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SUERF President Urs W. Birchler and 2016 Marjolin Prize Winner Sascha Steffen

Inside this issue	
Frankfurt Colloquium Report	1
Upcoming Events:	
Paris	10
New York	11
Luxembourg	12
Brussels	12
Book Reviews	13
General Assembly Report	18
SUERF Members	18
SUERF Publications	19

The SSM at 1

Report on the 32nd SUERF Colloquium & Deutsche Bundesbank/Foundation Geld und Währung Conference





SUERF

Claudia Buch



Mario Draghi, Jens Weidmann



Luc Laeven, Claudio Borio, Sergio Nicoletti-Altimari



Isabel Schnabel

Conference Report

By Jens Ulbrich, Deutsche Bundesbank, Carl-Christoph Hedrich, Commerzbank and Morten Balling, Aarhus University

On February 3-4, SUERF – The European Money and Finance Forum, Deutsche Bundesbank and Stiftung Geld und Währung jointly organized a Colloquium/Conference

in Frankfurt in order to evaluate the experience with the SSM – the Single Supervisory Mechanism – during the first year of its existence.

SUERF – Société Universitaire Européenne de Recherches Financières









Erich Loeper, Head of the Deutsche Bundesbank's Banking and Financial Supervision Department, welcomed the participants. He said that by taking over the responsibility for direct supervision of the systemically important financial institutions in the Euro Area (the SIFIs), ECB had become one of the most important supervisors in the world. The creation of the SSM is the first pillar of the European Banking Union (EBU). Joint supervisory teams with members from many different countries work together in the SSM in order to provide a solid and coordinated basis for supervisory decisions. Risk-profiles of each SIFI are developed, the aim being that the performance of the institutions should be measured by a common yardstick. To create a level playing field for cross border competition among banks is a main concern. Non-SIFIs are still supervised by National supervisors, whose approaches are being harmonized, but room is left for national discretion. It takes time to develop such a comprehensive and unique European supervisory structure, and SSM is still making important experiences, but all in all SSM has - in the view of the speaker - started better than expected.

On behalf of SUERF, **Urs Birchler**, Professor of Banking and Finance, Zürich University and SUERF President also welcomed the participants and announced a few changes in the day's program.

The first keynote speech "Monetary policy in the clutches of financial stability", was given by Luc Laeven, Director-General of the General Research Directorate of the European Central Bank. He structured his lecture by posing three questions: 1) Should central banks incorporate financial stability considerations in the conduct of monetary policy? 2) Is macro-prudential policy effective in preventing the occurrence of financial instability? 3) Should bank capital be raised to support financial stability? Concerning the first question, the pre-crisis view was that central banks should focus on

price stability, whereas financial stability objectives should be left to prudential authorities. After the crisis, a common view has been that central banks should incorporate financial stability considerations in the conduct of monetary policy. By leaning against the wind also by monetary policy instruments, the high costs of financial crises could be avoided. The appropriateness of leaning against the wind depends, however, on the relevance of the risk-taking channel of monetary policy. Different theoretical approaches deliver different predictions on the relationship between the monetary policy rate and bank risk taking. Portfolio allocation models predict that an exogenous decrease in the yield on safe assets will lead to greater risk taking. In models with limited liability and risk shifting, a decrease in interest rates may reduce risk taking by reducing the bank's funding cost. The net effect of interest rates on bank risk taking is therefore an empirical question. Recent empirical studies support the presence of a risktaking channel of monetary policy. Question 2 - the effectiveness of macro prudential regulation - is critical. Overall, the empirical literature supports the use of macro-prudential instruments in reducing the procyclicality of credit, but the extent to which they alone can effectively manage credit cycles and reduce systemic risk depends on circumstances. The cost of intervening too early and running the risk of stopping a desired boom have to be carefully weighed against the desire to prevent financial crises. In his answer to Question 3, the speaker said that higher capital requirements are desirable for two reasons: They increase the likelihood that buffers will be sufficient to absorb shocks, and they reduce the need for monetary policy to act in support of financial stability. In his view, the general direction of higher capital requirements taken by the Basel Committee seemed right. One should not forget, however, that corporate governance theory suggests that bank ownership structure influences risk taking.

The keynote speech was followed by a Poster Session.









