

Crisis management in the European Union

Sylvester C. W. Eijffinger

CentER and European Banking Center, Tilburg University and CEPR

1. Crisis management in the European Union: an introduction¹

The ECB is doing crisis prevention in many ways, in particular through promoting co-ordination and co-operation between national supervisors, mainly through the ESCB Banking Supervision Committee, and providing liquidity management on the inter-bank markets. The ECB has reduced the rate for its main refinancing operations within the past month from 4.25% to 3.25%. A non-binding Memorandum of Understanding (MoU) on Cross-Border Financial Stability was also signed last summer between the Financial Supervision Authorities, Central Banks and the Finance Ministries of the European Union. Stress test and crises management simulations have also taken place. This MoU is designed to facilitate the management and resolution of cross-border systemic financial crises and will seek to facilitate private sector solutions, to minimise the economic and social costs, while promoting market discipline and limiting moral hazard. Those parties that have specific common financial stability concerns are encouraged to develop Voluntary Specific Cooperation Agreements with a view to provide for more specific and detailed, procedures and arrangements of crisis management and resolution for their respective countries and in relevant contexts. However, in practice it looks like Member States have taken very different approaches in face of banking problems and crisis management, for example in the Benelux countries, in Ireland, in Germany, in Denmark and in the UK to mention some. Even if in most cases the direct effects have been national, major spillover effects may arise both for foreign banks operating in the region and/or policy measures to be taken in another Member State. In a statistic prepared for the ECON Committee of the EP, financial institutions were ranked according to their size and diversification of ownership among EU Member States in order to do a

'pre-selection' of financial institutions potentially vulnerable to systemic risk and important for cross-border stability in the EU.

Section 2 will describe the development of the crisis with the denial phase, the discovery phase and disposal phase of the crisis. Then we analyse in Section 3 the nationalisation of banks and the three conditions that need to be fulfilled to make a bailout as unattractive as possible. In Section 4 four important lessons for the credit crisis are drawn for the future. Finally, in Section 5 the benchmarks for the new financial system are analysed: sustainability, integrity and transparency.

2. The development of the crisis: the denial, discovery and disposal phase

This credit crisis, as we all know, has its roots in the subprime crisis of summer 2007. However, at that point it was not acknowledged that this subprime crisis could grow out to be a larger crisis; even more so, this was denied. The development of the crisis is quite aptly put in *The Economist* of April 3rd 2008: 'First there was disbelief and denial. Then fear. Now comes anger.' The anger is of course caused by the failure of financial supervision, which will become clear in a later part of this paper.

This MoU is designed to facilitate the management and resolution of cross-border systemic financial crises.

The *denial phase* is exemplified by several points, especially by Chairman Bernanke of the Federal Reserve, who said that 'the Fed does not see the tightening of credit conditions in the market as severe enough to have macro-economic implications.'² He did note that the subprime crisis was not completely played out yet, so conditions could still worsen. However, the Fed also noted that the Bear Stearns case was reassuring as its losses could be absorbed by the financial system without much adverse effects for credit supply; the Fed did not see an immediate threat of a broad credit crunch.

¹ This CEPR *Policy Insight* was originally written as a Briefing Paper for the Monetary Dialogue of December 2008 by the Committee on Economic and Monetary Affairs of the European Parliament with the President of the European Central Bank. The author gratefully acknowledges the very helpful comments of Prof. Dr. Lex Hoogduin and Mr. Edin Mujagic, MSc and the excellent research assistance of Mr. Rob Nijsskens, MSc.

² *The Economist*, 'Bernanke sees little threat of credit crunch', July 19, 2007

Even in 2008, just before the collapse of Lehman Brothers, its CEO Richard Fuld seemed to deny that there was something wrong. He blamed short sellers for the 'symptoms of a sickness rooted in denial', just to shield himself from the 'pain of reality'³ that was imminent. In October 2008 some finance directors of non-financial companies still denied that there was a liquidity problem, even if interbank rates had shot up through the roof⁴ (see also the graph on Euribor rates below).

