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SUERF/Narodowy Bank Polski Conference
Challenges of Interactions between Macroprudential and other Policies
15 February 2019, in Warsaw
www.suerf.org/warsaw2019

Save the Date – 2019 Events

34th SUERF Colloquium and Banque de France Symposium
The Euro Area: Staying the Course through Uncertainties
28-29 March 2019, in Paris
www.suerf.org/paris2019

46th Economics Conference in cooperation with SUERF
European Economic and Monetary Union: The first and the next 20 years
2-3 May 2019, in Vienna
www.suerf.org/vienna2019

SUERF/Deutsche Bundesbank/Commerzbank AG/Stiftung Geld und Währung Conference
Cash on Trial
20 May 2019, in Frankfurt
www.suerf.org/cashontrial2019
10 Years after the start of the financial crisis: Contours of a new normal

Report on a conference jointly organized by Belgian Financial Forum and SUERF
National Bank of Belgium, Brussels, 14 September 2018

Conference Report

By Frank Lierman, Member of the Council of Management of SUERF, Chairman of the Editorial Board of the Revue bancaire et financière/Bank- en Financiewezen

Jean Hilgers, President of the BFF and Executive Director of the National Bank of Belgium (NBB), and Jakob De Haan, President of SUERF and Head of Research of the Nederlandsche Bank, expressed a warm welcome to more than 300 participants attending this high level conference in the auditorium of the National Bank of Belgium.

Jan Smets, Governor of the NBB, presented his keynote speech on “The Future of Central Banking”. The main message was that price stability, financial stability and promoting the smooth functioning of the payments system will also in the future govern most of central banks’ actions. It is the task of central banks, to foster trust in each of these domains. This trust is not something which falls from heaven. It needs to be built and maintained on a daily basis. While technical know-how of experts is of course essential, on its own it is not enough. The stability of money is a common good and deserves a quasi-constitutional status. It is a deep and precious fundament, which must be safeguarded under all circumstances, as a prerequisite for welfare, as well as freedom and fairness. Therefore, it has to rest on a strong societal underpinning and needs to be shielded from the volatility or even arbitrariness resulting from short-termism. Thus, it is justified to allocate this goal to institutions which have this stability as their primary task and which are accountable for achieving it. That is precisely the mission of central banks, also in the future.

The theme of the first panel was “Scars and scratches: how damaging is the fall-out from the crisis for the real economy and the natural rate of interest”. The panel was chaired by Freddy Van den Spiegel, Professor at the Vrije Universiteit Brussel and Chairman of the Coordination Committee of the BFF.

William De Vijlder, Group Chief Economist of BNP Paribas, focused on the uncomfortable new normal. The global financial crisis of 2008 had a profound impact on the evolution of the global economy in subsequent years, but the repercussions of other developments should also be taken into account: the sovereign debt crisis in the eurozone, the structural decline of potential GDP growth, the changed behaviour of inflation, the slowdown of Chinese growth, etc. With this in mind, a mixed picture emerges: in most countries per capita real GDP is higher than before the crisis, but this has required a huge stimulus effort, in particular on the monetary front. Public sector debt has not declined, despite the growth environment and sharply falling interest rates. The build-up of corporate debt in foreign currency in several emerging markets has increased their sensitivity to spillovers from US policy tightening or a stronger dollar. Conditions have not been met to restore monetary policy leeway to a sufficient degree and countercyclical fiscal policy will likely be constrained as well because of high public sector debt rather than because of the level of structural budget deficits. In addition to the structural reforms and the efforts to avoid the build-up of imbalances, thinking about how to address the next downturn should be high on the agenda.

David Turner, Head of the Macroeconomic Analysis Division of the OECD, underlined that care is needed in assessing the cost of the global financial crisis. Using pre-crisis extrapolations of GDP is likely to exaggerate the output cost as such trends were unsustainable.
Evaluating the loss in comparison with pre-crisis trends in potential output, suggests that the medium loss among OECD countries experiencing a bank crisis was still more than 6%. This is almost entirely attributable to lower productivity, rather than lower employment. Much of the lower post-crisis productivity is in turn accounted for by lower growth in capital per worker, whereas declining total factor productivity growth pre-dated the financial crisis.

According to Cinzia Alcidi, Senior Research Fellow and Head of the Economic Policy Unit of CEPS, the crisis year 2007 and even 2008 is not the right benchmark because the GDP was inflated due to the bubble in housing and credit. Overcapacity has been built up in the former years. Looking at the construction sector in Spain and Ireland it represented some 21% of GDP while the average for the euro area was only 11%. Why nobody intervened to stop that overcapacity? Well, everybody was gaining: consumers were happy with the increase of the real estate prices, which increased the value of their property, the taxes of the governments moved up, employers had more orders and welcomed higher profits, and employment was attractive. Looking at the financial cycle of 12 European countries, we observe peaks for Greece, Spain and Ireland in 2008. Was it a pure price phenomenon or was there an underlying misallocation of resources during the booming period? It is clear that it was difficult during the crisis to move to an optimal allocation of the resources. Meanwhile, the financial cycle reached a bottom in 2017 and a new growing phase started which could justify some optimism. We observe a new credit growth, increasing housing prices, a better economic environment. But is this a fundamental trend seeing that the debt accumulation is still there? There is a slowing growth trend of that debt, but not yet a real deleveraging. This implies a huge challenge for the coming years.

Eva Ortega, Head of Modelling Unit at Banco de España, considered the natural rate as a real interest rate, which is the equilibrium real return on capital in line with trend growth, demographics, risk aversion. We have to look beyond the business. The long run horizon is crucial to fix the real rate. Linking natural rate gaps to business cycle and inflation stabilises output gap and inflation. The determinants of the decline of the real interest rate are mainly linked to demography. Lower fertility rates imply lower labour input, declining capital demand, higher capital per worker, lower marginal product of capital. Higher life expectancy implies an increase of capital supply from saving anticipation of a longer retirement period. Rising proportion of old age implies more dissavers and thus declining capital supply. A turn to higher natural interest rate could come from lower risk aversion, technology driven boost in productivity or growth promoting structural reforms, pensions reforms affecting dependency ratio and saving decisions. Structural reforms can help support productivity growth and investment. Product market reforms stimulate competition and give incentives to innovate and invest in human and physical capital. Institutional reforms could lead towards more efficient public administration. Training and education can reduce the skill mismatches and stimulate a higher diffusion of technology and growth of more innovative and productive firms. Completing the Banking union can lead to more efficient allocation of financial resources and attenuate the flight to safety. Demographic trends can be affected by an increase in retirement ages, changes in the pension system replacement rates and public policies that encourage labour force participation and human capital accumulation.

The second panel focused on “The financial sector and prudential policies in the new normal”. Jo Swyngedouw, Head of Prudential Policy and Financial Stability, NBB, was in the chair.

Mathias Dewatripont, Professor of Economics at Université Libre de Bruxelles, developed a vision on bank resolution and bail-in. Banks are special due to the fragility linked to maturity transformation and the inability of most bank creditors and depositors to exercise usual discipline on their borrower. The implications are the necessity to address financial instability and moral hazard. This leads to a key general rule: concentrate the pain on investors, whose funds are stuck in the bank. The crisis was fed by under-regulation, which was significantly worsened after the fall of Lehman. There has been a double response: no more Lehmans, which implied significant rise of retail deposit insurance and massive bail-outs and re-regulation with more and better capital, liquidity ratios, recovery and
resolution planning, macro-prudential regulation. Debate continues on excessively low Basel III capital ratios versus difficulty of finding the money and risks to real economy lending. What to think about the “bail-in rather than bailout” trend in a European landscape plagued by overcapacity and a challenging environment? We do have a paradox: Basel III stresses the quality of capital and micro/macro-prudential distinction while the bailout fatigue has now led to bail-in fashion with a desire to vastly enlarge set of bank claimholders meant to be held responsible, and this even under systemic stress. Politicians feel that Basel III does not require enough capital to protect taxpayers. The Bank Recovery and Resolution Directive insists on 8% bail-in even under systemic stress, as of January 1, 2016, for access to the common resolution fund or even national public money. Beyond secured liabilities, it exempts very short-term interbank debt. It gives priority to natural persons and SMEs over other unsecured claims. As of today, no hard targets yet for bail-in capable securities are decided. The aversion to bailouts is understandable due to taxpayer money and moral hazard. But remember the costliest bank failure for taxpayers in the last 10 years was Lehman, despite lack of bail-out, while TARP of 428 billion USD bailout has been fully repaid. Remember also that orderly resolution will not prevent depositors from running if they can and feel their money is at risk.

In order to avoid bank runs there is a need of 8% junior long-term liabilities for all banks. Let’s have an example: if total liabilities are 100 compose of secured and very short term liabilities (25), and retail deposits (40), bail-in capable senior liabilities (30), junior liabilities (1,5) and capital (3,5). Losses for senior liabilities before a bailout can be considered: (8-3,5-1,5)/30= 3/30= 10%. To avoid runs, it is appropriate to increase junior liabilities to 4,5. Including senior claims in MREL does not protect other senior unsecured claimholders. There are useful national solutions: Germany makes senior bank bonds junior, retroactively; Italy makes depositors senior to bonds and derivatives retroactively; France acts similar to Germany, but not retroactively and more granular. In the EU toolkit are now non-preferred seniors. Today there is the unwillingness to renegotiate the 8% rule. But requiring 8% of long-term junior claims to re-assure senior claimholders would imply a big shock to an already challenged banking sector. So the route chosen in 2017 is precautionary recap plus compensation for retail subordinated claimholders or even national bankruptcy, which is not the first best. The challenge remains: when bailout is out and bail-in is not in, denial is the only option left.

**Isabelle Vaillant**, Director Regulation, European Banking Authority, tried to answer the question: Have we reached a new normal in prudential policies? The new financial regulatory framework is too complex. It is not so evident to find the right balance between simplicity and complexity. To build safeguards we need to reject complexity, which is however the result of risk sensitivity and proportionality. There is always the choice between materiality thresholds per risk category and one-size fits all rules. Regulators have to assess how different groups of banks might be affected by forthcoming regulation and how they might adapt to incorporate these new rules into their business models. Proportionality implies that some business models are also often correlated with size and complexity. They must also understand at a macro level the various business models as they determine the type of risks the institutions are exposed to and possible threats to financial stability, while there is the need to preserve the single market deepening. At the micro level regulators must specify the rules in accordance to the business models’ risks, assess performance and riskiness in relation to its peers. Anyhow, the differences between countries do have a serious impact on the business models. EBA uses a categorisation of the credit institutions to discover the impacts of new regulation to specify some priorities and to scrutinize the solvency and the resolvability. 57,5% of the credit institutions are co-operative banks, followed by savings banks (13%) and local universal banks (10,2%). Total assets are concentrated in cross-border universal banks (39,3%) and local universal banks (20,2%), which also reflects more generally their larger average size.

**Rudi Vander Vennet**, Head of Department of Financial Economics, Universiteit Gent, focussed on the business models of banks. Banks are operating in a new regulatory and economic environment, which implies that they have to modify their business models. These actions are up to now very slowly and modestly. The pressure is mounting due to the weak profitability. ROE is lower than the cost of equity (COE) for many banks. In the 2018 EBA questionnaire on bank risk assessment, banks
think that the COE is 8 to 10%, they expect to have a long term ROE of more than 10%. They consider that they are able to achieve viability (ROE>COE). Profitability is stressed due to new regulation and challenging interest rate conditions, structural tendencies (shift towards market-base financing) and competitive issues (consolidation, competition from new entrants, fin-tech). Banks have to react via a risk-based pricing by applying adequate margins in their lending portfolios covering not only credit risk but also interest risk and liquidity risk. The negative deposit margin (compared to the interbank rate) must be compensated by increasing lending margins (compared to swap rate) Operational efficiency is crucial. Too many banks still have a too high cost to income ratio. Simply cutting staff or branches will not be the trick. A fundamental redesign of bank intermediation is needed. Diversification of sources of revenues, both functionally (non-traditional financial activities) as well as geographically is unavoidable. A revision of the asset composition and of the asset quality is also recommended. The cyclical recovery may lower loan impairments and provisions but lots of cleaning-up is still necessary for many banks in the periphery. Banks will have to focus on what their comparative advantages are in terms of non-interest income, and adapt their business model accordingly. This should lead to a more diverse banking landscape. A new equilibrium between banks, non-banks and financial markets must be found. In terms of bank sector restructuring, it can be noticed that the pace of entry as well as M&A remains slow. The question is whether these forces will lead to more diversity instead of simply increasing the size of banks.

