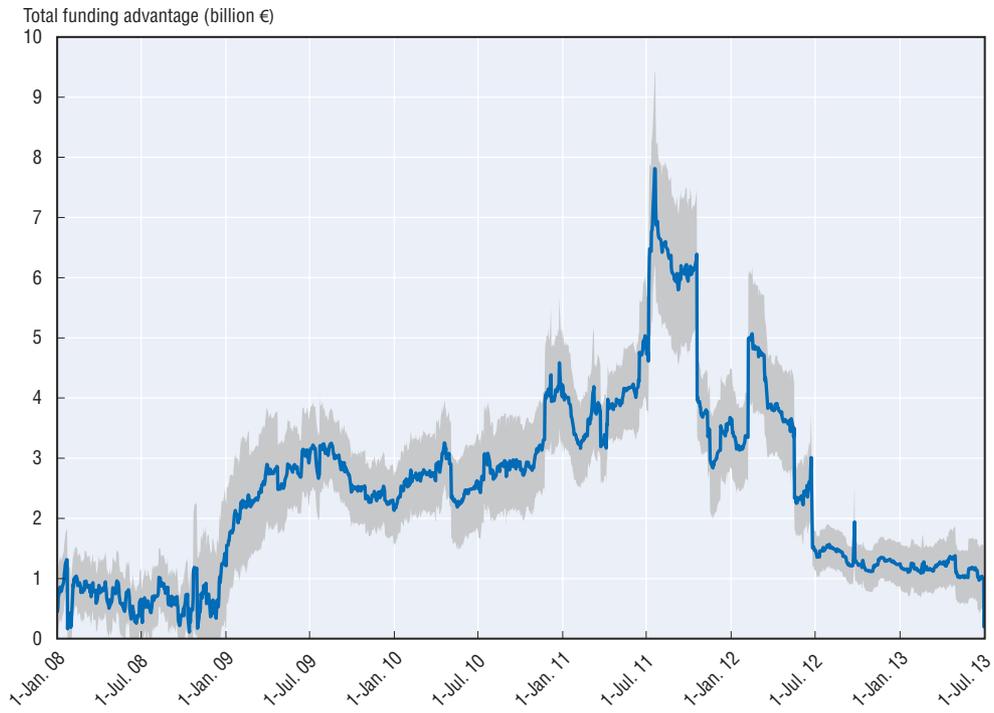
Switzerland



Germany



Spain



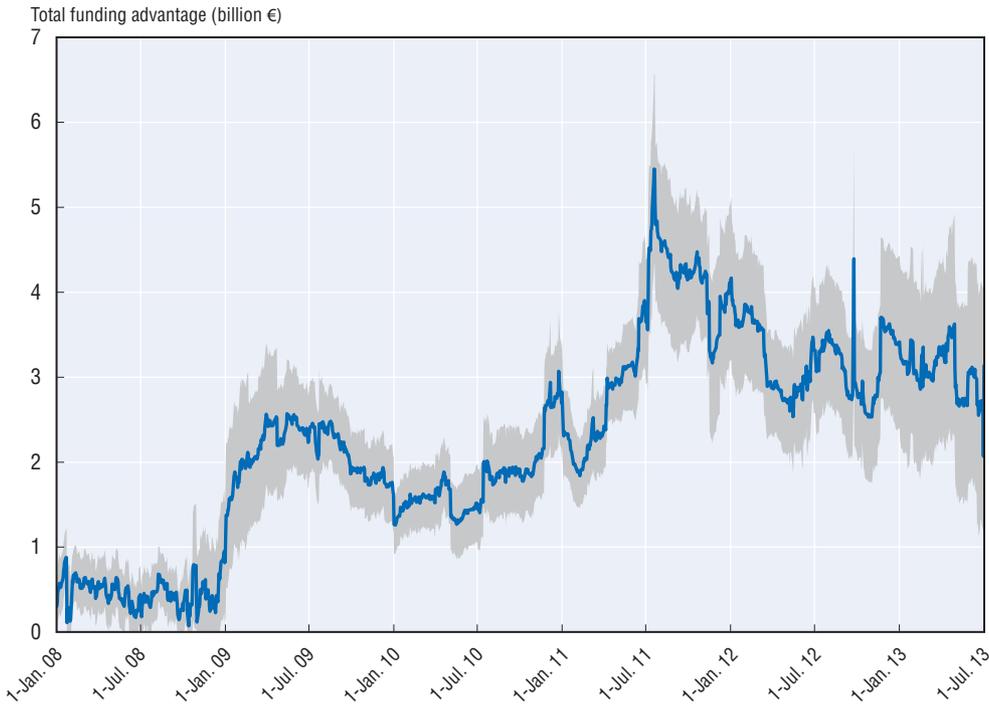
France



United Kingdom



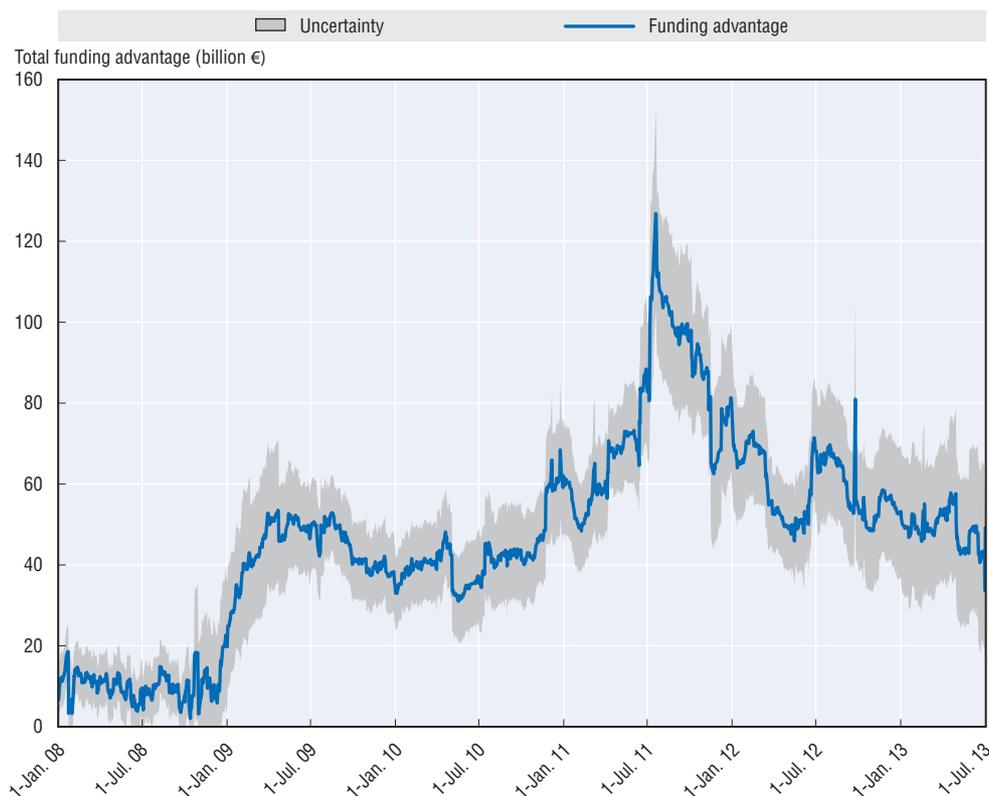
The Netherlands



APPENDIX A.4

*Alternative specifications of the rating-yield relation***Figure A.4.1. Development of total funding advantage over time using quadratic specification**

Figure A.4.2. **Development of total funding advantage over time using logarithmic specification**



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ANNEX

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, investors and achieving better credit allocations.

These reports analyse guarantees in light of ongoing market developments, incoming data and related analysis and discussions within the OECD Committee on Financial Markets. They 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. Find these articles online at www.oecd.org/finance/financialsectorguarantees.htm

Developments in the value of implicit guarantees for bank debt: The role of resolution regimes and practices, November 2012. This report concludes that actual application of bail-ins, involving bondholders in loss sharing, could effectively reign in perceptions of implicit guarantees for bank debt. However, bail-ins are rare owing to concerns about contagion risks and depositor and investor protection, so implicit guarantees persist.

Implicit guarantees on bank debt: Where do we stand?, June 2012. The incidence of perceived implicit guarantees, mostly from governments, for the debt of European banks has decreased recently after several years of increase dating from the beginning of the financial crisis. This reflects to a large extent the deterioration in the strength of the sovereigns that are seen as providing the guarantees.

Systemic financial crises: How to fund resolution (2010) – Selected updates (2012). Systemic financial crises are a recurrent phenomenon, and despite regulatory efforts, they are likely to occur again. This report compares the ex-ante funding of deposit insurance schemes in a selection of countries, highlighting the “funding gap” left by these arrangements in the recent systemic financial crisis.

Financial crisis management and the use of government guarantees, December 2011. A selection of papers from a Symposium on bank failure resolution and crisis management, in particular, the use of guarantees and the spill-overs between the credit qualities of sovereigns and banking systems.

Guarantee arrangements for financial promises: How widely should the safety net be cast?, June 2011. Guarantee arrangements have proliferated as guarantees have become a

