



Monetary Policy after the Crisis

Key findings of a conference jointly organised by SUERF
and the National Bank of Poland in Warsaw on 4 March 2011

By Ernest Gnan, Secretary General, SUERF

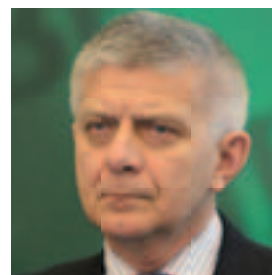
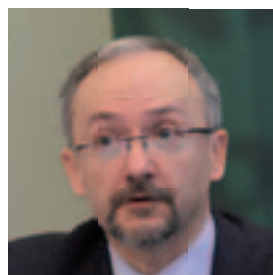


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On 4 March 2011, SUERF and the National Bank of Poland jointly organised a conference on the theme of: “*Monetary Policy after the Crisis*”. Following a call for papers with a large number of submissions, the scientific committee¹ selected 9 papers, which were grouped in three sessions addressing the following three research questions: First, what have we learnt from the crisis for the conduct of monetary policy? Second, what have we learnt from the crisis for the coordination of monetary, fiscal and macroprudential policies? And third, how did the Monetary Transmission Mechanism during the crisis function, and what can we expect for the future?

Governor **Marek Belka**, National Bank of Poland, opened the conference with a number of pointed observations. Inflation targeting served Poland well. It stabilised inflation and inflation expectations. Poland’s version of inflation targeting with a flexible exchange rate policy also helped the country to weather the crisis well. So, there is no need to change the policy in Poland. But this may be different for other countries: Inflation targeting neglected asset price developments, so in this sense it failed, given that the crisis was provoked by asset price bubbles.

Against this background, the Governor raised a number of important issues: Did monetary policy contribute to the crisis? How important was the “Greenspan put”? Was it a necessary but not sufficient cause, or was it THE main engine of the crisis? Will inflation targeting survive the crisis, will it be modified, and how? Can inflation help reduce public debt problems in advanced countries? How can Poland conduct its monetary policy well if monetary transmission is impaired by international spillovers? And how can the monetary policy mandate be squared with new financial stability concerns which have moved into the forefront since the crisis?

¹ The scientific committee comprised Ernest Gnan, SUERF and Oesterreichische Nationalbank, Ryszard Kokoszczynski, SUERF and National Bank of Poland, Tomasz Lyziak, National Bank of Poland, and Robert McCauley, SUERF and Bank for International Settlements.

Governor Belka expressed concern about bringing financial stability into the central bank's mandate. Financial stability policy can only work well if used early on, in this case it can support and reinforce monetary policy. Poland is currently in such a phase, imbalances have not yet built up. So, in this phase, supervisory and regulatory instruments can be employed usefully to make monetary policy more efficient and less costly.

Catherine Lubochinsky, President of SUERF, thanked the National Bank of Poland for hosting the conference, the scientific committee for putting together an interesting programme, and all speakers and the audience for participating. At the current juncture, monetary policy is still in crisis mode, but is at the same time concerned with how to design the new norm after the crisis. Despite being very inventive in designing new, unconventional monetary policy instruments, central banks now have too many objectives with too few instruments: they set interest rates, manage the exchange rate, act as market makers, and are supposed to supervise and control commercial banks and financial markets. It is interesting to note though, that various countries and central banks have recently moved in differing directions with respect to central banks' responsibilities in banking regulation and supervision.

The first keynote speech was given by **Jens Thomsen**, Vice-Governor Denmark's National Bank, on the topic "*Monetary Policy after the Crisis – Ten Lessons from a Fixed-Exchange-Rate Regime*". The Danish Krone has been held stable against the Deutschmark, and later the Euro, since 1987. Initially the exchange rate policy was supported by capital restrictions, which were, however, circumvented. Denmark is not a member of the euro area because a majority of the Danes voted no to the proposal of replacing the krone with the euro in a referendum in 2000. Inflation has been around 2% since 1990, exchange rate interventions have regularly been used to implement the exchange rate policy; in addition interest rates were used in specific situations of market nervousness to support the exchange rate peg. Economic fundamentals and bond yield spreads have compared favorably with other Nordic countries over the past two decades.