Christine Van Rijsselghem, Chief Risk Officer, KBC Group, presented the KBC experience in setting up new governance and risk culture. The bank received two state aids of some 7 billion EUR and one CDO guarantee in 2008 and 2009. In 2010, the EC approved the new strategic plan and divestments started. No more than 28 subsidiaries have been sold. Already in 2011 started the repayment of the state aid. In 2014, the divestment programme was completed and in 2015 all state aid was repaid. All in all, KBC paid 13 billion EUR, taking into account the huge penalty rate. Meanwhile, the risk profile was reduced substantially: the risk weighted assets came down from nearly 160 billion EUR in 2008 to less than 80 billion EUR in 2013. At the same time risk management has been strengthened. In 2010, a risk harbour strategy was implemented with independent CROs, local risk teams and group risk. In 2016, the mission became “We want risk to be in the hearts and minds of everyone, for KBC to create sustainable growth and to deserve its customers’ trust.” In 2017 the risk plan 2020 was launched with five keywords: agile, digi and data savvy, smart, simple and highly connected. The PEARL programme for corporate culture had also five key words: performance, empowerment, accountability, responsiveness, local embeddedness. This implies among other things: speaking up, open feedback; learning from mistakes, taking accountability, remuneration, diversity. It is clear that culture is what people do, when nobody is looking. Responsible behaviour is a condition for good risk culture. Risk awareness is a part of the DNA of KBC, embedded in the corporate culture. The prudential framework had a positive impact on KBC’s governance and risk management: segregation of duties and responsibilities between board of directors, risk and compliance committee and executive committee; internal controls with three lines of defence: business, risk and compliance and internal audit; risk management with very clear responsibilities for the group, countries, local entities. But there are still challenges. As an integrated bank-insurance group KBC suffers from the walls between insurance and banking regulators and from different attention points for different regulators and supervisors. Over-regulation must be avoided. Call for simple, clear and stable regulatory and supervisory requirements taking into account the customer’s view.

Panel 3 was chaired by Peter Vanden Houte, Chief Economist ING Belgium, and focused on “Monetary policy beyond normalisation: objectives and instruments”.

Maria Demertzis, Deputy Director at Bruegel, started her presentation by stressing the specific governance structure of the eurozone. She underlined the necessity to highlight the so-called “unknown unknowns” concerning globalisation, migration, technology and productivity. Then she focused on the link between monetary policy and financial stability by responding to the question concerning the targeting of financial
imbalances. Knowing that the interest rate affects the regulator’s entire possibilities frontier, both, credit supply and bank soundness, are affected by monetary policy, and therefore the entire environment in which the regulator operates responds to monetary conditions. The question of the impact of increasing the inflation target was put forward. Does aiming for higher inflation avoid period of disinflation more effectively? The answers is yes. Is the objective of price stability better served by such a higher target? Probably not. Can this transition be managed? Yes. In Canada the target is reviewed every 5 years. In the UK the target is fixed every year and was lastly revised in 2003. In Japan the target was changed in 2012 and 2013. The US adopted a formal target in 2012. In 2003 the eurozone 2-pillar strategy was modified and the definition of price stability was clarified. We do need targets for a longer period than the usual two years. Looking to the experiences in many countries it is clear that working with an “inflation band” in combination with an “inflation level” gives the central banks the possibility to influence expectations and to reduce the uncertainty.

Natacha Valla, Deputy Director - General Monetary Policy, European Central Bank, commented first the operational framework in the last ten years before developing the outlook for the future operational framework. Before the crisis, the ECB implemented its monetary policy in a corridor system framework. Money market rates were steered to the middle of the corridor by estimating the banking system’s liquidity needs from reserve requirements and autonomous factors such as banknotes, and then satisfying these liquidity needs exactly. Since mid-2014, the non-standard monetary policy measures have significantly expanded the Eurosystem’s consolidated balance sheet and injected vast amounts of reserves above and beyond the liquidity needs into the banking system. The banking system is now in a position where it deposits the excess liquidity in the deposit facility. As a consequence, money market rates – the rates at which banks borrow and lend central bank reserves among each other – have been pushed to the level of the deposit facility rate. In effect, this means that the Eurosystem is operating in a floor system today. Looking to the future, the outstanding TLTROs, the continuing reinvestments of the APP portfolio for an extended period of time and the fixed-rate full allotment policy will ensure that the liquidity supply remains in excess of the banking system’s need for some time to come. But at some point in the future, the Governing Council will re-assess the liquidity conditions and, taking into account the maturing TLTROs, may choose to recalibrate the reinvestment policy. Such choices will affect the amount of excess liquidity and could eventually lead to a return to balanced liquidity conditions. The question is, is the ECB moving back to the corridor system or will the ECB continue with the floor system? Several structural changes compared to the pre-crisis times may have added additional liquidity needs for the banking system. For instance, regulatory requirements such as the LCR could lead to additional, systematic demand for central bank reserves. The emergence of additional liquidity needs would mean the “neutral” liquidity supply – at which money market rates lift off the deposit facility floor of the corridor – may be higher than it used to. This analysis leads to a number of options for the future operational framework and the size of the ECB’s balance sheet:

- If additional liquidity needs are reasonably stable and forecastable, they could be satisfied within the pre-crisis framework by allotting additional liquidity.
- Other objectives, such as the provision of safe assets through the central bank, may have additional implications for the balance sheet.

Andrew Filardo, Head of Monetary Policy, Bank of International Settlements, developed the thesis that questions regarding monetary policy are still the same but the answers have changed. Before the great financial crisis (GFC) there was a trend towards a narrowing of the monetary policy. Transparency and credibility were achievable goals. The post GFC period has brought us the conviction that inflation is not anymore a sufficient indicator for financial stability. The financial cycle and the evolution of the real economy cannot be ignored, reflecting the behaviour towards risk. Of course inflation is still important but the imbalances of the financial sector are shown via among others housing and credit prices. The focus on macro-prudential policy is comprehensive. Tools such as loan to value, debt to income, capital buffers have become common. But do we trust these tools? They are the first in line to tackle some exaggerations, afterwards the monetary policy intervenes. Leverage is still a crucial factor which is not
neutral for interest rates. The goal is to lean against the wind via discretionary use of interest rates, hoping that it will have an impact on the crisis.

The starting point of Anders Vredin, Head of the General Secretariat, Sveriges Riksbank, was that what has in recent years become viewed as an outcome of unconventional monetary policy—very low policy rates and large central bank balance sheets—is in fact now generally expected to be the new normal. The reasons are: real interest rates have declined globally, financial innovations, increased capital mobility and general globalisation, but also new financial imperfections, new risks and increased risk-taking are important. One factor behind the development is the existence of various frictions in financial markets. Those frictions are not important at the first glance because a short run interest rate is the only important instrument for monetary policy, the central bank’s asset holdings have no significant effects and financial stability should not be an objective for monetary policy. But on the other hand, they are important due to the fact that asset purchases and sales may be both complement to, and a substitute for, changes in a short term policy rate, while financial stability should be an objective for monetary policy, in addition to price and real stability. So monetary policy cannot remain independent if financial stability becomes an additional objective for monetary policy.

The conference was closed by Poul M. Thomsen, Director of the European Department of the International Monetary Fund, with a keynote speech on “A financial Union for the Euro Area”. The basic premise is that scarce political capital must be used well. Finance is a key area where meaningful progress is possible. Much of the work can be done within the confines of the current political consensus. Experts must develop compromises to take forward the banking and capital markets union projects. In banking, the task is to further strengthen supervision and resolution. The remaining national fragmentation must be removed from the single rulebook. This will maximize the effectiveness of the new framework in controlling excessive risk-taking and will ensure robust risk-sharing when banks fail. It will reduce also the need for individual countries to protect themselves with ring-fencing measures that also act as barriers to cross-border flows. There can be a virtuous circle between less fragmentation and more trust. In nonbank finance it is necessary to ensure robust oversight of the securities and derivatives markets. Here the mandate is to ensure truth, transparency and disclosure. The question can be asked if there is a case for a “super-ESMA” with pan-European regulatory powers. But one must also guard against overreach, and allow intermediaries to fail, so that market discipline can flourish. The current preference for subsidiarization and other defensive measures at the national level will recede over time as fragmentation is reduced. Eventually, this will allow a return to a banking model centered on cross-border branching. While this might sound like a case of “back to the future”, prudence will be embedded in a way that bears no semblance to the bad old days of forbearance and arbitrage that took Europe to crisis a decade ago.

Conference presentations are available at:

www.suerf.org/brussels2018
Sustainable policy responses: EU and US perspectives

Findings of a conference jointly organized by SUERF, Columbia-SIPA Center on Global Economic Governance, the EIB and Société Générale
Société Générale’s US Headquarters, New York
20-21 September 2018

Conference Report

By Ernest Gnan, Secretary General, SUERF, Tanja Latic, Teodora Trufea, Damis Seo and Aswathi Kizhekalam Puthenveettil, Columbia-SIPA.¹

Sustainability has become a key issue in many fields central to the future development of mankind. This conference touched upon four key themes, which have drawn much attention by economists, policy makers and the public at large, and which are interlinked:

• first, the optimal combination of demand and supply side economic policies to ensure sustainable and inclusive economic growth;

• second, how the global financial system may be shaped by the post-crisis economic and regulatory environment, by technological advances such as fintech, artificial intelligence (AI) and machine learning, and how regulation should optimally respond to this;

• third, how globalization, migration and new technologies such as robotics and AI affect labor markets, and how to support Africa’s development through investment and human capital development;

• and fourth, how to address the prospect of massive global climate change and its consequences and, to the extent possible, limit its extent. All these themes, in one way or the other, ultimately also affect central banks, financial regulators and supervisors, financial firms and markets, savers and investors.

The conference aimed to make some of these linkages more explicit and traceable.

This was the third in a series of conferences co-organized by SUERF, Columbia-SIPA-Center on Global Economic Governance, the European Investment Bank and Société Générale in New York, aiming to emphasize the global nature of current and future challenges in money, finance, economics and societies as well as the importance of a close dialogue and close cooperation across the Atlantic.

I. Supply and demand side policies as complements
Learning from the Great Depression: combine demand policies and structural reforms to facilitate a fundamental transformation of the economy

The first session of the conference addressed the issues of growth and inequality. Why has growth been so low for so long after the Global Financial crisis on both sides of the Atlantic? And is the recent marked recovery in growth, particularly in the US, sustainable? To understand this, it is useful to take the Great Depression and its aftermath as a reference point. The Great Depression was, among other things, overcome by World War II, which acted both as a gigantic demand and supply side program. Major US economists, notably Alvin Hansen and Paul Samuelson, at the time anticipated that once the demand impulse from military spending would have gone, the US economy would fall back into depression, despite very low interest rates ("secular stagnation"). However, this did not materialize.

¹ Except for the presentation by Peter Praet, the conference took place under the Chatham House rule, which is why in this report arguments are grouped by themes and no speaker names are associated with the arguments. It also follows from the nature of a conference report that any views reflected in this report do not necessarily coincide with those of the authors, their employers or the conference co-organizers and sponsors.
Why? One possible explanation is that the underlying reason for the Great Depression was the necessity of a structural transformation of the economy from agriculture to manufacturing, which market forces could not bring about on their own, because the declining sectors – firms and workers – did not have the resources to transform themselves from the old into the new economy. Also capital markets were too imperfect to enable this transition. Huge technological progress and efficiency gains in agriculture in the 1920s led to sharp falls in prices and the redundancy of agricultural employ workers. While such productivity gains would normally have been a positive development, because of market imperfections during the Great Depression the migration from rural areas to cities, which had been going on for decades, was reversed. World War II for one thing amounted to a Keynesian demand expansion. But it also implied major structural shifts. People were moved off their farms, the war industry required a massive increase in manufacturing capacity, and after the war, the G.I. Bill of Rights (Servicemen's Readjustment Act) provided that everybody who had worked for the war had the right to as much education as they were qualified for. This resulted in a major transformation of human capital for the new industrial economy. So, the war implied a very active industrial and an active labor market policy. In addition to this microeconomic channel, after the war also pent-up private demand, saved during the war in government war bonds, boosted aggregate demand.

**Ongoing transformation to a modern services economy needs active structural policies**

In the 21st century, economies are undergoing a similar transformation from a manufacturing into a services economy. The stress from this transformation has been exacerbated by globalization. However, government has failed to actively facilitate this transformation. This is all the more severe since the new important service sectors, such as innovation, education, health, care for the elderly, are sectors where government needs to play a big role. What is missing now are microeconomic policies to facilitate the needed structural transformation underway.

A direct consequence is increasing inequality. This in turn weakens aggregate demand, due to a lower propensity to consume of top income earners. A way to hide this failure was increasing debt, which was facilitated through easy monetary policy and financial deregulation. The bottom 80% of US citizens were encouraged to maintain spending despite falling incomes. Thus, while on the surface the economy for a long time seemed to be doing fine, this was not sustainable. After the 2008 crisis, households’ balances sheets were in in bad shape. Rather than having savings like after World War II, they were highly indebted. Fiscal demand policies were used inconsistently. Thus, the 2008 crisis was not only a financial crisis but also a structural one.