Sascha Steffen, University of Manheim & ZEW, presented a poster "Zero risk contagion- banks' sovereign exposure and sovereign risk spillovers". The underlying paper is co-authored by Josef A. Korte, Goethe University Frankfurt. The authors were awarded the 2016 Marjolin Prize. European banks hold large amounts of sovereign debt on their balance sheets. According to the EU Capital Requirements Directive banks are allowed to apply "zero risk weights" for EU sovereign debt. By using data on sovereign CDS spreads, the authors demonstrate larger co-movement with other European CDS spreads if banks have large exposures for which they do not hold capital. In this way, they identify a transmission channel for sovereign risk within the euro area. They show that more capital as well as less aggressive risk-weigthing can mitigate this transmission channel.

Roberto Baviera, Politecnico di Milano, presented a poster "Is the comprehensive assessment really comprehensive?". The underlying paper is co-authored by Emilio Barucci and Carlo Milani, also at Politecnico di Milano. The authors analyze an ECB database in order to evaluate the comprehensive assessment (CA) i.e. asset quality review (AQR) and stress test (ST) of banks carried out in 2014. They find that risk-adjusted capital ratios are negatively related to AQR shortfalls, but not to the stress test shortfalls. The CA is predominantly concentrated on traditional credit activity rather than on banks' financial assets. The CA seems, however, to be characterized by double standards. Non-core countries were penalized by the AQR. Use of national discretion in capital requirements and state aid did not help mostly peripheral countries to pass the assessment. The authors regard the CA as an important step towards a level playing field in the banking sector. It is, however, too concentrated on credit activity rather than financial assets. It is appropriate that the Basel III rules focus on leverage ratios.

Jean-Edouard Colliardy, HEC Paris, presented the poster "Multinational banks and supranational supervision". The underlying paper is co-authored by Giacomo Calzolari, University of Bologna and Gyöngyi Lóránth, University of Vienna. The authors address the risks of fragmented supervision and resolution and contagion through multinational banks (MNBs). These risks provide a strong rationale for a common supervision as the SSM. Centralized supervision solves coordination problems. Subsidiaries are better supervised. MNBs may, however, change their organizational form. The SSM has the potential of reducing losses and of redistributing losses across borders. In the long-run, supranational supervision encourages branches over subsidiaries and can discourage cross-border expansion all together.

Maximilian Muhn, Humboldt University, Berlin, presented the poster "Believe me, it will be enough: Governmental guarantees and banks' risk taking in the fair value portfolio". The underlying paper is co-authored by Ulf Mohrmann, Universität Konstanz, Martin Nienhaus, Universität Münster and Jan Riepe, Universität Tübingen. The title is inspired by ECB President Mario Draghi's announcement on 26th.July 2012: "whatever it takes" to preserve the euro. This announcement was interpreted by the market as a signal about the ECB's willingness to put a floor under EU sovereign debt prices. The authors do, however, not focus on the consequences for the bond markets of the ECB announcement. Instead they argue that governmental guarantees in general span a safety net for banks and, as a consequence, risk taking becomes more attractive. They investigate whether the so-called "Level 3 assets" are used as a way to exploit governmental guarantees. Model-based valuations contain a high degree of managerial discretion, which might be used to engage in regulatory arbitrage.

Alessandro D. Scopelliti, University of Warwick, presented the poster "Rules and discretion(s) in prudential regulation and supervision: evidence from EU banks in the run-up to the crisis". The underlying paper is co-authored by Angela Maddaloni, European Central Bank. The authors use an indicator of regulatory and supervisory effectiveness constructed from EU directive implementation to investigate the role of prudential regulation and supervision in the prevention of banking crises across countries. They look at the stability of credit institutions subject to different national regimes – before the crisis – within the context of the European Union. Crisis support may be capital injections, guarantees on bank liabilities, asset protection schemes and liquidity facilities. They find a higher probability of crisis support for banks in countries with more flexible regulation or supervisory discretion. There is a larger





increase in the support probability for banks subject to a laxer prudential framework if they are more financially fragile (subject to higher liquidity constraints).

Anna Damaskou, University of Luxembourg, presented the poster "Banks v. SSM: the party has just started". The presenter referred to cases before the EU Court in which the legality of decisions by other EU institutions has been challenged. Against this background, the question arises: is the SSM prudentially constructed (institutionally) and prudentially operating (procedurally), so as to refute possible future arguments of this nature, in order to keep its decisions standing? Good governance at institutional and procedural levels is crucial for the lawfulness of SSM's decision-making. The SSM is still at its infancy. Thus, there is still ample room for strengthening its institutional and procedural soundness. Success of the SSM will be assessed also on the basis of the legality of its decisions.