The Danish experience implies ten lessons: First, foreign exchange intervention is useful up to a certain point; in times of severe pressure, the interest rate needs to be used to support the peg. Second, the interest sensitivity of portfolio capital flows is regime dependent. During financial turmoil interest-rate sensitivity of capital flows can decline substantially. Third, the size of foreign reserves plays an important role in signalling commitment to a fixed-exchange-rate regime during periods of foreign exchange rate turmoil. Fourth, the proper interest-rate response during crises is rarely convenient and popular. Fifth, when they are needed the most, foreign exchange reserves can be most difficult to obtain. Sixth, the cost of

holding foreign reserves are low when the reserves are not needed (calm markets) and expensive when they are needed (currency turmoil). Seventh, swap arrangements between central banks during the crisis were successful. Eighth, the operational frameworks for monetary policy implementation must be sufficiently flexible to address extraordinary liquidity situations in the money market. Ninth, short-term financing through money and capital markets is more sensitive to banks' creditworthiness than deposits. Banks' dependence on money market financing thus makes them more vulnerable, also to spill-overs from banking problems in other countries. If the banking system relies heavily on short-term foreign funding, this can have systemic implications and make it necessary for the central bank to operate with large foreign-exchange reserves. Finally, there is a cost to Denmark of not joining the euro area; this cost is most visible during crises.

Claudio Borio, Bank for International Settlements, addressed the issue of "*Central Banking Post-Crisis: What Compass for Unchartered Waters*". Are central bankers the great winners of the crisis? They are seen to have saved the financial system. Beneath the surface, the picture is less reassuring: pre-crisis monetary policy certainties have gone. The line between fiscal and monetary policy has become blurred. Even the ability to control inflation has been questioned. Three challenges lie ahead: first, regarding the economic outlook, there are long-lasting scars of the crisis and signs of unsustainable booms in emerging markets; second, at an intellectual level, the benchmark analytical frameworks have failed; third, at an institutional level, central bank independence has become blurred and is under threat.

The pre-crisis consensus was that price stability is sufficient for macroeconomic stability - this was the intellectual basis for inflation targeting. Analytically, this was supported by the New-Keynesian paradigm, where price rigidities were the only frictions in the economy. There was also a clear separation between monetary and financial stability functions (except for the lender of last resort in crisis management). The short-term interest rate was seen to be sufficient to capture the impact of monetary policy on the economy, assuming perfect substitutability across asset classes and little perceived risk of the zero lower bound. Finally, the assumption was that if each central bank looked after its own economy, the global monetary policy stance would turn out to be appropriate, too. This was equivalent to the microprudential approach to regulation and supervision.

The new post-crisis consensus is that low and stable inflation does not guarantee financial and macroeconomic stability. Cleaning up the debris through monetary policy is costly and interest rate policy is not enough. There is a need to shift from a purely micro to a macroprudential orientation in regulation and supervision, with a key role for central banks. But there are also areas of disagreement:

Should monetary policy seek to lean against financial imbalances even if consumer price inflation is low and stable? How serious is the collateral damage of extraordinarily accommodative monetary policy (interest rate and balance sheet policies) in the wake of a crisis?

For his further analysis, Borio used three working hypotheses: First, monetary policy contributed significantly to the crisis by supporting the build-up of financial imbalances through low interest rates and the resulting increased risk-taking. Second, the aggressive and prolonged easing after the crisis has serious limitations: potential output has been permanently lost, and by now is potentially overestimated. The still existing private debt overhang may be aggravated by heavy public borrowing. Monetary policy easing delays necessary structural adjustments, raises financial stability risks and can compromise central bank independence. High public debt will raise pressure on central banks to inflate. Inflation may become to be seen as a solution rather than a problem. By purchasing large sums of private and public debt, central banks have become subject to huge potential losses, which may pose public and political pressure on them (see the current discussion about the large losses of the Swiss National Bank). Third, keeping one's own house in order is not enough: Floating exchange rates provide only limited insulation. There is a tendency to underestimate the role of global factors. This is not merely a question of spillovers, it is also the result of parallel policies which in the aggregate lead to unsustainable global results (e.g. global energy and food prices, very low interest rates in many countries prior to, and also now after the crisis).