In October 2008 some finance directors of non-financial companies still denied that there was a liquidity problem, even if interbank rates had shot up through the roof.

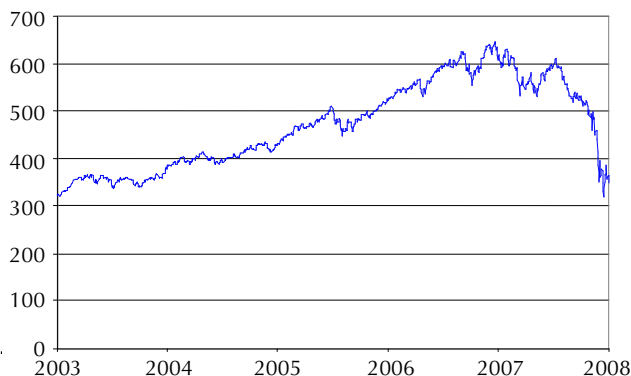
Then, during the course of 2008, the *discovery phase* started. Banks started to write off bad loans and securitisation products, a process that also uncovered many hidden linkages among financial institutions. Asset holdings by banks and other financial institutions had been very opaque, hiding the linkages to (among others) subprime mortgages in the United States. Because of the losses on their loans and other assets, many banks were in serious trouble. In the end contagion of the subprime crisis became reality when several banks started to collapse, the most notable example being Lehman Brothers⁵. Because of the lack of confidence in the markets, marginal costs of capital and interbank lending rose tremendously as risk premiums went up (see also the graphs below). A good illustration is also the fact that banks in the euro area deposited record amounts of euros at the ECB, i.e. they did not want to lend that money to others, a clear sign of lack of confidence. In the first graph, the value of existing equity capital has declined greatly and thus the costs to attract new capital have risen. In the second graph, we see that

3 *Financial Times*, 'Denial disguises reality of Lehman crisis', September 14, 2008

4 *Financial Times*, 'Finance directors should plan early', October 28, 2008

5 *The Economist*, 'Cross-border contagion', September 18, 2008

MSCI world total return index



Note: this graph represents the total return on the MSCI World Market index, which can be used as a proxy for the cost of capital. We can see that the marginal cost of capital has increased tremendously, as the value of equity capital has declined during the last half of 2008.

the risk premia for interbank lending have risen during the course of the crisis. Therefore, banks could not attract enough buffer capital or renew their short term financing.

This led to the *disposal phase* of the crisis: national governments stepped in to rescue banks that were important for the financial system, to prevent a systemic crisis from happening. These actions were aimed at restoring the confidence and thus liquidity in the markets. As we can see below, the costs of capital (a measure for solvency) and interbank money market rates (a measure for liquidity) have indeed surged but declined during the last half of 2008 by the emergency measures by governments and central banks. This can be best seen in the development of the three-month Euribor interbank interest rate.

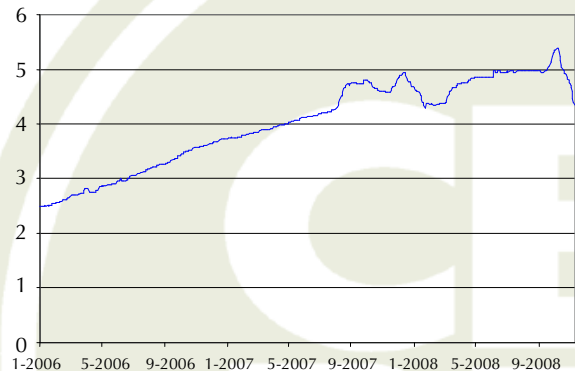
3. Bailouts and nationalisation of banks: three conditions that need to be fulfilled

Several banks and insurers in Europe have been nationalised or bailed-out, i.e. assisted with emergency (tier 1) core capital. Examples of this include the government takeover of ABN AMRO and Fortis in the Netherlands, the emergency assistance to ING, AEGON and SNS Reaal, the bailout of Dexia in Belgium and the bailout of UBS in Switzerland.