**US demand policies were ill-timed and ill-conceived…**

The zero lower bound and a Keynesian liquidity trap was frequently referred to as a constraint on monetary policy during the crisis. It rests on the notion that you no longer can change inter-temporal prices to stimulate private investment. If this were really the problem, inter-temporal prices could have been affected through tax policy, e.g. by shaping time profiles in investment credits and consumption taxes. The reason why these options are not seriously discussed is that the zero lower bound was not the true economic problem. What was much more important in the years immediately following 2008 was the banking system's balance sheet problem, which constrained their lending despite very low interest rates and implied a different kind of “banking liquidity trap”. At the same time, large multinational firms had large cash buffers; their lack of investment was due to the structural, supply-side factors mentioned before.

After a period of synchronized global growth, over the past year global growth has been moderating, while the US has become the outlier with continued very strong growth, which is also reflected in record business and consumer sentiment, continued strong investment activity and in record low unemployment. The main driver for the current very strong US economic outlook is mainly expansionary demand policy. Against this background, growth is actually quite weak, because the fiscal expansion is ill designed: First, the tax bill does not focus on the structural challenges facing the US, instead it supports old economies, e. g. it discourages R&D and subsidizes real estate and rent-seeking sectors.

This is also mirrored by the misguided focus of trade policy on goods only, instead of services as well. Second, it does not address inequality but makes it worse: taxes for the second to fourth income quintile are increased in favor of those for the highest quintile. Access to health
care is worsened, despite already falling US life expectancy, which will act as negative supply side factor. Third, it is not sustainable. Model simulations show that potential output ten years ahead will be lower due to the tax bill, not least due to the crowding out of private investment by the large public deficit. At the same time, economic policy (including tax policy and deregulation in the energy sector) seems to incentivize business investment, for instance in the mining industry.

…but there might still be some takeaways for Europe
Are there any lessons for Europe? Overall, the US policy approach is probably not suitable for Europe (the US tax reform was considered pro-cyclical, expensive and ineffective and to fare badly in terms of sustainability and inclusiveness). At the same time, inequality comprises three dimensions: individual entities (households, firms), regional and inter-generational; recent US policy measures have explicitly aimed to address regional inequality, and it is in this field that Europe might get some inspiration (while not in terms of the actual measures, but as regards the principle). Similarly, while the current US administration’s rhetoric on deregulation is stronger than actual measures, Europe might consider how some deregulation might unleash growth potential.

The euro area is on a sound path of economic recovery
Views on the euro area were diverse. Several speakers emphasized the important progress towards economic recovery over the past few years. Peter Praet, European Central Bank, explained how the ECB’s combined package of conventional and unconventional monetary policies successfully eased interest rates and monetary conditions in the euro area, on the one hand, and restored the functioning of the banking system by providing ample liquidity. Together, these measures have contributed to restoring confidence. More recently, against the background of continued above-potential economic growth and a gradual but consistent return of euro area HICP inflation towards the ECB’s aim of below but close to 2%, the ECB has initiated a rotation of its monetary policy instruments. As net asset purchases have been gradually wound down over the past year and will likely be stopped by end-2018, the ECB’s policy and communication is re-focusing on the policy interest rates and forward guidance on their future evolution. Financial markets have reacted favorably and in line with the ECB’s communication, inflation uncertainty has receded and inflation expectations have moved in the desired upward direction to become more in line with the ECB’s price stability definition. The ECB’s policy over the past few years very much rested on clear communication. For one thing, clear criteria (convergence, confidence and resilience) were publicized with respect to the ECB’s assessment of whether inflation was on a sustainable adjustment path towards the price stability definition. For another, a combination of time and state dependent forward guidance with respect to both asset purchases and policy rates was moved and carefully adjusted over time to steer markets’ and other economic agents’ expectations about the course of monetary policy and inflation. While the economy and inflation developments are well on track, both developments for the time being continue to depend upon a continued expansionary monetary policy stance. Thus monetary policy normalization will proceed prudently, patiently and persistently not to upset the ongoing smooth and favorable adjustment process.

Further structural reforms are needed to unleash Europe’s full growth potential
Europe has been quite successful in creating jobs in the current recovery; in fact, the pace was quite similar in both the US and Europe. Corrected for changes in the participation rates, Europe did not perform much worse than the US in terms of post-crisis unemployment. However, potential output has been growing consistently more slowly in the euro area than in the US. The crisis hit total factor productivity in the euro area much worse than in the US. While euro area TFP has since 2013 recovered somewhat, this recovery is far from complete. In a longer-term perspective, the euro area dependency ratio has been worse than in the US over the past 20 years, and aging will represent a stronger break on economic growth than in the US over the next two decades. EU countries’ economies still vastly differ in term of their economic structures. While some have already a fairly high share of the services economy, others still lag behind in the share of intangibles. Investment in intangibles correlates with TFP growth. So, Europe needs to reinforce its supply side reforms. More and deeper integration is the way to go. But structural reforms show positive effects only over quite
a long time horizon, making them unattractive for politicians to do. Structural reforms need to go hand in hand with investment, as they require and trigger R&D, infrastructure etc. and open up new opportunities for profits and jobs. While public investment has empirically been shown to have positive GDP effects, it has persistently fallen since the crisis in both Europe and the US. By contrast, private investment has markedly recovered, with Europe lagging a bit behind the US. Investment crucially hinges on political stability; for structural reforms to be successful, political uncertainty needs to be reduced. Reforms also require fiscal space to support the reforms and to finance compensatory measures for the short-term reform costs. The macro environment also matters for the diffusion of reform benefits. A comprehensive reform package should therefore also include macroeconomic measures and a reform of the euro area’s macro policy framework.

At the same time, there are clear signs of reform fatigue and political support for both structural reforms and for deepening EU integration is fading. Citizens’ support for the EU reached record lows at the height and in the immediate aftermath of the euro area sovereign debt crisis (2012-2014) and in 2016. Support for euro area membership has overall risen among citizens in euro area countries (both “Southern” and “core” countries), while it has strongly fallen among non-euro area countries. Europe is increasingly perceived by citizens as part of the problem rather than of the solution. What also hampers further EU integration are the differences and the fragmentation among national welfare systems. This leads to the view that “my welfare system is for my citizens”.

**A euro area fiscal capacity to reduce divergence and to shield against the next crisis?**

Several speakers held the view that Europe’s growth is impeded by the structure and institutional set up of the euro area. Unless this is fixed, it will be difficult to attain robust growth no matter what demand and supply side policies try to achieve. Since the start of the financial crisis, the previous strong real convergence across euro area countries has been partly reversed. Persistent current account imbalances within the euro area reflect savings investment imbalances and call both for macroeconomic and structural responses. In the absence of nominal exchange rate adjustments, crises show their effects in employment rather than prices. The result is hysteresis and higher structural unemployment in the euro area. This may lead to the perception that the euro is a cause of the crisis or at least worsens its consequences. A related argument brought forward is that while indeed inflation among euro area has converged downwards, this in fact limits relative price adjustment across countries. To facilitate real exchange rate adjustments among euro area countries, one might wish to aim for an overshooting of the ECB’s price stability objective in the foreseeable future. The strong decline in unemployment for the euro area masks strong differences across euro area countries, which, given the uncertainties in estimating the NAIRU, cannot simply be attributed to different levels of structural unemployment. One explanation for this divergence may be the asymmetric effect of the single monetary policy across countries, due to risk premiums, safe haven effects etc.

Several speakers thus concluded that fiscal policy should play a more active role to compensate for these asymmetric effects. Whatever the past reasons – politics, different macro or micro-economic policies - for different current debt levels across euro area countries, a future-oriented policy needs to aim for removing economic asymmetries among euro area countries. This argues in the view of these speakers in favor of agreeing ex ante on the appropriate euro area fiscal stance, a euro area central budget, a common unemployment insurance and new euro area financial facilities including the issuance of euro-bonds or similar. Monetary policy will not be able to deal with the next recession alone. However, strengthening the euro area fiscal dimension clearly implies a transfer of sovereignty from national parliaments and governments to the European level, which is a major challenge, particularly in the current environment of integration skepticism. Other speakers cautioned that first on the agenda should be the completion of the European Banking Union with a common backstop for banking resolution and a European Deposit Insurance Scheme. Even on these issues, Europe does not seem close to an agreement. While the US example shows that cross-border risk sharing through credit and factor markets can play an important role in cushioning shocks, maybe market mechanism are not enough and should be complemented with fiscal risk sharing tools.
Inequality on the rise mostly due to technological changes

Income inequality has over past decades strongly fallen across countries. At the same time, it has risen within countries and may likely continue to do so. This is mainly the result of technological change and a rising dichotomy between high-productivity growth in superstar firms and the rest of the economy. But also intergenerational education and income mobility drives inequality, as shown by cross-country regressions across European countries. High inter-generational inequality is also bad for GDP growth. Given the vast technological changes that are ongoing, economic performance is all about the opportunities for all parts of the population to acquire the relevant skills. It was noted that all European countries fare far better in terms of equality than the US. Unconventional monetary policy boosted asset prices much less in the euro area than in the US; so the induced uneven effect on wealth was also much lower. Considering that unconventional monetary policies create jobs, their distributional effects become more favorable. Still, the economic recovery was not evenly shared in Europe either. For instance, youth unemployment developed much worse than average unemployment. Low-skilled workers benefited much less than high and medium-skilled workers.

Inequality has spill-backs on political developments and thus also on economic policies, as is becoming increasingly evident in several countries (trade policies etc.); these societal and political processes are more difficult to forecast than technological developments.

Should central banks adjust their inflation targets?
The euro area has been slower in bringing inflation back to target than the US. This raises the question of the appropriate inflation target. There are very different opinions. Some argue to increase the target in order to reduce the likelihood of hitting the zero lower bound of interest rates in the future. Others counter that this is not credible, given that monetary policy did not even manage to get inflation back up to the existing target. A third group goes a step further arguing that, given the changed structure of the global economy, it would in fact be appropriate to lower the inflation target. But this would imply a real exchange rate depreciation for the country with the lowered inflation target and amplify and prolong existing debt problems.

How to cope with the next downturn or crisis, in the face of limited policy space?

Many are also asking now what will happen when the next downturn comes, say, in two years’ time or even earlier. Contrary to the US, the euro area would – despite its mildly expansionary current fiscal policy stance – have some, albeit limited fiscal space. The ECB will likely still be at a zero interest rate level or close to that. That implies that unconventional monetary policy would become conventional. But the ECB’s balance sheet will by then not have been scaled back, so that any future potential asset purchases will run into limitations due to distributional considerations among euro area countries. By contrast, the Federal Reserve will have much more monetary policy space because it will by then be able to lower official rates by an order of magnitude of 300 basis points and it will also have more scope for future asset purchases. But on the whole, central banks should in their asset purchases not go as far as the Bank of Japan, which even bought equities.

II. Brave new finance: fintech and crypto-currencies

Fintech and crypto-currencies are currently much debated potential disrupters of the financial sector and money as we know it. The conference discussed various disruption channels and scenarios. For many of these developments, the final outcome is not clear as of yet, and some of them may be a dead end. Policy makers should use this opportunity of a so far open-ended outcome to make up their mind on where they may wish to steer developments.

While fintech firms now hold only a small market share and are limited to a few areas...

Fintech is currently disrupting incumbent financial firms’ traditional business models. Fintech refers to the use of innovative technologies in financial services by both startups and established financial and technology firms. Fintech revolutionizes the way how financial services are consumed, delivered and remunerated. Fintech firms currently still hold very small market shares in most areas. Their market share in cross-border payments, peer-to-peer lending and wealth management currently is below 1% each in value terms. Only in mobile payments the make up above 3% globally.
(in China, shares are much bigger, though). Still, they matter a lot for the financial sector.

...they attack banks’ most profitable business areas

The European banking sector is barely recovering from the crisis and return on equity is below thresholds expected by investors. If, for the sake of simplification, one divides traditional banks’ business into balance sheet creation, on the one hand, and origination and sales, on the other, out of the global banking sector’s annual revenues of USD 4 trillion, half is earned by each of these two sources. However, two thirds of after tax profits come from origination and sales, and only one third from balance sheet provisioning. Given that balance sheet provisioning is much more capital intensive than customer interaction and sales, the latter yields a return on equity of around 20%, while the former only 4%.

Fintech firms for the moment mainly attack the customer intermediation business, which is most profitable for banks. Moreover, fintech is changing customers’ expectations in terms of simplicity, speed, and customer orientation, on the one hand, and in terms of prices deemed acceptable, on the other, and thus depress margins. By 2025, this may be expected to reduce banks’ global revenues equivalent to 6 percentage points of ROI. So, an unmitigated fintech disruption scenario might depress global bank ROI to as low as 5%, far below sustainable levels. Banks may respond by incorporating fintech innovations into their own businesses and by boosting efficiency by employing AI, machine learning etc..