Stremmel. Otto Beisheim School Hanno of Management, presented the poster "Can financial cycle dynamics predict bank distress?" The underlying paper is co-authored by Giannoula Karamichailidou and David G. Mayes, both University of Auckland. The paper addresses the research question in the call for papers: How to construct an early-warning system for systemic risk? The authors consider the importance of financial cycle fluctuations and other potential systemic risk influences both to the real economy and also to the banking sector. They attempt to improve existing early warning systems by incorporating a financial cycle measure. Z-scores are accounting-based measures, obtained from balance sheet and income statements of listed and unlisted institutions under investigation. Their model displays a modest ability to explain banks' individual z-score in Europe. Bank-specific and banking system variables have the expected signs and plausible magnitudes. The model offers a clear impact of the financial cycle phase but the role of macro-economic variables appears to be rather limited. The authors are, however, not very optimistic about the early warning ability for individual banks in general.

Frederik Mergaerts, Ghent University presented the poster "Business models and bank performance: a long-term perspective". The underlying paper is co-authored by Rudi Vander Vennet, Ghent University. They find

that business model characteristics are important determinants of performance, but that no specific bank type outperforms in all dimensions. Bank performance is measured by return on equity, return on assets and net interest margin. Classification of bank business models is based on factor analysis. They find that both a higher degree of retail orientation and functional diversification are associated with better performance. An implication of the study is that prudential regulation should also reflect the heterogeneity of bank business model decisions. This is in line with EBA guidelines to supervisors.

The Poster Session was followed by a Panel: Interaction of micro-/macroprudential policies and monetary policy.

Claudio Borio, Head of the Monetary and Economic Department, BIS gave the first panel presentation: "Seven don'ts and one hope: The nexus between prudential and monetary policies". The speaker wanted to explore the nexus between prudential policy (PP) and monetary policy (MP). The presentation was structured in the form of 7 don'ts (Ds). The focus was on how to tame the financial cycle. D.1 was: Don't oversimplify the micro/macro prudential distinction. Macroprudential policy is a philosophy/orientation of PP, not a separate policy. D.2: Don't underestimate the role of capital as the basis for lending. The regulators should be less timid when asking for higher regulatory capital. D.3: Don't set overly ambitious goals for macroprudential policy during busts. It is better to make sure that capital buffers are sufficiently high to start with. D.4: Don't regard the length of the financial cycle as a reason to forget MP. It is best to think of macroprudential and MP as complementary tools. D.5: Don't overlook the impact of the financial cycle on productivity growth. Financial booms tend to undermine productivity growth. Thus, constraining financial booms has benefits even if bust and crisis do not follow. D.6: Don't think of a financial stability- oriented MP simply as "leaning-against-thewind". It is key not to deviate too much and for too long from "financial equilibrium". D.7: Don't presume that even MP and PP combined can tame the financial cycle. There are serious political economy obstacles. The hope is to edge closer to taming the financial cycle in the future.

Sergio Nicoletti-Altimari, ECB called his presentation "Monetary and macroprudential policies". In







macroprudential policy, a broad set of targeted instruments are used to tackle systemic risk in the financial sector - the aim is financial stability. Monetary policy operates primarily through the interest rate and aim at asset prices and price stability. Macroprudential policy has the potential to smooth the financial cycle and to reduce amplifications through regulation. Macroprudential measures aiming at markets for real estate comprise limits to loan/value ratios, incomebased limits and restriction on maturity of loans. The use of such measures varies across EU countries. Banks, insurance companies, investment funds and pension funds hold securities with different ratings in varying proportions. Their concern for credit quality varies. The macroprudential tool kit should be developed such that financial stability perspectives are taken into consideration.

The following keynote speech was given by Isabel Schnabel, University of Bonn and German Council of Economic Experts. The title was "Should banking supervision and monetary policy be separated?" With the establishment of the SSM more than a year ago, the ECB had become responsible for both monetary policy and banking supervision in the euro area. One could therefore ask: Has the ECB become too powerful? Could another structure be superior? Sharing of information in a unified structure on the supervised financial institutions can bring advantages. Coordination of macro- and micro-prudential actions may be easier. However, when there are conflicts between price stability and financial stability objectives, the ECB faces a difficult weighing problem. This may in particular be the case, when the ECB uses the risk-taking channel of monetary policy. If supervisors make mistakes, it might damage the ECB's reputation. The speaker referred to a recent study of central banks in 34 OECD countries. The central banks had been asked about their involvement in supervision of banks at the national level. The empirical analysis showed that cooperation between supervisors and central banks had a positive impact on the results of crisis management, but that the transfer of tasks to a single authority was less important. The speaker concluded that an important policy implication of the study was that the SSM ought to be established as an independent institution separated from the ECB. The SSM-institution should also include non-euro EU member states. She said that she was concerned about the current situation.