...national governments stepped in to rescue banks that were important for the financial system...

Bailouts or nationalisations by the government need to satisfy three criteria. First, the nationalisation needs to be *temporary* to keep intact the level playing field on the financial markets. This holds for both banks and insurers. Second, the government and thus the taxpayers need to face an *upward risk*, which arises when the bank is privatised after the nationalisation period. Although it is not the intention for the government and taxpayers to make a profit of the bailout or nationalisation, they are entitled to this upward risk because they are providing risk-bearing (tier 1) core capital.

Euribor 3 month



Note: this graph represents the three-month Euribor interbank interest rate. We have zoomed in to better show the increase during 2008, followed by a spike in September and a decline after government injections.

Additionally, the government should profit from the transaction in the form of high interest rates that financial institutions have to pay for the emergency assistance. Third, there should be a *downward risk* for the financial institution involved and its executives and shareholders. They have caused the problems that the bank or insurer is faced with, so they also have felt the pain by respectively giving up bonuses and options and lower stock prices.

These three conditions need to be fulfilled to make a bailout as unattractive as possible by making the costs as high as possible, so that the management of the institution has an incentive to revert to the normal course of business as soon as possible. Since public money is involved, the government should be accountable both at the national level and the EU level to make sure that these conditions are fulfilled and to avoid competition in conditions between the EU countries.⁶ This should also hold *ex ante*: the circumstances in which this assistance takes place are very rare, and the conditions will be very painful.⁷

4. Four important lessons from the credit crisis

This credit crisis has provided us with four important lessons: (1) the top management reward and remuneration structure has been excessive, (2) the risk management models based on Basel II have proven to be inadequate, (3) the financial supervisors in the US and Europe have not been involved thoroughly enough and (4) the US framework of financial supervision has proven to be too much fragmented and totally ineffective.

The compensation structure should hold 'In good times and in bad times'.

First, top executives reward and remuneration packages have been asymmetric in the sense that there is no downward risk or limited liability for top managers. The reward structure should be more aimed *at the long term*, and both the upward and downward risks should be *symmetric* and stretch beyond their term in office.

These executives have chosen an Anglo-Saxon reward structure. This means that they cannot have Rheinland protection as well. Managers should take their responsibilities when things take a turn for the worse. We can think of negative bonuses and conditional options (in case of large risks that only manifest after the manager's term in office is over), or the manager may resign when staying in office is no longer credible. The compensation structure should hold 'In good times and in bad times'. This also means that the Boards of Directors

(Trustees) should no longer only consist of top managers, but also of independent experts who hold themselves far enough from the Executive Board. This may lead to difficult discussions in the short term for executives, but it creates broader support for a financial institution's long-term strategy.

Another problem is the *pro-cyclicality* of the capital requirements, which has to be addressed by the Basel Committee. It is evident that the capital requirements should become more *anti-cyclical*.

Secondly, the risk management models based on Basel II have not passed the stress test of the credit crisis. This was to be expected, as *ex post* risk (certainly in times of crisis) is not a good proxy for *ex ante* uncertainty. Furthermore, during this the *fat tails* and the skewness of the return distribution have proven to be more important than the mean and the variance.⁸ The devil was in the tail! Hopefully this failure of the financial econometricians and risk managers in mapping the uncertainties results in a revaluation for the intuition of 'old-fashioned' bankers, insurers and financial economists. We should acknowledge that monitoring the return distributions give a false and incomplete picture of the fundamental uncertainty in an environment of innovation and long-term risks.

The Basel Committee itself has already indicated, through its Chairman Nout Wellink, that a thorough revision of the risk management and capital adequacy regulations is needed⁹. The Basel committee already proposed raising capital requirements for complex structured credit products, liquidity facilities to support asset-backed commercial paper conduits and credit exposures held due to trading. Additionally, the committee said that standards for liquidity management needed to be strengthened. Another problem is the *pro-cyclicality* of the capital requirements, which has to be addressed by the Basel Committee. It is evident that the capital requirements should become more anti-cyclical.