Cross-border nature of fintech calls for centralized regulation and supervision

Financial regulation and supervision need to adjust to the new challenges posed by fintech, including their cross-border, global nature. How will fintech be regulated and supervised in Europe? There are three core themes. First, fintech challenges existing financial firms’ and potentially even central banks’ business models. Second, fintech companies are very young and lack the long track record of established incumbents, which poses a particular challenge for regulators and supervisors. Third, fintech firms by their nature largely operate across national borders. Is the EU policy framework prepared for this? The crisis has triggered major improvements in financial supervision, including the creation of the three EU supervisory agencies (EBA, ESMA and EIOPA) and of banking union. This lifting of the supervisory agenda to the European level is also useful in addressing the cross-border nature of fintech. In a way, the redesign of the European supervisory architecture in response to the crisis was similar to the challenge currently posed by fintech, namely a mismatch between the EU single market, the single currency, pan-European financial firms, on the one hand, and national supervision, on the other. With fintech, it is this time new technology that creates a mismatch, which will probably again trigger a redesign of the financial supervisory architecture in Europe.

The post-crisis financial supervisors, most importantly the ECB/SSM, are much less protective of incumbent financial firms than national supervisors were in the past. The ECB is more open to disruption in the financial sector, including European Capital Market Union. But so far, only the supervision of banks (ECB/SSM), rating agencies and trade repositories (ESMA) has been centralized at the EU level, but not other segments of the financial industry. Fintech calls for widening the scope of centralization in supervision. For the moment, the default option for regulating fintech, except for banking, is still at the national level. There is a strong case to act pre-emptively. Keeping a fragmented supervisory architecture would be inefficient and will be arbitraged by financial firms through the EU passport for financial services. In addition, it would also lead to the familiar phenomenon that the big players would all be US-based, since they benefited from the large integrated US market in their early phase of development before conquering the world including the EU (note, however, that also in the US some fintech regulation is governed at the state level). Establishing a level playing field also for European financial firms requires a centralization of financial supervision. Will such centralization happen? The forthcoming European Parliament elections will affect the space for reforms in this area as well.

Crypto-assets are for now no substitute for central bank or even traditional electronic money

Private crypto-currencies are, in the view of many experts and policy makers, just a bubble and a Ponzi scheme, while, in the view of others, they ultimately challenge state monopoly money and central banks’ business model.
Regarding the future of money and payments, and implications for central banks, one needs to distinguish between different concepts. First, also physical cash nowadays is high tech in the sense that it involves numerous security features; cash continues to be the dominant means of payment in many countries. Electronic money in the sense of bank account transfers, card payments etc. has existed for long and is evolving further, e.g. in the form of contactless payments. Blockchain and the distributed ledger is just a technology which can be used for various purposes, also by central banks e.g. for registry functions. Private crypto assets, e.g. bitcoin, suffer from volatility due to inelastic supply and lack of intrinsic value. Therefore, it falls short of the three functions of money, i.e. store of value, means of payment and unit of account. In addition, crypto assets would involve increasing costs if they were to become widely used (energy, environmental costs), thus they lack efficient scalability. And they do not ensure finality and irrevocability of payments. They suffer from the risk of manipulation and cyber-loss. Their anonymity, also for very large transactions, brings them into conflict with anti-money laundering rules. Major policy makers have qualified crypto-assets as bubbles and Ponzi schemes, in addition to their very negative impact on the environment. As they have so far not become a systemic problem, the G20 has, however, so far refrained from regulating them.

**Can crypto-currencies challenge the US dollar’s global dominance?**

The question was also discussed whether the creation of crypto-currencies might affect the US dollar’s position as the leading world currency. A currency becomes dominant if a number of factors come together. These include efficiency as a vehicle currency for international transactions, as a unit of account and as a store of value. There is complementarity in trade, financial transactions and in a currency’s role as a safe asset. A dominant currency is used despite exchange rate risk. The country whose currency is the dominant one benefits from the “exorbitant privilege” since debt in that currency is held widely and due to its safe haven status yields lower returns than other comparable safe assets. Ultimately, the status of dominant world currency rests on trade and financial openness (relative to its peers), on existing stability mechanisms, institutional and legal safeguards (typically a central bank with a stability mandate), well understood central bank policy and a credible backstop (typically fiscal with the government). There are self-reinforcing dynamics from incumbency and network externalities, once a currency has achieved the status of dominant world currency, which makes the change to a new dominant currency difficult. If such a change happens, then this is due to very dramatic circumstances, such as severe policy mistakes, world wars and a loss of credibility, and the changeover to a new dominant currency may itself be very disruptive.

**Currently, private crypto-currencies lack crucial features to take over as dominant global currency...**

Whether private crypto currencies can take a dominant role without a sovereign backstop is controversial. There are many open questions, which make this doubtful. First, can a currency become a global store for value without a large role in global trade? This has not happened before in history, and crypto-currencies currently do not have any meaningful role in trade. Second, which would be the mechanisms that would credibly safeguard a crypto-currency’s stability? Third, what would be the backstop to ensure relative stability for crypto-currencies? In the case of central bank digital money, this could of course again be the sovereign, but not so for private crypto-currencies. The major challenge currently is technological: A global currency needs to be capable of managing huge transactions globally and very efficiently. Here, current crypto-currencies do not offer an adequate technology to be sufficiently scalable and clearly do not offer an answer.

**...but crypto-currencies of the future may be different from today’s experiments and may seriously challenge central bank monopoly money**

The negative view on crypto-assets was not unchallenged. One speaker juxtaposed the old, in his view outdated and flawed, technology of central banking with the new, still half-baked technology of crypto-currencies. The around 1,500 crypto-currencies currently in existence have nothing to do with what crypto-currencies will look like in ten years. Current crypto-currencies are deeply flawed experiments by brilliant engineers who have little understanding of economics. Ten years from now both the current technological problems and the economic flaws will be overcome. And the political
constraints on these technologies will also be changed. By contrast, central banking is not evolving. Two deeply engrained political problems of central banking are here to stay. First, central banks fail to produce a stable value. Second, they are unwilling to pay interest on cash. Rather than sticking to domestically oriented flexible inflation targeting, central banks were mutually influenced by each others’ interest rate policies and sought to interfere with flexible exchange rates; QE further exacerbated the problem of competitive devaluations, creating exchange rate booms and busts, creating uncertainty, prompting unwarranted swings in capital flows and asset prices. These two features of central bank money – no interest and lack of stability - make central bank money fundamentally unattractive for users. A positive future scenario for crypto-currencies might be a global system with a few providers, which due to competition would have to ensure stability, while paying a positive interest rate. This would constrain domestic monetary policy and exchange rate manipulation, while it would not rule out countercyclical economic policies. For instance, credit policy might take the place of monetary policy. Future crypto-currencies might first be denominated in US dollars and later in terms of consumption baskets. Over time, they might establish a new dollar and later global commodity basket standard. This sequence would deal with the above-mentioned notion that it will not be easy to overcome current US dollar dominance. They could be designed in a way that avoids criminal use and tax evasion, allows selective information sharing for various legitimate purposes, while preserving privacy. The challenges are, first, to ensure stability based on suitable economic mechanisms, second, to get governments (not necessarily central banks) to cooperate and, third, to overcome current technological limitations. In such a scenario, private crypto-currencies would in the long run make central banks redundant.

Should central banks issue central bank digital money? Currently, there is also a lot of discussion about central bank digital money. There are a few countries where consumers and/or government behavior have led to a strong decline in the use of physical cash. However, this phenomenon is so far not wide-spread in other countries. If money were to become purely private, this would erode the central bank’s role in the payment system and endanger the latter’s resilience. Central banks are currently investigating ways and implications of themselves issuing digital central bank money. There are different ways to do this (e.g. making it available to financial institutions only or households at large), and depending on the nature of central bank digital money, implications may vary strongly (for further details see the conference report on the SUERF-Bocconi conference “Do we need central bank digital currency? Economics, Technology and Institutions”). For now, the benefits do not seem to outweigh the costs.

Dinner discussion: global politics and upcoming risks
The conference dinner was used for a vivid and wide-ranging discussion of current and forthcoming issues which will shape developments in the US, Europe, emerging market economies and the world at large.

Have we fixed the roof after the crisis? What is the biggest concern that keeps you at night?
The world has finally managed an impressive cyclical recovery. But risks that were not apparent a year ago have emerged. The threat of escalating global trade wars, rising interest rates, a disorderly Brexit, slowing economic growth, slow investment in infrastructure, worsening public finances, e.g. in the US and in Italy, and lack of research and development warrant to be vigilant. Europe lags seriously behind the US in terms of digitalization and post-crisis reforms, e.g. in the banking sector. Europe should take decisive action to recover lost ground.

US and European politics as a source of uncertainty
US and European politics are currently undergoing important changes, which creates important uncertainties and risks. The relationship between the US and Europe seems more in flux than in the past. The upcoming US mid-term elections in November could potentially stir and change the composition in legislative and executive bodies, and exacerbate political divisiveness.
Also in Europe, the next 12 months may bring important turning points. In the midst of increasing Euro-sceptic sentiment in the European Parliament, upcoming national elections in more than ten countries can change the composition of the European Central Bank, European Commission, and the European Union at large. Moreover, resentment in several EU CESEE countries toward EU institutions poses a concern as it exemplifies disharmony between Eastern and Western Europe. Brexit remains a divisive issue. The question of how to push forward with European Capital Markets Union without London will be a challenge. However, there continues to be enough commitment, goodwill, and belief in the European integration project to keep the system together. Bias in media coverage toward European disintegration has also subsided.

Emerging markets: CESEE with robust growth - crises in Venezuela, Argentina and Turkey
The growth rate of Central, Eastern and Southeastern Europe is expected to be around 3-3.5%. This is the only region in the Europe that is seeing declining public debt. Central and Eastern Europe also coped better than other emerging economies with external shocks such as the taper tantrum, the end to QE, the selloff of EME assets, and other shocks. The rise of sovereign risk in emerging market depends on geopolitical risks, US interest rates, and world trade. For now, there is no global contagion, thanks to improved macroeconomic prudence, but a trade war between the US and China can trigger currency depreciation and prompt a crisis.

Three countries, however, are in precarious positions. Venezuela is in a catastrophic state, with no prospect for improvement. Argentina has fallen into crisis at a surprising speed. Due to high US dollar denominated debt and deeply miscalculated macroeconomic management, it is currently facing a social crisis. Turkey has relatively low sovereign debt but suffers from political uncertainty and the consequences of years of letting the economy overheat.

Global development financing: how to work together more closely?
The World Bank alone is not big enough to provide the financing need to master the current global challenges. Closer cooperation with the EBRD would be useful. But it will be crucial to take China on board. China is willing and able to fund projects outside the usual frameworks, which has been a wake-up call for the greater international financing community.

III. Robotics, migration, wages, and the future of labor
Robotics reduces labor demand, migration increases labor supply in advanced economies. The combined effect is bound to influence wage formation and inflation. Thus, ultimately also the conditions under which central banks pursue monetary policies are affected.

Big data, robotics and AI bring a new technical revolution also affecting white collar workers
Robotics is not a new phenomenon. It has been with us for decades. Automation has been going on for several centuries. In the past it mostly affected manufacturing. What is new now is the focus on big data, AI and machine learning, which are increasingly dominating the automation process. Therefore, the current wave of automation will affect white collar, knowledge workers. In principle, the associated increase in productivity is welcome: technological change and innovation free labor to do other things. In an optimistic view, technological progress might help to overcome the problem of the scarcity of goods.

Why is the connotation with robotics then so negative? The reason is that jobs are associated with two features. First, jobs create income and thus purchasing power. Second, work creates self-worth. As low-skilled “old” jobs get lost, technological progress may accentuate the issue of the distribution of production proceeds. The market is not good at ensuring a fair distribution of income and purchasing power. This is commonly understood to be a function to be fulfilled government. At the same time, government is often associated with hampering innovation and an efficient resource allocation, and government also often enables large-scale rent-seeking. Novel thinking will be required in
the 21st century in order to deal with the distributional consequences of robotics and AI.

It is noteworthy that, despite automation and displacement of labor, the labor participation rate actually rose in the long run. The long-term trend suggests that, despite painful short-term adjustments, in a longer term view, the relationship between machines and workers is complementary. Will the technological revolution brought about by robotics and AI be different from past regularities? Robotics and AI will shift the frontier where human workers and machines interact. Workers will do human work just in another way. While jobs will be lost in some sectors, new jobs will be created in others. The question is which jobs will be replaced and which ones will be complemented by new technology. Automation has several effects which operate at the same time. First, machines displace certain types of labor. Second, the increase in productivity brings costs down, boosts output and as a consequence also raises the demand for labor in non-automated tasks. Third, as demand for capital rises in this process, new tasks are created, creating new jobs. During the adjustment process, mismatches of skills etc. occur, which slow down the overall process and make it difficult for displaced workers to find the new jobs. Government policy has a useful role to facilitate and speed up this adjustment process and thus also make it more palatable for societies.