The dinner speech at the evening of February 3 was given by Andreas Dombret, Member of the Executive Board of the Deutsche Bundesbank. The title was: "A success story? Reflecting on one year of European banking supervision". The speaker started by quoting Henry Ford, who once said: "Coming together is a beginning, keeping together is progress, working together is success". European supervisors came together in November 2014, when the SSM became operational. The ECB assumed responsibility for supervising the most significant banks (the SIFIs) in the euro area. By this step, the ECB became the first supranational supervisor in the world and one of the biggest. Since the establishment, the experience with keeping together has been quite positive. Banks in the euro area are now supervised according to a set of harmonized standards. At the same time, the SSM has to meet the challenge of implementing supervisory practices that are proportionate to the specific characteristics of individual institutions. Institutions that are not SIFIs, continue to be directly supervised by the national competent authorities. The ECB and the national supervisors are currently in the process of developing joint standards for the supervision of these smaller banks. However, supervising the non-SIFIs is, and should be, a matter for national supervisors. That conforms to the principle of subsidiarity and represents the most effective and efficient solution. Since the ECB is responsible for European banking supervision, it follows that the Governing Council is accountable not just for monetary policy issues but also for matters of banking supervision. In order to minimize potential conflicts between monetary policy objectives and supervisory objectives, a governance structure has been put in place to limit the Governing Council's involvement in supervisory decisions. The European Banking Union (EBU) is scheduled to rely on three pillars: The Single Supervisory Mechanism (SSM), the Single Resolution Mechanism (SSR), and a common European deposit guarantee scheme. The SSR has been operational since January 1, 2016. In the view of the speaker, it would be premature at the present time to establish pillar no. 3, a single European deposit guarantee scheme. It would necessitate wide-ranging changes to both national and European legislation, which do not have sufficient political support. There is no justification for pan-







European risk sharing without fundamental adjustments of the current framework. Significant progress has been made in the regulatory space in recent years. Basel III with stricter capital requirements and new liquidity rules is the most important measure. The speaker's regulatory priority was to finalize the Basel III reform package in 2016, i.e. the review of the trading book and banks' internal models for credit risk as well as calibration and design of the leverage ratio. The speaker underlined that nevertheless all these regulatory projects would not target on imposing further burdens on the banks. In his concluding remarks, Mr. Dombret came back to the Henry Ford quotation: Working together – as regulators and supervisors, at the national, the European and the global level - would be a huge step towards successfully safeguarding financial stability.



On February 4 in the morning, Mario Draghi, President of the ECB gave the 2016 Marjolin Lecture "How central banks meet the challenge of low inflation". The president distinguished between two types of monetary policy challenges: Challenges that are common to all central banks in advanced economies, and challenges that are special to the monetary authorities in the euro area. All central banks are faced with the question: can the price stability mandate be delivered? This leads to the question whether inflation is currently more rooted in global factors than in domestic ones. Or, whether more structural factors hold inflation down, e.g. demographic forces in ageing societies. President Draghi took these arguments in turn, acknowledging that inflation has been affected significantly by oil and commodity price developments. This does not imply, however, that monetary policy can step back or treat these factors with benign neglect. If low inflation is increasingly being caused by structural factors in the global economy that cannot be addressed through domestic monetary stimulus, it would constitute a very fundamental criticism of central banks' mandates. It seems, however, unlikely that demography can explain why inflation is low today across advanced economies that have very different demographic profiles. Other structural shifts are the long-term cycle in commodity prices, technological change and globalization. There is, however, no reason why any of these structural changes should make the current price stability objectives unobtainable. Central banks do typically refrain from reacting to supply shocks that have opposing effects on output and inflation, so as not to overreact and reinforce the effect on growth, in either direction. However, since there is always a backward-looking component in inflation developments, the longer inflation stays too low, the greater the risk that inflation does not return automatically to target. Low inflation can feed into inflation expectations and create second-round effects. Risks of acting too late may outweigh risks of acting too early. Lessons of monetary history in the US as well as in Japan underline the importance of full commitment from policymakers. If we have the will to meet our objective, we have the instruments. The lower bound for policy rates is not at zero. Furthermore, the ECB has demonstrated the suitability of non-standard measures. If all central banks act to deliver their mandates, then global disinflationary forces can eventually be tamed. Some observers have expressed concerns about the impact of expansionary monetary policies on accumulation of excessive foreign currency debt or asset bubbles abroad, especially in emerging markets. The president's contra-argument was that it would not help emerging markets if advanced economy central banks failed on their mandates. Countries have the option to improve their financial regulation and supervision to make their financial systems more resilient to external shocks. They can also apply fiscal policy and macroprudential measures. The institutional structure in the Euro area implies special challenges. ECB conducts monetary policy in a segmented banking and capital market, and without a single area-wide fiscal authority as a counterpart. Segmentation of markets leads to lower sharing of risks. It means that the bank lending transmission channel and the balance sheet channel are more likely to be disrupted in the event of major shocks. It means also that financial fragmentation takes place