Several researchers have additionally proposed improvements for risk management and capital planning to make banks more resilient to crises. Alexander and Sheedy (2008), among others, propose a new method for stress testing to incorporate heavy tails and thus to take into account extreme events, something which the current methods did not do. Their method also incorporates abnormal market characteristics during crises, such as an increased probability of further large movements (besides the initial crisis), increased correlation between markets, a greater implied volatility and reduced liquidity (in interbank markets). Blum

6 Recently, AEGON also applied for \$1 billion from the US Troubled Asset Relief Program because the more favourable conditions compared with the Dutch bailout. This is *bailout arbitrage or competition*.

7 Fellgett, Robin (2003), Comments on Freixas, Xavier (2003), "Crisis Management in Europe", Chapter 4 in J. Kremers, D. Schoenmaker and P. Wierst (Eds.), *Financial Supervision in Europe*, Edward Elgar, Cheltenham.

8 De Grauwe, Paul (2008), 'Return to narrow banking', in *What G20 leaders must do to stabilise the economy and fix the financial system*, Barry Eichengreen and Richard Baldwin (Eds.), VoxEU.org, CEPR

9 *Business Insurance*, 'Subprime crisis triggers effort to strengthen banking system', June 9, 2008.

(2008) additionally proposes a restriction on the leverage ratio of banks to induce truthful reporting of risks. This makes it also easier for supervisors to sanction dishonest banks.

These measures should make banks more prepared for crises with the scale and nature of this one by creating strong capital cushions, robust liquidity buffers, strong risk management and supervision and better market discipline.

Regulators have to provide incentives for banks to take into account risks better when searching for higher yields.

Thirdly, it has become clear that national central banks and financial supervisors have to be much more involved with risk management in financial institutions. We have seen that CEOs do not understand the risk management models and aim for higher yields and the risks connected to those yields. Regulators have to provide incentives for banks to take into account risks better when searching for higher yields. This does not necessarily have to come from more strict supervision. Because of their strategic interaction with financial institutions, supervisors should use modern game-theoretic concepts like *constructive ambiguity* and *incentive compatibility* to realise smarter and more efficient supervision.

However, clear-cut rules also need to be set. Following Freixas (2003), we can set some conditions for (cross-border) financial supervision. It has to be made clear to banks that the probability of a bailout is lower than they currently expect. As a consequence, banks face tighter capital regulation, and more collateral has to be held in transactions. This guards the system against contagion of bank failures. Additionally, the discipline on honesty in disclosure of risk in loans should be tougher, as it already is in New Zealand.

Moreover, some ambiguity about bailouts may be necessary, but not too much: it should become clear to financial institutions under what conditions they can get emergency funding and what the availability of this funding will be (Fellgett, 2003). When this is clear, governments should not teem too long with regulatory forbearance and (unconstructive) liquidity support in the hope insolvent institutions will recover¹⁰. This only increases the strain on the system and increases the probability of a crisis. However, policymakers should also take into account the trade-off between helping banks at the taxpayer's expense, creating moral hazard, and rescuing the financial system.

It is also important to note that these methods of regulation may alleviate the problem that bankers and traders are always one step ahead of regulators. By creating the proper incentives, activist regulation may not be as necessary anymore and liberalisation can do its much needed work¹¹.

10 Laeven, Luc, 'The cost of resolving a financial crisis', October 31, 2008, VoxEU.org.

11 *The Economist*, 'Link by link: a short history of modern finance', October 18, 2008.

Finally, the credit crisis has showed us that the American system of financial supervision has failed and that the European supervision of banks and insurers also needs significant improvement. The economists of the Bank for International Settlements (BIS) blame lax monetary policy mainly in the US and the supervisory practices of the Federal Reserve¹². US policymakers have learned their tough and expensive lessons, and will have to streamline their supervisory practices drastically. This will certainly involve a larger role for the Federal Reserve as supervisor and/or the creation of a new overall supervisor.