Four implications follow from the above: First, to constrain the build up of financial imbalances needs to be done by macroprudential policies and monetary policies together. Second, monetary policy needed to be aggressive during crisis management but now the structural repair of balance sheets should take over as the key priority. There is an urgent need to strengthen CBI – this is also critical for macroprudential policies. Fourth, we need to find ways to internalise spillover effects of individual central bank policies and their contributions to global monetary conditions.

In conclusion, Borio pleaded for a change in macroeconomic paradigms. It is not adequate to explain monetary phenomena with basically real economic models (possibly supplemented with some additional financial frictions). Instead, the old monetary economics traditions following Wicksell should be rediscovered. The fortunes of central banking have shifted over time: After Arthur Burns' "anguish of central banking", followed by Paul Volcker's "triumph of central banking" we nowadays have to cope with "the doubts of central banking". Particularly in a time of broadened responsibilities and more fragile central bank balance sheets, the crucial role

of central bank independence needs to be emphasized, while at the same time the limitations of what central banks can achieve with monetary and macroprudential policies need to be recognized. The global dimension of central banks' tasks needs to be more explicitly and fully recognized.



Session 1, chaired by **Ernest Gnan**, SUERF and Oesterreichische Nationalbank, addressed the issue of "Conducting monetary policy - what have we learnt from the crisis?".

Charles Brendon, Exeter College, Oxford, presented a paper on "Optimal conventional and unconventional monetary policy in the presence of collateral constraints and the zero bound". Using a sticky price business cycle model with collateral constrained entrepreneurs, the authors investigate how optimal monetary policy is affected by the presence of the zero lower bound to official interest rates. They also study the advantages of employing a second, unconventional monetary policy instrument such as "credit easing" and investigate the welfare differences between commitment and discretion. They find that using the unconventional monetary policy instrument improves welfare, because it helps relax the borrowing constraint. The model also illustrates that in a crisis commitment by the central bank to a future path of interest rates can improve welfare (as compared to discretionary policy without clear guidance on future policy), particularly if official interest rates have reached the zero lower bound: announcing the future path of policy rates, by managing the yield curve, in a way compensates for not being able to further cut short-term spot money market rates. If no such commitment is possible, the costs of non-commitment are shown to be reduced by the credit-easing instrument, both in case the zero lower bound has been reached and if interest rates are still above the lower bound. Thus, in a crisis such as the most recent one, in a sense the unconventional monetary policy instrument helped to make up for the disadvantages of discretionary policy at the zero lower bound.

Patrizio Pagano, Bank of Italy, addressed "The Role of Macroeconomic Policies in the Global Crisis". Using NiGEM, a commercially available large global Neo-Keynesian (forward-looking agents, nominal rigidities) macro-economic model, the authors conduct simulations to answer the following questions: First, was US monetary policy too lax for too long after the 2001 recession? Could tighter policy have prevented or contained the housing bubble? Second, would stricter supervision and/or macro-prudential policies via higher

credit costs have prevented/contained the bubble? Third, would a combination of these policies have helped to contain the bubble and US current account deficits? Fourth, would stronger potential growth in Europe and Japan and more reliance on domestic demand in China, have helped to contain the build up of global imbalances? The authors find that the combination of all these measures, while substantially dampening growth initially in the US, would also have at least mitigated the following Great Recession. All in all, the net effect of the alternative policy path would have been clearly positive; so, restrictive policies during the build up of the crisis could be regarded as an insurance premium well worth paying to avoid the much greater damage later on. It is worrying that the fundamental macroeconomic imbalances that were at the root of the recent crisis have not been removed by the Great Recession; so, the need for a coordinated effort to establish a more sustainable pattern of global growth remains.

