

## *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

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### Conference Report

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*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.*

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<sup>1</sup> 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.

# **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. 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 21<sup>st</sup> 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 procyclical, 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 terms 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. This will not work. There is a strong case to act pre-emptively. Keeping a fragmented supervisory architecture would be inefficient and will be arbitrated 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.

## **Box 1:**

### **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 21<sup>st</sup> 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 overstressing 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. 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.

## **Box 2:**

### **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 bn or 1.8% of current GDP per annum by the end of the 21<sup>st</sup> 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 a 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 gauge 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 de-carbonization 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 SUEF, 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.*

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