Most advanced economies – both the US and Europe - have suffered from low productivity growth since the turn of the millennium. Why does the technological revolution not translate into high productivity growth? What the digital revolution highlights is an increasing dichotomy between the digital economy that is very scalable and based on information sharing and raising connectivity; and a non-digital economy that fulfills basic physical and biological needs. In the digital economy, the most highly skilled workers are pooled, productivity growth is huge and wages and profits are large; by contrast, in the “old” sectors, productivity stagnates, and wages and profits are much lower. Why do laggard firms not learn from the leaders? Why do they survive? Possible reasons are that leaders are able to protect their technological advantage and rents, and the institutional environment (state regulation etc.) within which firms operate. This would also be one explanation why some countries experience much higher productivity growth than others (e.g. Germany versus Greece).

In contrast to these quite far-reaching scenarios, other speakers thought that big data, AI and machine learning are actually hyped and the only sectors where AI will really make a big – positive - change are healthcare, energy, and transport by improving quality and by bringing about increases in productivity long overdue. Moreover, the speed of the process towards robotics varies across countries. There are fewer robots per workers in the US and UK than in Germany, Japan, and South Korea, where aging demographics have accelerated the embrace of robotics into the greater society. One reason that effects from AI on the job market is so much talked about may be that the white collar workers affected are more vocal than the less educated blue collar workers, who have always been affected by automation. Migration creates fears among disadvantaged parts of societies, challenges state integrity and calls for an open debate.

Cross-border migration can alleviate the mismatch created by technological process. But it can also create tensions, which have not been handled adequately so far. Migration increases labor supply in advanced economies. Immigrants for the most part compete with lower skilled workers in recipient countries, and thus with the very people that have been left behind by globalization, technological innovation etc.. It is thus understandable that anti-migration sentiment arises from these parts of societies. Empirically, however, the effect of migration on wages is actually negligible. Thus, the tensions from migration arise from factors other than actual wage effects.

For all practical purposes, the nation state continues to be the relevant unit in international relations and politics. A core feature of the nation state is to be able to protect and control its borders. Migration can be separated into three categories: legal immigrants, illegal immigrants, and asylums seekers. If you do not subscribe to the notion of one global state, then the idea that nation states have the right to ensure the integrity of their borders is largely beyond dispute. Where the political debate should be is how much legal immigration a state wants and how generous it should be with granting asylum. This is a legitimate question that one can and should discuss in the public political debate, and which will also be show
up at the ballot box. Without such open discussion, one ends up with gridlock and polarization.

Migration highlights inconsistencies in the EU: common external border versus multi-speed Europe?
The EU case is even more complicated, since the EU does not have a consistent sharing of sovereignty. Some areas of sovereignty are reserved to the nation state, others are pooled at the EU level. The free movement of people within the EU requires a common policy on external border control. By contrast, to date this remains largely an issue taken care by individual EU states. Frontex border guards make up only a tiny fraction compared to national border guards.

A common approach to migration is Europe’s biggest forthcoming challenge. Migration may imply the end to the “one size fits all” for Europe. This is visible in Brexit and in several Eastern European EU countries. While deviating from “one size fits all” carries important risks, in a situation of rising national(ist) sentiment, an approach of “Europe à la carte” or a “multi-speed Europe” seems more realistic and promising, as it avoids overstretching nations’ and populations’ support for integration. By contrast, an overly ambitious quest for integration might prompt a backlash in the area of economic integration.

Labor’s decreasing bargaining power, inequality, macroeconomic policies and implications for the future development of the EU
Globalization, technological process and migration have reduced blue and white collar workers’ wage bargaining power. The Phillips curve has become quite flat. In this environment, it becomes increasingly difficult to identify where in the business cycle an economy operations and how large spare capacity is. One conclusion might be to let the economy run hot a little bit until perhaps more regular patterns of wage and price reactions to labor and goods scarcity become visible. Workers with less than college or high-school education are most strongly affected by technological progress, their real wage has fallen over recent decades. The labor share in the national income has declined in many countries. By contrast, the return on both human and financial capital has increased.

Europe and the US have developed quite differently in terms of market concentration over the past two decades. In Europe, due to strict competition rules and an EU wide ban on state aid, competition for example in the telecom sector has been much fiercer than in the US. The lack of competition in the US as compared to Europe has been reflected in much stronger relative increase in prices (+15%) as compared to wages (+7%) in the US as compared to Europe since 1999, reflecting much higher increases in profit margins in the US as a result of market concentration and weak competition in product markets.

But also in the labor market, market concentration has increased: Large firms – both in the old and in the new economy - have significant wage pricing monopsony power (one buyer, many suppliers of labor) in local labor markets. The much stronger fall in the wage share in the US as compared to Europe reflects these market concentration developments. The emergence of large superstar firms and increasing firm concentration in the US has broader effects on the political system and society, since the very large and profitable firms spend large resources on lobbying and political party support. The relevant firm expenditures are five times higher in the US than in Europe. Also the US health care system benefits from particularly high rents.

Europe, by contrast, nowadays has one of the strongest anti-trust regimes worldwide. Originally, Europe just wanted to copy the original strict US anti-trust laws. Originally, Europe just wanted to copy the original strict US anti-trust laws. However, due to the need to agree on the rules across countries, anti-trust law was lifted to the European level and its surveillance handed over to a highly independent European institutions aiming strongly for consumer protection, the European Commission.

How to further Africa’s development?
Due to its importance for global economic development and migration, a separate panel was devoted to Africa. Panelists emphasized the need to shift from a primarily donor-supported model in Africa to one of sustainable investment that includes the private sector. We should focus on the ways investment is financed and the gains it provides. Currently, most investment is financed by loans which means that most African countries build up net foreign debt. Developing investment ties in Africa is not without challenges. More should be done to increase connectivity, market access, and the involvement of women in economic activities.
Greening Africa’s economies
Africa lacks behind in innovation. African economies, despite recent diversifying efforts, still remain underrepresented in many sectors including financial services. Productivity has been lagging, and a green revolution has not yet taken place. Output per capita has been almost flat over the past half century, in stark contrast with other continents. Financing green projects through bond issues, developing projects to strengthen infrastructure and promoting financial inclusiveness will need to be achieved to take Africa to the next level of development.

FDI needs to go beyond extractive industries
A concern is the slow pace of foreign direct investment. While China is deeply involved, that country’s investment has largely focused on mining but not on manufacturing or agriculture. Rising debt levels are worrying in many African countries. Reliable governance and macroeconomic prudence need to be strengthened.

Improve incentives for the African diaspora to return and help develop their countries
Africa’s diaspora plays an important role for financial flows to Africa. Residents with African origin in OECD countries are estimated to be around 10 million and the diaspora provides a major source of income for Africa in the form of remittances, which may be more substantial than the volume of foreign direct investment. Fostering the exchange of investment and ideas, the diaspora not only brings financing from the abroad but also promotes exports. Policies to deal with the diaspora need improvement.
A more favorable environment for investment also requires better legal governance. Precarious legal conditions reduce the incentive to invest and prevent migrants to return to their own countries. Africa should nurture and preserve its human talent. Brain drain is accelerating as a third of the African diaspora in OECD countries are college graduates. OECD countries, on the other hand, should empower educated members of the African diaspora to contribute to their home countries by recognizing their tertiary degrees and improving access to internships and language training. There is also a need to provide them with legal support as precarious legal conditions dis-incentivize investment in Africa. Despite the challenges to strengthening investment in Africa, the general sentiment was positive on the outlook for Africa. Africa is a growing market, and the continent’s young demography and economic potential are highly valuable. While other regions have had their big moments of development, African countries can grow more rapidly with the embrace of new technology.

IV. Delivering on climate goals
Climate change is huge challenge
Climate is likely the most far-reaching challenge for mankind in the coming decades. The needed transition towards a carbon neutral economy will be a main driver of economic development in the medium and long-term. The implications of climate change and the needed transition will be very far-reaching, for most sectors, involving physical, transition as well as liability risks. Climate change will involve substantial supply side and potentially also demand shocks for the global economy. While global aggregate costs will be huge, regions will be affected differently, implying huge distributional effects, which will trigger global tensions and unprecedented migration pressure. The European Environment Agency estimates that the annual total damages from climate change in the EU alone will amount to EUR 190 bin or 1.8% of current GDP per annum by the end of the 21st century under a scenario of a 2.8°C warmer world (EUR 120 bn or 1.2% of GDP under a 2°C scenario).
A sudden forced transition could significantly dampen growth and threaten financial stability. To avoid unnecessary shocks and uncertainties, the transition needs to be planned and timed carefully. If done right, it offers tremendous opportunities. Countries and firms taking the lead may turn climate transition into a competitive advantage. Having a clear long-term perspective is key for economic agents in such an environment. It is the role for governments and policy makers to provide this clear perspective and to communicate it clearly and explicitly, so that economic actors can plan and act accordingly.
Urgent need for decisive global action even beyond the Paris climate goals: the technology is there

There was agreement among conference speakers on the urgent need for serious and timely climate action. New research and climate simulations show that the Paris Climate Agreement takes us less than half way toward where we need to be in two years to avoid dangerous and irreversible climate effects.

At the technical level, a rich set of solutions are already available to take effective climate protection action, and there has been a massive and unprecedented mobilization from businesses, investors, cities and states. Numerous companies are currently adopting science-based target initiatives.

The bottleneck is government action: how to overcome co-ordination failure?

Climate change is global but the responsibility for action in the end rests with national governments and parliaments. In fact, a major bottleneck is economic policy. Many governments so far have failed to show convincing action and to send clear political signals of long-term commitment and incentives for sustainable investment. Standards and measurement for sustainable investment remain undefined.

Will the EU’s Energy Union be as effective as ambitious?

The EU aims to overcome co-ordination failure by having created the European Energy Union in 2015 and by agreeing on a new related governance framework in 2018. Under this new framework, EU member states will need to submit national energy and climate plans by 31 December 2018 for 2021 to 2030. The European Commission will monitor the process and issue recommendations to member states which will have to take corrective action in case of implementation gaps. While ambitious and promising, the procedure mirrors the ones of the European Semester and the Stability and Growth Pact, whose implementation record has been mixed. Thus, there is also a role for individual countries and firms to take the lead.

Climate transition is both challenge and opportunity for financial firms and investors

Completing the EU’s Energy Union will require significant investment of at least EUR 170 bn (or 1.5% of GDP) p.a. according to European Commission estimates. Funds mobilized through the European Fund for Strategic Investment ("Juncker Plan), while encouraging, will by far not suffice. Thus, energy transition offers both a challenge but also a formidable opportunity for the financial sector and for investors. The important work of the High Level Group on Sustainable Finance (HLEG) established by the European Commission now needs to be implemented. Many central banks and financial supervisors are currently developing and piloting climate change and energy transition stress tests, in order to better gage consequences and identify sources of potential systemic fragilities. A Task Force on Climate-Related Financial Disclosure has been set up and provided findings. There has been remarkable growth in ESG investing. Regarding sustainable finance, there is a need to effectively connect climate goals and financial regulation by creating climate-related metrics for the finance sector. Article 173 in France, which requires mandatory climate disclosure and target setting, is an example of regulation in this area. Another example is the EC delegated act on suitability assessments. Measurement of the carbon footprint of an investment portfolio is not effective since it is backward looking. Climate scenario analysis, by contrast, allows one to assess the alignment of portfolios with public policy goals using forward-looking data such as technology and decarbonization plans. A challenge is that financial markets systematically misprice climate risks since they likely materialize slowly and cannot be studied with past data. Financial markets tend to have a short-term focus and estimate future cash flows by extrapolation, which amounts to “collective blindness” after a typical five-year horizon. There is a need to overcome this market imperfection.

The private sector has a crucial role in catalyzing transformation. There are financial institutions with a clear climate transition mandate, which finance projects that drive sustainable change. There is a need to uplift standards that apply to different sectors beyond national requirements. It is possible to create an environment where investment drives policy reform. Mankind has already reached a point of very serious danger from climate change with temperatures now being warmer than any decade average in the last 10,000
years. It is important to recognize the need to phase out fossil fuels by mid-century given that we now have the technology to do so. While there are still challenges, these are of a scale manageable by investment in technologies of energy storage, energy distribution, and energy efficiency through the Internet of things. The main obstacle currently is a lack of political determination.