European politicians will have to agree on a European federal supervisor, either a *European Financial Services Authority* (EFSA) or a *European System of Financial Supervisors* (ESFS). This European supervisor has to serve as an umbrella organisation for the national central banks and supervisors and should be responsible for the complete financial supervision in the European Union, mainly dealing with the cross-border effects of individual supervisor's actions (see: my Briefing Paper of June 2007 and Schoenmaker and Oosterloo, 2007). It should be independent from the ECB to guarantee monetary stability, but the two bodies must cooperate and inform each other. National supervisors remain to exist, as they have insights in local financial institutions and markets. For cross-border banking and finance, however, uniform EU-wide rules should be adhered to. While the reform of US supervision will imply a larger role for the Federal Reserve, the Maastricht Treaty does not provide for the ECB to have a responsibility for prudential supervision in Europe. The ECB is only responsible for financial stability in the EU.

Goodhart and Schoenmaker (2008) come up with a mechanism for the European Union to be able to coordinate crisis management. Member states have to agree *ex ante* on a specific burden sharing mechanism.

Before this can be realised, it is not a good idea to set up a European emergency fund. Without uniform supervision, such a fund can provide the wrong incentives (moral hazard), and induce free-riding behaviour and regulatory competition between member states that may lead to a 'race to the bottom' (Garcia and Nieto, 2007). Moral hazard is caused by the asymmetric risk that bankers have in joining the fund: they can take new risks without having to worry about adverse developments, since government pays for cleaning up the mess that may occur. The free-riding behaviour stems from some countries having more strict regulation than others. Countries with weak banking systems and regulation profit from countries with strong banking systems, as the former are more prone to financial crises. Additionally, countries that do not sign up for the fund

12 *The Economist*, 'A monetary malaise', October 11, 2008.

profit from it anyway, as financial stability is a public good. This also leads to regulatory competition between member states, to lure big banks and financial institutions to their country. Goodhart and Schoenmaker (2008) come up with a mechanism for the European Union to be able to coordinate crisis management. Member states have to agree *ex ante* on a specific burden sharing mechanism. In this system, member states contribute to the fund according to the geographical spread of bank business. This guarantees long-term coordination better than *ex post*, improvised coordination.

...rating agencies need stricter regulation to be able to properly assess the risk of (complicated) financial products.

We see that we cannot yet set up a *European emergency fund* without having European-wide supervision and policy coordination in guarding financial stability. A complete European safety net and regulation mechanism that goes beyond the current Memoranda of Understanding must be guided by the principles of constructive ambiguity and incentive compatibility (Freixas, 2003). Supervisors have to be able to agree *ex ante* upon the payments they make to the safety net, as to alleviate the problems with improvised cooperation that stem from its public good nature. Such a coordination mechanism also allows for more efficient information collection by national supervisors, better information provision to the central supervisory authority and lower social costs for using public money to rescue banks. Europe has also needed a crisis to make a leap forward. If this credit crisis is the 'wake-up call' for Europe, then it has had its use after all. A quote by Freixas and Parigi (2008) sketches how the new supervisory practice should look like:

'...the issue is less to understand what rules the LOLR [Lender of Last Resort] should follow but what architecture of prudential regulation, risk supervision, monetary policy, deposit insurance and ELA is best to guarantee financial stability by providing liquidity to banks.'

5. Benchmarks for a new financial system: sustainability, integrity and transparency

As an analogy to a country after a major war, we can state that the bigger the financial crisis, the bigger the reorganisation. This holds for the whole financial system, and especially for big financial institutions that have always been deemed 'too big to fail'. As Joseph Stiglitz puts it: '[While they] may be too big to fail, they're not too big to be reorganised'¹³. The benchmarks for the new financial system that will emerge must be: (1) sustainability, (2) integrity and (3) transparency.