along national lines. The ECB must design its instruments to compensate for this. Examples are the measures to substitute for the drying up of the interbank market, the intervention in sovereign debt markets and the crediteasing package. The creation of the European Banking Union (EBU) is, however, an important step to remove fragmentation risks more permanently. The two pillars - the SSM and SRM - are now in place. The third pillar - a European common deposit insurance scheme- is, however, still missing. The ECB welcomes the Commission's proposal for such a scheme and expects it to contribute to both risk sharing and risk reduction and to ensure a more homogenous transmission of monetary policy. Under the existing institutional structure, ECB has to implement its asset purchases in multiple markets. It implies that the measures have an impact on credit allocation across regions and types of borrowers. ECB designs its monetary policy instruments in a way that minimizes distortions. The allocative effects can also be reduced by further integrating the markets, in which the ECB intervenes. To that end, a robust fiscal framework, which is enforced credibly would reduce the risk inherent in individual government bonds in the euro area.

The following Panel: "The SSM after the Comprehensive Assessment. Has the CA served its purpose? Have legacy assets been dealt with effectively?" was moderated by **Daniel Schäfer**, Handelsblatt. Felix Hufeld, President of the German Federal Financial Authority, BaFin. said Supervisory that the Comprehensive Assessment for the BaFin had involved a lot of work, analysis of many thousands credit files and evaluation of bank assets amounting to more than EUR 75 billion. It was the first time that such an exercise had been conducted on a harmonized basis in Europe. He considered it to be a very solid starting point and a good basis for evaluating the quality of banks' balance sheets. It ought to be repeated. The CA had elevated the procedures followed by the BaFin. The choice between supervision and regulation is a difficult balancing act. Together with other national supervisors and people at the ECB, we are on a joint learning curve. The next stress-test should focus on the banks' low profitability.

Martin Blessing, CEO, Commerzbank, Agreed with Mr. Hufeld that the CA had been a huge task. But, it went better than he had expected. The people working for SSM were high-quality people. Sufficient bank capital is good to have for absorbing possible losses. However, supervisors do not know, what optimal bank balance sheets should look like. Investors are exposed to regulatory uncertainty. This has implications for the ability of banks to raise more equity capital. How can a bank manager give promises about the future return to shareholders, if it is uncertain how much dividend he is allowed to pay?









Klaas Knot, President, De Nederlandsche Bank, said that the CA should be seen in the context of improving bank balance sheets. It was essential that higher bank capital should enable banks to lend more. Some of the consequences of the CA were still to come. However, nobody can tell the exact point, where banks are sufficiently capitalized. There will always be a debate on banks' dividend policy. Should future cash flows be paid out to the shareholders or should they be used for consolidation of bank capital. In the following debate among the panel members, Klaas Knot welcomed the increasing use of bail-ins. He said: "Let us bring capitalism back to the financial sector". The fiscal space for bail-outs is exhausted. As answer to a question from the moderator concerning sovereign debt risks, Mr. Knot said that such risks should be adequately priced. Bonds are never risk-free.