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The constructive and open climate during the conference as well as the relaxed atmosphere during breaks and at the conference dinner facilitated an open dialogue between representatives from very different backgrounds, including, as always with SUERF, policy makers, representatives from the financial industry, and academic researchers. The broad approach of the conference design also facilitated insights into the interconnectedness of several fields of economics, finance, technology, politics and social sciences. Recognizing and understanding these interconnections is vital to finding effective, politically viable and socially and environmentally sustainable solutions to current challenges. Numerous positive reactions by speakers and conference participants encourage the co-organizing institutions and the organizing committee to carry this fruitful conference series on into 2019.
Banks have traditionally played a more significant role in Europe for the provision of funding to firms than capital markets. However, in the recent period the role of European capital markets has increased due to both transitory and permanent factors. Understanding these factors is key to assess the implications of this process. Another relevant development in the European and worldwide financial markets is the impact of new technologies which is introducing more competition in the provision of financial services due to the emergence of new players such as FinTech companies. All these changes in the structure of financial markets may have implications for both the functioning of financial markets and the economy. In particular, the development of capital markets in Europe would contribute to a higher level of diversification of firm liabilities that could help them to face shocks affecting the bank lending channel. Additionally, it would enable households and firms to hedge against country-specific sources of risk to smooth income, consumption or investment growth. The introduction of new technologies in the financial markets may entail some social benefits in terms of efficiency gains and market inclusion. Both developments may also have implications for the future of the banking sector. The development of capital markets and the emergence of new players pose some challenges for banks, but there are also possible synergies between banks and the other financial intermediaries that they can exploit. In any case, banks will need to adapt to these changes.

This conference, which was jointly organized by SUERF and Banco de España (BE) and hosted by the BE, aimed to discuss these issues related to the financial disintermediation and the future of the banking sector among academics, policy members and financial practitioners. The conference consisted of three sessions and two keynote speeches and its content is summarized below these lines.

In his opening remarks, Banco de España Governor Pablo Hernández de Cos pointed out that capital markets in Europe are less developed than in the United States (US). In particular, in 2017, the ratio of financing through fixed-income securities to total debt financing was 12% in the euro area versus 43% in the United States.
He acknowledged that there is not a consensus in the literature on what source of financing has a higher contribution to financial stability and economic growth. Nonetheless, beyond the traditional perspective considering bank- and market-oriented structures as alternative and competing, he noted that recent literature suggests that they should be considered as complementary since any of the financial structures in isolation are probably suboptimal.

Governor Hernández de Cos highlighted that European financial markets are also less integrated than their US counterparts. To overcome these problems, a Capital Market Union (CMU) Action Plan was launched in 2015 by the European Commission. On his view, the CMU project is an important step forward to reach the goal of correcting some structural deficiencies of the EU capital markets in terms of their relative underdevelopment and fragmentation. Additionally, he stressed that in recent years, the role of European capital markets as a source of funding for firms has increased. It is relevant to understand whether this increase is the result of transitory forces (e.g., unconventional monetary policies) or permanent forces (e.g., regulatory changes or new markets).

Finally, Governor Hernández de Cos emphasized that the arrival of new technologies has reduced the barriers to entry in certain traditional banking activities, creating the possibility for new competitors to banks, such as the FinTech companies. However, new technologies also offer opportunities for banks in terms of potential efficiency gains.

Philip Lane, Governor of the Central Bank of Ireland, offered the first keynote speech of the conference on “trends and cycles in financial intermediation”. Governor Lane highlighted that both, cyclical and structural forces, are contributing to the decline in the importance of banks in financial intermediation. This trend has many positive features since a more diversified financial system, in which banks play a relatively smaller role, could favour the efficiency and the risk sharing.

He mentioned a number of cyclical forces such as: i) the limited lending capacity of banking systems; ii) the accommodative monetary strategies of the major central banks facilitating large-scale bond issuance; iii) large-scale increase in official funding, and iv) the bank’s need to establish bail-inable buffers. Among the structural forces Governor Lane stressed the following: i) the combination of ageing population, rising income level and increasing reliance of private provisions for retirements; increasing the appetite towards higher-yield financial assets; and ii) the impact of technological innovation to enable new types of financial intermediation.

Governor Lane speech also focused on the cross-border financial flows in the context of financial disintermediation. He emphasized that traditionally, banks have intermediated a large proportion of cross-border debt flows. As a consequence, a great effort has been devoted to sharing information of the exposures embedded in global-significant banks. However, financial disintermediation process has shifted the composition of the external balance sheets. Since regulators and statistical agencies know less about non-bank intermediaries, analysis of the financial stability and risk distributions properties are more complicated.

Finally, Governor Lane put particular attention on the recent developments of the investment fund sector. He emphasized that the expansion of the investment fund sector since the financial crisis is striking. The fundamental risk facing investment funds is the investors run risk. This risk is comparable to the classic run risk faced by the bank system. For this reason, IOSCO and the FSB have rightly emphasized the importance of the quality of both liquidity risk management and contingency planning. High standards in these regards will lessen the potential impact of instability in the investment fund sector on the wider financial sector.

Session 1, chaired by Thomas Vlassopoulos, Head of the Monetary Analysis Division, DG Monetary Policy, ECB, dealt with financial disintermediation and the role of monetary policy and financial regulation.

Óscar Arce, Director General Economics, Statistics and Research, Banco de España, presented his recent research of the impact of the Corporate Sector Purchase Programme (CSPP) on the funding of non-financial corporations. The ECB introduced in mid-2016 the CSPP
as part of the ECB Asset Purchase Programme. Through this programme, the ECB purchases in both the primary and the secondary market fixed-income securities issued by non-financial corporations in Europe with an investment grade rating. Arce documented that this programme contributed to lower the cost of firms’ financing through the issuance of fixed-income securities. This lead to an increase in non-financial corporations’ willingness to issue bonds and to a bond-loan substitution strategy by large firms with access to financial markets.

The positive side of this disintermediation effect is that this credit was re-intermediated towards other segments of firms that do not have access to bond markets, according to the results of Arce’s research. Thus, the increase in the space in the balance-sheet of banks made them to reallocate credit to smaller firms. This re-intermediation effect took place in waterfall process. That is, banks first reallocated credit to larger firms that do not issue bonds, to medium-sized firms to a lower extent, and finally to small and micro firms. This reallocation of credit was very beneficial for firms without access to bond markets since it contributed to a significant increase in their investments. On the contrary, large firms that issued bonds just used these funds to repay loans with no effect on their investments.

Leonardo Gambacorta, Bank of International Settlements, began showing the shift of financing structure towards market-funding, especially in emerging markets. In spite of that, he showed that there is a high degree of heterogeneity across countries. For instance, he noted that capital markets in Europe are less developed than in the United States.

Then, Gambacorta presented his recent research based on a sample of both advance and emerging markets economies for the period 2001-2011. He documented that both the size of bank-based intermediation (measured by bank credit over GDP) and of market-financing (measured by means of turnover ratio: trades of shares over their market capitalization) affect GDP growth. However, the financial structure affects output in a non-linear way and beyond a given threshold leads to a decrease in GDP growth. In view of the average bank credit and the turnover ratio in both developed and advanced economies, one concludes that the size of both sources of financing is closed to the optimal in emerging economies but the size of credit over GDP is oversized in developed countries.

Gambacorta also stated that the financial structure has implications on income inequality. In particular, a development of both market- and bank-oriented markets tends to reduce income inequality but beyond a given threshold the size of bank credit and market capitalization over GDP leads to higher inequality.

Importantly, Gambacorta highlighted that countries’ financial structure influence the economic resilience after the realization of shocks of different nature. He showed that although bank-oriented systems are less vulnerable to “normal” downturns (i.e., those not related with financial crisis), a financial crisis can impair the shock absorbing capacity of relationship banks given that when they are under strain, they are less able to help their clients through difficult times. In fact, this situation could lead to zombie lending since banks may opt to roll over credit in an effort to postpone loss recognition. On the contrary, this mechanism is not in place for capital market investors. In a financial crisis, more market-oriented systems may speed up the necessary deleveraging, thereby fostering a sustainable recovery.

Steven Ongena, Professor at University of Zurich, presented his research on the impact of the bank’s capital requirements on bank lending. Based on a sample of Belgian banks between 2011 and 2014, Ongena documented how time-varying bank-specific Pillar 2 capital requirements affect banks’ lending to the non-financial corporate sector. He finds that these requirements affect negatively both the intensive and extensive margins of credit supply, especially with longer maturities. The negative effect is smaller for large, safe, profitable and well capitalized banks and stronger for large, old, risky and more indebted firms. This negative effect on credit supply is extended to mortgages and foreign corporates.

Session 2, chaired by Patricia Jackson, Non-executive Director, Atom Bank and SUERF Council Member, dealt with FinTech and the future of the banking sector.
David T. Llewellyn, Professor at Loughborough University and SUERF Council Member, stressed that the regulation (particularly Open Banking in the UK and PSD2 in the rest of the EU) and the developments in technology have come together in a way that has the potential to transform the banking industry, since their combination undermines some of the traditional comparative advantages of banks. Llewellyn admitted that this is too apocalyptic a view because the emphasis has been given to the potential threats to incumbent banks. On the contrary, he highlighted that there are also opportunities for existing banks to be derived from the same pressures. In this context, conflicting forces are operating. While some aspects of technology enhance finance and increase its potential (and thereby create opportunities for all players in the market – the expansion effect), at the same time, they potentially threaten the entrenched position of incumbent banks (substitution effect).

Loriana Pelizzon, Professor at Goethe University Frankfurt, presented her recent research on how peer-to-peer (P2P) platforms compete with banks. She first sketched a theoretical model of competition between banks and P2P platforms. That model predicts a negative correlation between P2P lending and bank lending. In addition, this effect is more pronounced in periods in which banks are capital-constrained and borrowers are aware of alternative funding sources. Interestingly, Pelizzon showed that the loans that migrate from the banking sector to the P2P platforms are the riskiest and the least profitable customers from banks. However, in spite of getting the riskiest borrowers, P2P lenders charge lower risk-adjusted interest rates than banks. She also provided empirical support to all the previous theoretical predictions using region/bank-level data on new consumer lending by German regional banks and the German P2P platform Auxmoney.

Javier Sebastián, Principal Economist, Digital Regulation and Trends, BBVA Research, addressed on his talk future scenarios for financial services. According to Sebastián the effect of the new competitors has to be interpreted taking into account the time in which it occurs. More specifically, Sebastián sustained that it is taking place in a complex economic environment with weak economic growth, negative interest rates, and increasing regulatory pressure for banking institutions in the form of higher capital requirements. Of course, this context could contribute to a higher extent to the appearance of Fintech and BigTech players. In view of Sebastián, three areas will shape the future of the financial sector: regulation, technology, and market. In the case of regulation, there should be a shift from seeing innovation as a threat, to a more friendly approach (without reducing the relevance of intense financial regulation). In the second case, technology is approaching a level of maturity high enough to increase the adoptiveness by participants. Finally, those market participants (i.e., banks but also third parties) should look more for a collaborative environment rather than a competitive one. The role that banks will play, is unclear yet, according to Sebastián, and it will depend on whether they create this new environment (leading role), enter into strategic partnership with third parties (partner role), or act as mere provider of financial services in a digital ecosystem dominated by other (Bigtech) institutions.

Luc Laeven, Director General of the Research Department, European Central Bank, offered the second keynote speech of the conference on “credit booms and crisis: the role of information”.

Laeven firstly stressed that credit regulation has to be carefully designed. In order to do so, a key element is distinguishing between good and bad credit booms. Based on his previous research Laeven showed that only about 1-in-3 credit booms (defined either on the basis of real credit growth or deviations from trend) ended up in a financial crisis or below-trend economic performance. On the other hand, financial crises result in high output losses and are associated with high fiscal costs including those that arise from financial sector containment and resolution policies that contribute to large increases in public debt. This implies that the cost of intervening too early and running the risk of stopping a good boom have to be carefully weighted against the desire to prevent financial crises.

Laeven next presented a new theory of credit booms based on information. According to his model there are two potential drivers of booms: i) collateral; and ii) productivity. In a collateral-driven boom there are lower
incentives to produce information for the credit scoring, contributing to funds’ misallocation and exacerbating the following crisis. By contrast, productivity-driven booms do not deplete information on the potential debtors and don’t end in a financial crisis. Thus, an optimal regulation requires understanding the source of booms, because productivity-driven booms need to be preserved.

Finally, Laeven presented the empirical findings of his research. He documented that firms’ investment increases with real estate value, being this effect stronger for unscreened investment firms (firm-level information is proxied as those firms whose shares have high bid-ask spreads). In addition, he showed that regions with larger real estate booms allocate more investment to unscreened firms and that during housing bust (2007-2012), the fall in investment was stronger in regions that allocated more investment to unscreened firms during the boom. All those empirical findings are in line with the theoretical predictions of his model.

The policy panel, chaired by Michala Marcussen, Group Chief Economist at Société Générale and SUERF Council Member, dealt with Capital Markets Union (CMU).