Roman Horváth, Charles University of Prague, investigated the question “*How Does Monetary Policy Respond to Financial Stress?*”. Using data for the US, UK, Australia, Canada and Sweden over the past three decades, the authors investigate whether and how central banks reacted to financial instability in their interest rate policy, and which type of instability they responded to most strongly. To this end, they estimate monetary policy rules employing a novel time-varying parameter model with endogenous regressors and using comprehensive measures of financial stress developed by the IMF. The paper confirms that central banks loosen interest rates in the face of high financial stress, financial stress explains 10–50 percent of interest rate variations during the 2008–2009 crisis. Bank stress and stock market stress were empirically the dominant forms of financial stress triggering interest rate cuts, exchange rate stress was more important in more open economies. The recent crisis was unique in the sense that interest responses were highly synchronised across central banks, the response was substantial but in some countries similar to previous episodes of idiosyncratic financial stress.



Session 2, chaired by **Ryszard Kokoszczynski**, SUERF and National Bank of Poland, was devoted to the issue of “*Coordination of monetary, fiscal and macroprudential policies – what have we learnt from the crisis?*”.

In the first paper, **Petar Chobanov**, University of National and World Economy in Sofia, investigated “*Money Market Integration and Sovereign CDS Spreads Dynamics*

in the New EU States”. Using high frequency panel data, the paper confirms for the eight new EU member states a link between expectations about the condition of public finances (as approximated by sovereign CDS spreads) and liquidity risk (as measured by short-term money market rates). The crisis has changed the relationship between liquidity and fiscal risk, with interesting differences across countries depending on their exchange-rate/monetary policy strategies. Countries with a currency board show a significant link between CDS spreads and money market rates. Thus, fixed exchange rate regimes are apparently perceived as riskier when resorting to macroeconomic policies to cope with external shocks. By contrast, in inflation targeting countries, during the crisis the link between monetary and fiscal risk became weaker and insignificant, while spill-overs from euro area benchmark variables became significant.

Cristina Badarau, University Montesquieu Bordeaux 4, studied “*Which policy-mix to mitigate the effects of financial heterogeneity in a monetary union*” such as the euro area. Using a calibrated DSGE model with a heterogeneous bank capital channel, with financial shocks in addition to monetary policy, fiscal policy and technological shocks, the paper shows that a single monetary policy in a heterogeneous monetary union can worsen national divergencies. The authors conclude, among other things, that decentralized fiscal policies need to be more active in countries more sensitive to shocks, i.e. where the bank capital channel is stronger, to mitigate adverse asymmetric shocks. If structural heterogeneity is important, fiscal policy coordination can lead to less macroeconomic stabilisation at the individual national level, but it may reduce public spending divergence. During the financial crisis, a cooperative fiscal policy regime would, according to the authors, have entailed insufficient national policy reaction.

Marco Lo Duca, European Central Bank, presented a paper on “*Risk, Uncertainty and Monetary Policy*”. The paper starts from the frequently alleged link between loose monetary policy and excessive risk-taking in financial markets, and documents a strong correlation between the level of monetary policy rates and financial markets’ risk aversion, as measured by stock market option-based implied volatility. Decomposing implied volatility into two components, risk aversion and uncertainty, and using a structural vector autoregressive methodology, the authors find interactions between each of the components and monetary policy to be rather different. Loose monetary policy increases risk appetite in the future, with the effect starting to become significant after five months and lasting about two years. At the same time, monetary policy is found to react to periods of high uncertainty by easing interest rates. The policy conclusions are potentially powerful: If monetary policy significantly affects risk appetite in asset markets, monetary policy may turn out to be sufficiently potent to

stop financial excesses. Conversely, in periods of crisis, when financial markets are “fearful”, loose monetary policy may play a useful role in reducing these fears.