The panel was followed by an interview: Mark Schieritz, Die Zeit, interviewed Claudia Buch, Deputy President, Deutsche Bundesbank. The theme was: "Completing the Banking Union/Capital Markets Union - where do we stand?" The Deputy President was asked, if she was happy with the SSM. She answered that important progress had been made with the new institutional structure. Bail-ins were being designed to bring capitalism back to the banking sector. The hierarchy of claims should, however, be further clarified. Banks should be made safer. We are still not ready for a centralized deposit insurance system in Europe. Mutualization of debt at the European level is a difficult political issue. We cannot create something completely risk-free. Somebody will always have to carry the risk. Risks should be acknowledged in regulation and in the capital requirements. The capital markets union will give greater possibilities for private cross-border risk-sharing.

Ignazio Angeloni, Supervisory Board Member, ECB gave the keynote speech: "Macroprudential policies to contain systemic risks". He referred to some recent research projects carried out on the initiative of the Systemic Risk Board. Macroprudential and microprudential instruments aim at financial stability, while monetary policy instruments aim at price stability. Possible conflicts between the objectives require an appropriate coordination system. The SSM supervisory board can launch microprudential initiatives. A coordination forum has been established to oversee the

use of macroprudential instruments. Systemically important financial institutions will in the future have to build up general systemic risk buffers. The supervisory methodology developed by the BCBS will be implemented by the responsible supervisors.

The title of the concluding panel was: "Banks' business models: trends towards specialization or outsourcing to the shadow banking system? Do we need a "shadow banking union?"

Svein Andresen, Secretary General, Financial Stability Board introduced his contribution to the panel by illustrating the substantial costs of the recent global financial crisis. Public debt increased in the countries hit by the crisis. The crisis caused a large output loss. In advanced economies, unemployment is still well above pre-crisis levels. Most globally systemic important banks have reduced trading and interbank lending and increased non-trading securities holdings. They have also increased retail deposits and reduced short-term wholesale and long-term funding. Total bank lending has decreased in recent years, while lending by nonbank financial intermediaries has increased. The monitoring universe of non-bank financial intermediation comprise lending by insurance companies, pension funds and other financial intermediaries. The FSB has been coordinating and contributing to the development of policies to strengthen oversight and regulation of shadow banking aiming at mitigation of financial stability risks posed by shadow banking entities.

Ludger Schuknecht, Chief Economist, German Ministry of Finance, listed four drivers of change in the financial sector: 1) Deleveraging of banks' balance sheets, 2) the low interest rate environment, 3) the regulatory environment and 4) Digitalization. Financing outside the banking system takes place through corporate bond issuance, lending by investment funds and money market funds, securitization, private placements and crowd funding. The increasing importance of non-bank financing calls for supervisory attention to developing mismatches and run risks, volatility risks, regulatory arbitrage and the lack of resolution regimes. A "Shadow Banking Union" is not needed. We should concentrate on implementing the European Banking Union. A global approach is, however, needed. And we should not forget that solvency of governments is the anchor of the system.







Sound public finances ensure the presence of safe assets in bond markets and a backstop when financial shocks occur.

Enrico Perotti, Professor, University of Amsterdam, called his contribution to the panel: "Emerging risks and shadow banking". Shadow banking can be defined as credit intermediation by non-banks. It can also be defined as credit based on liquidity and maturity transformation based on uninsured market instruments. Bank funding is cheap because banks offer liquidity on demand. This construction makes banking unstable and requires regulation. How can shadow banks match this? They can by obtaining liquidity guarantees from banks. Shadow banks can obtain direct funding with secured financial credit. To control risks associated with shadow banking, we need to keep track of this construction. We must make sure shadow banks do not expand in illiquid assets by feeding on liquidity guarantees by banks.

Christian Thimann, Head of Strategy, AXA, called his contribution to the panel: "Views on insurance,

regulation and the macro environment". Insurance companies are large investors in European financial markets. They carry out a very diversified business and have balance sheets that are very different from banks' balance sheets. They are experts in risk management. In insurance companies, asset-liability management is at the core of balance sheet structure and management. Their asset allocation is strongly influenced by regulation. Government bonds and private bonds represent almost two thirds of total investments. In recent years, it has been a great challenge for insurance companies to adapt to low interest rates.

Urs Birchler, President of SUERF concluded the conference by thanking Deutsche Bundesbank for use of the premises and for close cooperation in organizing the event. He thanked Foundation Geld und Währung for financial support, and he thanked the chairpersons and the speakers for their important contributions. He gave special thanks to **Jens Ulbrich**, Deutsche Bundesbank for his role as anchorperson in the organization.



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