Rodrigo Buenaventura, Director General for Markets at CNMV, focused on the financing of small and medium enterprises (SME). He enumerated several reasons why SMEs do not have access to capital markets including the cost of being listed and the higher supervision to which they will be exposed, the crowding out of the government and large companies, their riskiness, the lack of liquidity in their equity and bonds, low research coverage or the existence of home bias. According to Buenaventura, the CMU could help to promote SME financing in capital markets whenever it can contribute to overcome the previously enumerated restrictions faced by SMEs. In any case, Buenaventura concluded that regulations cannot create markets, just facilitate them.

Andrea Enria, Chairperson, European Banking Authority, stressed that private risk-sharing in the Euro Area is impaired, as can be inferred from the development of the quantity-based indicators of financial integration or the evolution of the mergers and acquisitions process. In addition, Enria highlighted that distrust is persistent 10 years after the financial crisis struck, despite the ongoing macroeconomic recovery, the substantial progress in banks’ balance sheet repair and the Banking Union (BU) reform.

On his view, the resilience and the productivity of the banking system can be enhanced through the implementation of the CMU and the BU. In the context of the CMU, banks will be able to improve their funding, risk sharing and the transfer of legacy risk on a cross-border basis. Complementary, the BU will improve the direct cross-border lending through the establishment of branches and subsidiaries.

Nicolas Véron, Senior Fellow at Bruegel and Visiting Fellow at Peterson Institute for International Economics, argued that CMU is just another name of single market for financial services but banks will remain central to the European financial system and the CMU. That is why according to him, completing the BU is the real centerpiece of the CMU. Véron explained that the three main steps to complete the BU are: (i) the break of the bank-sovereign nexus, (ii) a level playing field for banking business, (iii) cross-border integration. Véron explained that to achieve these steps, at least the following elements are required: (i) sovereign concentrations charges; (ii) a European Deposit Insurance Scheme (EDIS); and (iii) phase out the penalties of cross-border expansion.

Conference presentations are available at: www.suerf.org/madrid2018
The 6th SUERF/UniCredit Foundation Prize for Young Researchers

Green finance

Thursday, 24 January 2019
WU Wien - Vienna University of Economics and Business

Inaugurated in 2013, the SUERF/UniCredit Foundation Research Prize annually rewards outstanding papers submitted on a specific topic by researchers under the age of 35, who are citizens or residents/students of the EEA, Switzerland, and non-EEA countries in which UniCredit is present.

We are pleased to announce the winners of the 6th SUERF/UniCredit Foundation Research Prize on the topic of “Green finance”:

Dejan Glavas, ESCP Europe
*How Do Equity Investors React to Green Bond Issuance Announcements?*

Olivier David Zerbib, Tilburg University
*Is There a Green Bond Premium? The yield differential between green and conventional bonds*

Dejan Glavas and Olivier David Zerbib will present their papers in a half-day workshop in Vienna, on 24 January 2019, at WU Wien (Vienna University of Economics and Business).

For further information about programme and registration, please visit: [www.suerf.org/vienna-uf2018](http://www.suerf.org/vienna-uf2018)
SUERF/Narodowy Bank Polski Conference

Challenges of Interactions between Macroprudential and other Policies

15 February 2019
Narodowy Bank Polski, Warsaw, Poland

Preliminary Programme

08:40  Registration

09:10  Welcome remarks and introduction
Ryszard Kokoszczyński, Member of the Board, Narodowy Bank Polski and SUERF Council
Jakob de Haan, SUERF President and Head of Research, De Nederlandsche Bank

09:15  Keynote speech
Moving forward with macroprudential frameworks
Stijn Claessens, Head of Financial Stability Policy and Deputy Head of the Monetary and Economic Department, Bank for International Settlements

10:45  Coffee break

11:00  Session I - Policy Interactions: different points of view
Chair: Paweł Szalamacha, Member of the Board, Narodowy Bank Polski
Henrik Braconier, Chief Economist, Swedish Financial Services Authority
Philipp Hartmann, Deputy Director, DG Research, European Central Bank
Michala Marcussen, Group Chief Economist, Société Générale and SUERF Vice President

12:30  Lunch

13:30  Session II - Macroprudential policy and DSGE modelling
Chair: Mateusz Pipień, Head of the Division of Macroprudential Research

in Financial Stability Department, Narodowy Bank Polski
Fiscal distress and banking performance: The role of macro-prudential regulation
Hiona Balfoussia, Economic Analysis and Research Department, Bank of Greece
Extreme financial distress and the macroeconomy: a new framework
Kalin Nikolov, Financial Research Division, European Central Bank
Macropudential policy in a small open economy: modifying the model with three layers of default
Dobromil Serwa, Financial Stability Department, Narodowy Bank Polski

15:00  Coffee break

15:15  Session III - Optimal Bank Capital – theory and practice
Chair: Jakob de Haan, SUERF President and Head of Research, De Nederlandsche Bank
Bank capital and financial stability
Moritz Schularick, Professor, University of Bonn
Bank capital in the short and in the long run
Javier Suarez, Professor, Center for Monetary and Financial Studies (CEMFI)
The welfare effects of bank liquidity and capital requirements
Skander van der Heuvel, Deputy Associate Director, Federal Reserve Board

16:45  End of conference

Scientific Coordination: Ryszard Kokoszczyński, Member of the Board, NBP, and SUERF Council Member

www.suerf.org/warsaw2019
34th SUERF Colloquium & Banque de France Symposium
On the occasion of the 20th anniversary of the euro
The Euro Area: Staying the Course through Uncertainties
28-29 March 2019, Banque de France, Paris, France

Preliminary Programme

Thursday, 28 March 2019

13:15 Registration

13:40 Opening remarks
Francois Villeroy de Galhau, Governor, Banque de France
Michala Marcussen, SUERF Vice President

14:00 Keynote speech I
Christine Lagarde, Managing Director, International Monetary Fund

14:30 Panel I – Coping with international shocks
Moderator: Martin Wolf, FT tbc
Laurence Boone, Chief Economist, OECD
Agustin Carstens, General Manager, BIS
Richard Clarida, Vice Chairman, Federal Reserve Board
Pascal Lamy, former President, World Trade Organisation

15:30 General discussion

16:00 POSTER SESSION and Coffee

16:45 Panel II – Addressing the impact of Brexit
Moderator: Jean Lemierre, Chairman, BNP-Paribas
Ana Botin, Chairman, Santander tbc
Sharon Donnery, Deputy Governor, Central Banking, Central Bank of Ireland
David T. Llewellyn, Professor, Loughborough University & SUERF Council
Cecilia Malmström, European Commissioner for Trade tbc

17:45 General discussion

End of first day’s proceedings
SUERF General Assembly (for SUERF Members only)

Friday, 29 March 2019

09:00 SUERF 2019 Marjolin Lecture
Chair: Jean-Claude Trichet, former ECB President
Hélène Rey, Professor, London Business School

09:30 General discussion

10:00 Award ceremony
Marjolin Prize 2019 and SUERF Honorary Membership

10:45 Keynote speech II
Mario Draghi, President, European Central Bank

11:00 Coffee break

Panel III – Conducting monetary policy in heterogeneous areas
Moderator: Sylvie Goulard, Deputy Governor, Banque de France
Lorenzo Bini Smaghi, Chairman, Société Générale
Gita Gopinath, Professor, Harvard and Economic Advisor, IMF tbc
Lucrezia Reichlin, Professor, London School of Economics
Jean Tirole, Professor, Toulouse School of Economics
N.N., Member of the ECB Governing Council tbc

12:15 General discussion

12:45 Concluding remarks

13:15 Buffet lunch

Scientific Coordination: Marc-Olivier Strauss-Kahn, Director General and Special Advisor to the Governor, Banque de France, and SUERF Council Member

www.suerf.org/paris2019
When the European Central Bank was created on June 1st 1998 and the euro was introduced on January 1st 1999, the project of a European Economic and Monetary Union finally became reality after a long process of monetary cooperation and unification. Now at its 20 birthday, it is time to take stock of this major institutional reform and look into the future.

This conference will provide both a historical and a forward looking perspective on EMU. After a brief look into its general history, we will discuss more specifically how EMU brought about the level of monetary, financial and fiscal stability that allowed Europe to master adversarial events as big as the Great Financial Crisis and its aftermath. We will discuss the role EMU plays in the larger European project. A look into the future will discuss how to cope with technological changes in money and finance and analyse the steps which will still be needed to fully complete this historical project.

**Confirmed Speakers:**
Ulrich Bindseil, European Central Bank  
Sylvie Goulard, Banque de France  
Andrei Kirilenko, Imperial College  
Peter Praet, European Central Bank  
Jean Claude Trichet, Bruegel

**Conference Chair:**
Ewald Nowotny, Governor, Oesterreichische Nationalbank

**Scientific Coordination:**
Ernest Gnan, Counsel to the Board and Head of the Economic Analysis Division and SUERF Secretary General  
Martin Summer, Head of the Economic Studies Division, Oesterreichische Nationalbank
Following the experimental, yet very successful conference “Cash on Trial”, which was first staged and very well received by speakers and participants in Zurich in 2015, SUERF together with its conference partners are happy to announce this second event in a (re-)trial setup. The conference will be staged as a court trial in which cash will be accused with three charges: First, cash is an essential part of many kinds of criminal activities; second, it is an inefficient and outdated means of payment; and third, it prevents central banks from implementing optimal monetary policy in times when price stability would require negative interest rates. To spur a lively discussion, we intend to develop the conference in a defence and prosecution part, where witnesses are called to elaborate on the charges. Additional presentations will provide a neutral overview of the current situation of the use of cash in the Eurosystem and of ideas to develop a digital cash by central banks.

The conference deliberations will deal with the following themes:

• Cash: inefficient, outdated and a facilitator of crime?
• Cash: still used vastly, not at the heart of current low inflation rates and keeper of civil rights?
• Central Bank Digital Money and e-Krona: the future?

Confirmed Speakers:
Kathrin Assenmacher, European Central Bank
Morton Bech, Bank for International Settlements
Gaspard Koenig, Generation Libre
David T. Llewellyn, Loughborough University
Heike Mai, Deutsche Bank
Marc Niederkorn, McKinsey & Company
Doris Schneeberger, European Central Bank
Friedrich Schneider, Johannes Kepler University Linz
Cecilia Skingsley, Sveriges Riksbank
Jens Ulbrich, Deutsche Bundesbank
Fritz Zurbrügg, Swiss National Bank

Scientific Coordination:
Urs W. Birchler, University of Zurich and SUERF Council Member
Carl-Christoph Hedrich, Commerzbank AG and SUERF Council Member
Jelena Stapf, Deutsche Bundesbank

www.suerf.org/cashontrial2019
SUERF HIGHLIGHTS 2018

by Ernest Gnan, SUERF Secretary General and Dragana Popovic, Executive Secretary

Throughout 2018, SUERF has fulfilled its mandate by organising a number of high-quality events and by producing a significant number of topical publications relevant to its members and beyond. More than 1,000 participants at SUERF events have benefited from attending lectures, presentations, discussions and networking opportunities. SUERF Policy Notes continue to attract top authors and a wide readership. SUERF Membership remains stable, thus ensuring, through membership contributions, the continued provision of services. SUERF’s high-profile Council of Management and its lean Secretariat ensure sound governance, rigorous scientific quality and topicality of events and publications, as well as an efficient, swift and cost-effective management of SUERF’s services and activities.

Events

In 2018, eight high-profile conferences and one workshop were held in collaboration with member institutions, offering a high-quality platform for an open dialogue between academia, policy makers, financial community and the broader public. SUERF events attracted a large group of outstanding and well-known academics, economists and financial experts from all around the world who took part actively in this year’s events.