Session 3, chaired by **Urs Bichler**, SUERF and University of Zurich, was concerned with “*The Monetary Transmission Mechanism During and After the Crisis*”.

Wayne Passmore, Board of Governors, Federal Reserve System, studied the question: “*Did the Federal Reserve’s MBS Purchase Program Lower Mortgage Rates?*”. On 25 November 2008, the Federal Reserve announced that it would purchase USD 500bn of agency mortgage backed securities (issued by Fannie Mae, Freddie Mac, and Ginnie Mae) over the next 16 months, in order to reduce the cost and increase the availability of credit for the purchases of houses. Using an empirical pricing model for mortgage backed securities yields and mortgage rates, the authors find that the announcement of the programme, by signalling strong and credible government backing for mortgage markets and the financial system as a whole, already reduced mortgage rates by 85 basis points by end-2008, although by that time no mortgage backed securities had yet actually been purchased. All in all, rates were lowered by 100-150 basis points. By end-May 2009, normal pricing conditions had returned to US primary and secondary mortgage markets. The successful reduction in rates may be attributed equally to two effects: first, improved market functioning due to clear government backing, and second, portfolio rebalancing effects. After the Fed’s intervention had ended, portfolio rebalancing effects were experienced due to the permanent reduction in the stock of mortgage bonds available on the market. In summary, the authors conclude that the purchases were effective.

Ewa Wróbel, National Bank of Poland, presented a paper on “*Monetary Policy Transmission Disturbances During the Financial Crisis: a Case of an Emerging Market Economy*”. Using the case study of Poland, an inflation-targeting economy, the paper shows that the financial crisis affects monetary policy transmission through both a crisis-induced change in monetary policy and changes in the structural features of the economy. Against the risk of a deep decline in output, the central bank increased its responsiveness to both inflation and output shocks, thus taking into account disturbances in interest rate pass through to money market and retail rates, as well as in the credit channel. All in all, the authors concluded that disturbances in monetary policy transmission rather reflected increased perception of

risk and cyclical factors triggered by the financial crisis and to a lesser extent structural changes in the economy. However, in a medium-term perspective, the magnitude and duration of the crisis, combined with ongoing changes in the regulatory framework and macroeconomic policies, may, through learning by agents, trigger lasting changes also in monetary transmission.

Urszula Szczerbowicz, LUISS Guido Carli and Sciences Po-OFCE, investigated “*Are Unconventional Monetary Policies Effective?*”. The paper evaluates the impact of non-conventional monetary policies on the Libor-OIS spread, long-term interest rates and long-term inflation expectations in the United States by studying the behaviour of selected asset yields on the days of policy statements. The author confirms that announcements of government bailouts and recapitalisations and liquidity facilities other than the TAF reduced the 3-month Libor-OIS spread by an estimated 25 and 9 basis points respectively. The long-term Treasury securities purchases as well as the outright purchases of Agency debt and mortgage-backed securities in the context of “Quantitative Easing 1” lowered long-term interest rates by 17 and 22 basis points respectively. Finally, the Fed’s rescue operations of several large financial institutions, “Quantitative Easing 2” and fiscal stimulus announcements raised long-term inflation expectations by 5-6 basis points.

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The around 130 conference participants bore witness to the timeliness and practical relevance of the issues raised in the conference program. Various central banks around the world have switched back from crisis mode into the “new normal”, and also the European Central Bank had, on the day preceding the conference, indicated that a hike in official interest rates, after two years of historically low levels, might be imminent. At a deeper, more structural level, the crisis has triggered critical thinking on how to better capture financial friction and the monetary sector in economic models, how to modify monetary policy strategies to make them more robust against the build up of macroeconomic and financial imbalances, and on the role of central banks in areas outside of monetary policy, such as macro-prudential surveillance. While of course, in just one day, these complex questions could only be touched upon, the conference offered a good overview of the issues at stake and on the ongoing research in this field in academia and at central banks around the world. SUERF will certainly follow these issues up at future events.