Sustainability consists of a long-term view on the architecture of the financial system. This includes the trade-off that banks face, between holding collateral and increasing the risk of systemic crisis (Freixas 2003). This can be obtained by giving the proper incentives to banks, among others by agreeing on European-wide regulation and coordination of crisis management. Executive compensation structures, for instance, have to be revised to give managers a long-term view and avoid excessive risk-taking without incurring any losses.

Integrity deals with incomplete information about complicated investment products, both for consumers and for corporate investors. An example of this is the Lehman notes, despite the high leveraging considered by consumers as 'safe bonds', and the 'Woekerpolis-affaire' in the Netherlands, indicating the problems around investment insurance products for consumers. These have led to media attention and even law suits. A similar issue played in 2001, when consumers that had leased stocks (i.e. bought them with borrowed money) incurred a huge amount of interest. These problems are examples dealing with financial institutions that provide too little information about complicated products. Additionally, rating agencies need stricter regulation to be able to properly assess the risk of (complicated) financial products¹⁴. This can for instance be achieved by making the regulator select the appropriate agency to rate a certain issuer. Rating agencies also have to provide more information about the models they use to rate several types of products, including complicated securitisation products¹⁵. Together with standardised reporting and originator principles in the US and Europe this has to restore the confidence in derivative markets.

Transparency, which is the cornerstone of any system that relies on confidence. As Freixas and Parigi (2008) have put it, the lack of transparency is what has led to significant adverse selection in the interbank market and prohibitively high interest rates. An intervention by government can only be a partial substitute for well-functioning interbank markets. Therefore, transparency of complicated products should increase so that appropriate risk premia can be assigned. Regulators have already identified transparency and standardisation as two key areas to improve upon in 2007¹⁶, but the crisis has prompted them even more to do this. However, risk distribution should not be wiped out completely, as it is important to protect the banking system and financial stability, given that it is transparent enough. Additionally, note that financial regulators and supervisors cannot foresee and counteract every step that the market takes. As stated in The Economist (April 3, 2008): 'The experience of the past year is an object lesson in the limited power of regulators.' Financial engi-

14 Buiters, Willem H. (2008), 'Some suggestions for the G20 on November 15th', in *What G20 leaders must do to stabilise the economy and fix the financial system*, Barry Eichengreen and Richard Baldwin (Eds.), *VoxEU.org*, CEPR.

15 Kiff, John, Paul Mills and Carolyne Spackman, 'European securitisation and the possible revival of financial innovation,' October 28, 2008, *VoxEU.org*, CEPR.

16 *Financial Times*, 'Watchdogs look for more transparency on securitisations', October 10, 2007.

13 Stiglitz, Joseph E., Reversal of Fortune, November 1, 2008, <http://www.truthout.org/103108R>.

neering and innovation has a price, which is that financial crises do occur every now and then. Regulators and supervisors have to let markets develop in order to achieve economic growth. They should learn the lessons of the past crises, but they can never prevent the next financial crisis, which will show itself in a different shape.