preferred policy instrument for addressing financial stability, consumer protection and credit allocation concerns. This report argues that the wider the net of government-supported guarantees for financial promises, the thinner it becomes.

The Design of Government Guarantees for Bank Bonds: Lessons from the Recent Financial Crisis, July 2010. Government-guarantees for bank bonds have been an effective tool for avoiding the worst during the financial crisis. However, the pricing of the guarantees has created competitive distortions and the continued availability of such guarantees for an extended period may have reduced the pressure on some banks to address their weaknesses.

Expanded Guarantees for Banks: Benefits, Costs and Exit Issues, November 2009. When the crisis struck, governments expanded their role as providers of safety nets for financial institutions by becoming guarantors of last resort. It is questionable whether this function can ever be fully withdrawn. If not, banks should be charged commensurate premium charges in exchange for the provision of this new function.

Expanded Government Guarantees for Bank Liabilities: Selected Issues, May 2009. Government provision of a safety net for financial institutions has been a key element of the policy response to the current crisis. This report discusses pricing and other selected issues related to the recent expansion of guarantees for bank liabilities.

Financial Crisis: Deposit Insurance and Related Financial Safety Net Aspects, December 2008. Whenever a crisis hits, interest in guarantee arrangements rises. This paper looks at structural issues relating to how parts of the financial safety net are combined, with a special emphasis on deposit insurance and its interaction with other safety net elements.

Financial Turbulence: Some Lessons Regarding Deposit Insurance, June 2008. The financial crisis brought the adequacy of financial safety nets, including deposit insurance, into the spotlight. This report reviews the issue of deposit insurance and provides a brief overview of some of the key challenges related to the design of explicit deposit insurance systems.

Challenges Related to Financial Guarantee Insurance, June 2008. Private bond insurers have traditionally provided guarantees of payments on municipal bonds, but have become increasingly involved as guarantors of elements of various structured financial products. This change in their activity has become the focal point for concerns about the financial health of these entities.