SUERF can proudly look back at 2018 events, all of which were very well received. The SUERF Council of Management would like to take this opportunity to thank all co-organizers, sponsors, speakers and scientific committee members for their contributions, continued support and interest in providing jointly with SUERF high-quality and topical events, publications and interdisciplinary dialogue between practitioners, policy makers and academics.
<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 January 2018</td>
<td>Vienna</td>
<td>5th SUERF/UniCredit &amp; Universities Foundation Workshop</td>
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<tr>
<td></td>
<td></td>
<td>Current and future topics in sovereign debt markets</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Annalisa Aleati and Giannantonio De Roni (UniCredit Foundation), Josef Zechner and Christian Laux (WU Vienna) and Ernest Gnan (OeNB)</td>
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<tr>
<td>8 February 2018</td>
<td>Frankfurt</td>
<td>IC/SUERF/Deutsche Bundesbank Conference</td>
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<tr>
<td></td>
<td></td>
<td>Monetary and economic policies on both sides of the Atlantic</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Don Rissmiller (GIC) and Jens Ulbrich (Deutsche Bundesbank)</td>
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<tr>
<td>10 April 2018</td>
<td>London</td>
<td>SUERF Conference, hosted by EY</td>
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<td></td>
<td></td>
<td>Monetary policy normalisation: scenarios and risks</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Tom Huertas and Clement Wyplosz (EY), Patricia Jackson (Atom Bank, BGL) and Ernest Gnan (OeNB)</td>
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<tr>
<td>4 May 2018</td>
<td>Vienna</td>
<td>SUERF/WU/OeNB Conference</td>
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<td></td>
<td></td>
<td>Green finance, regulation and monetary policy</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Emanuele Campiglio and Irene Monasterolo (WU Vienna) and Ernest Gnan (OeNB)</td>
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<tr>
<td>7 June 2018</td>
<td>Milan</td>
<td>SUERF/BAFFI CAREFIN Centre Conference</td>
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<td></td>
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<td>Do we need central bank digital currency? Economics, Technology and Institutions</td>
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<td></td>
<td></td>
<td>Organising committee: Donato Masciandaro (Bocconi University) and Ernest Gnan (OeNB)</td>
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<tr>
<td>14 September 2018</td>
<td>Brussels</td>
<td>BFF/SUERF Conference</td>
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<tr>
<td></td>
<td></td>
<td>10 Years after the start of the financial crisis: Contours of a new normal</td>
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<tr>
<td></td>
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<td>Organising committee: Frank Lierman (BFF)</td>
</tr>
<tr>
<td>20-21 September 2018</td>
<td>New York</td>
<td>SUERF • Columbia/SIPA • EIB • SOCIÉTÉ GÉNÉRALE Conference</td>
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<tr>
<td></td>
<td></td>
<td>Sustainable Policy Responses: EU and US Perspectives</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Jan Svejnar (Columbia/SIPA), Debora Revoltella (EIB), Michala Marcussen (Société Générale), Natacha Valla (ECB) and Ernest Gnan (OeNB)</td>
</tr>
<tr>
<td>30 October 2018</td>
<td>Madrid</td>
<td>Banco de España/SUERF Conference</td>
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<td></td>
<td></td>
<td>Financial Disintermediation and the Future of the Banking Sector</td>
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<td></td>
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<td>Organising committee: Roberto Blanco and Ricardo Gimeno Nogués (Banco de España)</td>
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<tr>
<td>28-29 November 2018</td>
<td>Luxembourg</td>
<td>EIB/ECB Conference in cooperation with the MIT, Columbia University and SUERF</td>
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<tr>
<td></td>
<td></td>
<td>Organising committee: Debora Revoltella and the Economic Department (EIB) and Peter Praet (ECB)</td>
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</tbody>
</table>

Conference presentations and conference reports are available for download at [www.suerf.org/past-events](http://www.suerf.org/past-events) and [www.suerf.org/conference-reports](http://www.suerf.org/conference-reports).
The 2018 programme of conferences was rounded up with insightful keynote speeches by:
(in alphabetical order)

**Stefano Battiston**
FINEXUS Centre, University of Zurich
“Interconnectedness: How Climate Became Relevant for Financial Stability”

**Lorenzo Bini Smaghi**
Société Générale
“Climate Change: Europe’s Energy Union”

**Paul Fisher**
Kings College Business School
“Implications of current central bank balance sheets”

**Luc Laeven**
European Central Bank
“Credit Booms and Crises: The Role of Information”

**Philip Lane**
Central Bank of Ireland
“Trends and Cycles in Financial Intermediation”

**Mark Niederkorn**
McKinsey
“Fintechs – The end of the beginning”

**Ewald Nowotny**
Oesterreichische Nationalbank
“Monetary policy in the euro area is at an important turning point”

**Pier Carlo Padoan**
Former Finance Minister, Italy
“Europe’s adjustment: not only the supply side”

**Fabio Panetta**
Bank of Italy
“Central Banking, Technological Innovation and Digital Currencies”

**Jorge Ponce**
Central Bank of Uruguay
“Central Bank Digital Currencies: A Central Banker Perspective”

**Peter Praet**
European Central Bank
“Challenges to Monetary Policy Normalisation”

**Klaus Regling**
European Stability Mechanism

**Jeffrey Sachs**
The Earth Institute at Columbia University
“Trade, Supply chains and Climate”

**Jan Smets**
National Bank of Belgium
“The Future of Central Banking”

**The 2001 Nobel Laureate, Joseph Stiglitz**
Columbia University
“Putting demand-side policies to the test in the US”

**Christian Thimann**
AXA and HLEG on Sustainable Finance

**Paul Thomsen**
International Monetary Fund
“How much deepening of the Economic and Monetary Union is needed?”

**The 2014 Nobel Laureate, Jean Tirole**
Toulouse School of Economics
“The Future of labor and the university system in Europe”

**Francois Villeroy de Galhau**
Banque de France
“Economic adjustments in Europe: the case of France”

**Jens Weidmann**
Deutsche Bundesbank
“Monetary policy issues in an European context”
About SUERF

“SUERF is a unique institution that has been very successful in creating an active network of academics, financial practitioners and policymakers for the analysis and discussion of monetary and financial issues. SUERF has achieved outreach by means of the organisation of international events, publications and a very active sponsoring of research. In October 2018 the Banco de España co-organised a joint conference with SUERF which resulted in a very productive debate from different perspectives about relevant policy issues related to the structure of financial systems.”

Pablo Hernández de Cos
Governor, Banco de España

I am proud to have been a former President of SUERF and to remain a member of the Council of Management. SUERF is a network association of banks, central banks, financial practitioners, regulators, and academics with interests in money and finance and their role in the economy. Through its conferences and publications over a period of more than fifty years it aims to offer valuable network opportunities to discuss important issues of the day. Its strength lies in bringing to the debate on topical issues the different perspectives of its constituencies: each learns from the others’ different perspectives.

David T. Llewellyn
Professor, Loughborough University

Participants welcomed at SUERF events

Research Prizes

On 25 January 2018, the 5th SUERF/UniCredit & Universities Foundation Research Prize was awarded to Malin Gardberg (Tinbergen Institute and Erasmus School of Economics) with the paper “Linking net foreign portfolio debt and equity to exchange rate movements” and Sergio de Ferra (Stockholm University) with the paper "External Imbalances, Gross Capital Flows and Sovereign Debt Crises".
SUERF continues to be very active with publications on ongoing monetary and financial issues. This year, two conference proceedings (SCPs) were published by the Larcier Group. They are available for free download in PDF-format from our website:

2018/1 on “Shadow Banking: Financial Intermediation beyond Banks”.
2018/2 on “Do We Need Central Bank Digital Currency? Economics, Technology and Institutions”.

The following SUERF Policy Notes (SPNs) were released in 2018:

No. 50  Business models in prudential policies, by Isabelle Vaillant and Marina Cernov
No. 49  Bank business models: Serious work ahead, by Rudi Vander Vennet
No. 48  Trends and Cycles in Financial Intermediation, by Philip Lane
No. 47  Regtech meets financial supervision, by Jakob Thomä
No. 46  Global financial vulnerabilities: Get ready for a bumpy ride, by Claudio Borio
No. 45  A plea for a paradigm shift in financial decision-making in the age of climate change and disruptive technologies, by Angela Köppl and Sigrid Stagl
No. 44  How much deepening of the Economic and Monetary Union is needed? by Poul Thomsen
No. 43  A green supporting factor – the right policy? by Jacob Dankert, Lars van Doorn, Henk Jan Reinders and Olaf Sleijpen
No. 42  Review of Solvency II, by Gabriel Bernardino
No. 41  Central banks should reflect climate risks in monetary policy operations, by Pierre Monnin
No. 40  Central banking, technological innovation and digital currencies, by Fabio Panetta
No. 39  Green bond finance and certification, by Torsten Ehlers and Frank Packer
No. 38  The future for central bank balance sheets and their potential use as a macroprudential tool, by Paul Fisher
No. 37  A solid common landing ground for EMU, by Jeroen Dijselbloem
No. 36  A Temporary Eurobill Fund, by Graham Bishop
No. 35  Strengthening the euro area Architecture: A proposal for Purple bonds, by Lorenzo Bini Smaghi and Michala Marcussen
No. 34  Financial Repression and High Public Debt in Europe, by Ad van Riet
No. 33  Populism and Central Bank Independence, by Donato Masciandaro and Francesco Passarelli
No. 32  Challenging the Central Bank Accountability: Mandates and Judicial Review, by Rosa M Lastra and Charles Goodhart
No. 31  Opportunities and challenges for banking regulation and supervision in the digital age, by Jose Manuel González-Páramo
No. 30  In the euro area, discipline is of the essence, but risk-sharing is no less important, by Daniel Daianu
No. 29  EMU reform preferences of French and German Parliamentarians, by Friedrich Heimann
No. 28  Credit conditions and corporate investment, by Maurin Laurent, Rozalia Pal, Philipp-Bastian Brutscher
No. 27  Euro area quantitative easing: Large volumes, small impact? by Daniel Gros
No. 26  Comparability of Basel risk weights in the EU banking sector, by Zsofia Döme and Stefan Kerbl
No. 25  The New Silk Road: Implications for Europe, and Stefan Kerbl
No. 24  Fairness and Support for Structural Reforms, Markets and Democracy: Experience from Transition Economies, by Sergei Guriev
No. 23  The occasional importance of the current account in an era of a global savings glut, by Jesper Berg and Steffen Lind

We would very much like to encourage our members to submit proposals to the SPNs series as well as suggestions for book reviews. Detailed information about SUERF’s publication can be found at: www.suerf.org/studies; www.suerf.org/policynotes; www.suerf.org/conference-reports and www.suerf.org/book-reviews.
Membership

For the past years, the total income from membership subscriptions has remained stable, ensuring a sound funding of SUERF’s activities. SUERF greatly appreciates the continued support from members.

<table>
<thead>
<tr>
<th>Membership contributions</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Bank and Supervisory members</td>
<td>50,314,41</td>
<td>47,312,67</td>
<td>45,793,96</td>
<td>45,479,46</td>
</tr>
<tr>
<td>Corporate Members</td>
<td>70,000,00</td>
<td>64,500,00</td>
<td>61,500,00</td>
<td>64,500,00</td>
</tr>
<tr>
<td>Academic Institutions</td>
<td>6,250,00</td>
<td>6,000,00</td>
<td>6,600,00</td>
<td>7,200,00</td>
</tr>
<tr>
<td>Personal Members</td>
<td>8,025,00</td>
<td>7,200,00</td>
<td>9,000,00</td>
<td>8,175,00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>134,589,41</strong></td>
<td><strong>125,012,67</strong></td>
<td><strong>122,893,96</strong></td>
<td><strong>125,354,46</strong></td>
</tr>
</tbody>
</table>

**Key benefits of SUERF Membership**

✔ Priority invitations and free participation in all SUERF events
✔ Invitations to ‘Members only’ events organised throughout the year
✔ Networking and interaction among peers, leading researchers and policy makers
✔ Publication subscription to SUERF Policy Notes, Conference Proceedings, Reports, and Book Reviews
✔ Opportunity to contribute to the SUERF Policy Notes series
✔ Acknowledgment and listing as institutional supporter in event handouts

SUERF is delighted to welcome two new institutional members: BBVA and the Bank of Greece.

The Council of Management is keen to receive views and suggestions from members about possible future events and publications for coming years.

Council of Management

During 2018, the Council of Management met on four occasions, coinciding with SUERF events, to plan the activities, and to monitor the association’s finances. For information about SUERF’s Council of Management see www.suerf.org/council-of-management.

Jakob De Haan
SUERF President
De Nederlandsche Bank

Michala Marcussen
SUERF Vice-President
Société Générale

Ernest Gnan
SUERF Secretary General
Oesterreichische Nationalbank

Donato Masiandaro
SUERF Honorary Treasurer
Bocconi University

Urs W. Birchler
University of Zurich

Roberto Blanco
Banco de España

Carl-Christoph Hedrich
Commerzbank AG

Patricia Jackson
Lloyd’s of London franchise board
Atom bank, BGL, SMBC Nikko

Esa Jokivuolle
Bank of Finland

Ryszard Kokoszczynski
National Bank of Poland

Frank Lierman
Belgian Financial Forum

David T. Llewellyn
Loughborough University

Debora Revoltella
European Investment Bank

Marc-Olivier Strauss-Kahn
Banque de France

Natacha Valla
European Central Bank

Jean-Pierre Vidal
European Central Bank

Jens Ulbrich
Deutsche Bundesbank

Christian Upper
Bank for International Settlements

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SUERF Honorary Membership

SUERF Honorary Membership was awarded to Professor Franco Bruni, Bocconi University in Milan on June 7th, 2018.

Secretariat

The Secretariat continues to be staffed with Dragana Popovic, Executive Secretary and Heidrun Kolb, Secretary.

SUERF - The European Money and Finance Forum is an independent, non-profit network association of central banks, supervisors, international institutions, financial institutions, academic institutions and think tanks, and financial sector practitioners. SUERF is registered under the French 1901 Law (Loi du 1er juillet 1901). Association Registration Number is W751101588.

www.suerf.org ● www.suerf.org/privacy-policy