References

- Alexander, Carol, Elizabeth Sheedy (2008), [Developing a stress testing framework based on market risk models](#), *Journal of Banking & Finance* 32 (10), pp. 2220-2236.
- Buiter, Willem H. (2008), 'Some suggestions for the G20 on November 15th', in [What G20 leaders must do to stabilise the economy and fix the financial system](#), Barry Eichengreen and Richard Baldwin (Eds.), *VoxEU.org*.
- Blum, Jurg M. (2008), [Why 'Basel II' may need a leverage ratio restriction](#), *Journal of Banking & Finance* 32 (8), pp. 1699-1707.
- De Grauwe, Paul (2008), 'Return to narrow banking', in [What G20 leaders must do to stabilise the economy and fix the financial system](#), Barry Eichengreen and Richard Baldwin (Eds.), *VoxEU.org*.
- The Economist*, 'Cross-border contagion', September 18, 2008
- The Economist*, 'A monetary malaise', October 11, 2008
- The Economist*, 'Link by link: a short history of modern finance', October 18, 2008
- Fellgett, Robin (2003), Comments on Freixas, Xavier (2003), 'Crisis Management in Europe', Chapter 4 in J. Kremers, D. Schoenmaker and P. Wierds (Eds.), *Financial Supervision in Europe*, Edward Elgar, Cheltenham.
- Financial Times*, 'Bernanke sees little threat of credit crunch', July 19, 2007
- Financial Times*, 'Watchdogs look for more transparency on securitisations', October 10, 2007.
- Financial Times*, 'Denial disguises reality of Lehman crisis', September 14, 2008
- Financial Times*, 'Finance directors should plan early', October 28, 2008
- Freixas, Xavier (2003), 'Crisis Management in Europe', Chapter 4 in J. Kremers, D. Schoenmaker and P. Wierds (Eds.), *Financial Supervision in Europe*, Edward Elgar, Cheltenham
- Freixas, Xavier and Parigi, Bruno Maria (2008), 'Lender of Last Resort and Bank Closure Policy', CESifo Working Paper Series No. 2286.
- Garcia, Gillian G. H. & Maria J. Nieto (2007), 'Preserving Financial Stability: A Dilemma For The European Union', *Contemporary Economic Policy* 25(3), pp. 444-458, Western Economic Association International.
- Goodhart, Charles A.E. and Schoenmaker, Dirk (2008), 'Fiscal Burden Sharing in Cross-Border Banking Crises. International', *Journal of Central Banking*, Forthcoming.
- Kiff, John, Paul Mills and Carlyne Spackman, 'European securitisation and the possible revival of financial innovation', 28 October 2008, *VoxEU.org*.
- Laeven, Luc, 'The cost of resolving a financial crisis', October 31, 2008, *VoxEU.org*.
- Schoenmaker, Dirk and Sander Oosterloo (2007), 'Cross-border Issues in European Financial Supervision', in: David Mayes and Geoffrey Wood (eds), *The Structure of Financial Regulation*, Routledge, London, 264-291.
- Stiglitz, Joseph E., 'Reversal of Fortune', 1 November 2008, <http://www.truthout.org/103108R>.

Sylvester Eijffinger is Professor of Financial Economics at Tilburg University and Board Member of the European Banking Center in Tilburg, as well as Visiting Professor of Economics at Harvard University in Cambridge, MA during the Spring semester of 2008. He held, amongst others, Visiting Professorships at University of Johannesburg, Universidade Catolica Portuguesa, and the University of Munich. Professor Eijffinger has a keen interest in monetary and fiscal policy and European economic and financial integration, and was Visiting Scholar at the Deutsche Bundesbank, the Bank of Japan, the Banque de France, the Bank of England, the Board of Governors of the Federal Reserve System, and the Federal Reserve Bank of New York, as well as Special Advisor to the International Monetary Fund and the European Commission.

Professor Eijffinger has published widely in prestigious economics journals and is editor of several professional journals and newsletters, as well as Programme Director of the European Summer Institute of the Centre for Economic Policy Research, London. He is one of the founding fathers of the newly established European Banking Center in Tilburg. Sylvester Eijffinger was during three years a member of the Council of Economic Advisers of the Dutch Parliament and is still a member of the Monetary Experts Panel of the European Parliament for the Monetary Dialogue with the ECB.

The Centre for Economic Policy Research, founded in 1983, is a network of over 700 researchers based mainly in universities throughout Europe, who collaborate through the Centre in research and its dissemination. The Centre's goal is to promote research excellence and policy relevance in European economics. CEPR Research Fellows and Affiliates are based in over 237 different institutions in 28 countries. Because it draws on such a large network of researchers, CEPR is able to produce a wide range of research which not only addresses key policy issues, but also reflects a broad spectrum of individual viewpoints and perspectives. CEPR has made key contributions to a wide range of European and global policy issues for over two decades. CEPR research may include views on policy, but the Executive Committee of the Centre does not give prior review to its publications, and the Centre takes no institutional policy positions. The opinions expressed in this paper are those of the author and not necessarily those of the Centre for Economic Policy Research.