

2. NEW TRENDS IN THE FINANCIAL SECTOR

Digital financial services: what regulatory framework?

KEY ISSUES | *The session depicted how the EU Digital Single Market Strategy (DSMS) was unfolding in financial services. It clarified the challenges specific to existing and incoming players, assessed actual achievements in the EU and the difficulties posed to the DSMS by cybercriminality. The session also outlined relevant regulatory approaches.*

Key targets for an Appropriate European Policy

Making European policy was often about trade offs. Regarding notably the payment directive (PSD2) they had found a good trade off in terms of opening the market, and they also took into consideration the security of the system though it required consequently a great deal of monitoring and upgrading of expertise.

Attention to a level playing field was crucial for the framework that would be developed. However, it was not necessary right for regulators to just regulate things that overlapped with banking activities in the same way that they regulated banks. Flexibility and consistent implementation in particular across Member States, were important in regulation as well as standardisation. That could become an experimental area, possibly changing things afterward.

Finally, for both the innovating firms and the transformational experiments of established banks the regulatory sandbox would be crucial to enable innovation. However, building skyscrapers in a sandbox was not advisable.

Managing Digital Developments and Cybersecurity

There had been new efforts in the Digital Single Market in areas trying to stimulate fintech. Regtech and legaltech were also useful to respond to regulatory compliance duties. Organisations had also funded innovation in blockchain to investigate its development from the technological side. Associated publications had highlighted how data flow through cloud based standardisation could enable new approaches and simplify the regulators role in combating malpractice. Evidence gathering had been

launched to look at what would happen if there were problems with the algorithm, application, or software.

Some thought that they already had a seamless Digital Single Market, with digital platforms that had the potential to help both SMEs and large companies to move funding across borders. It was noted that the Digital Single Market was one of the top 10 political priorities of the Juncker presidency of the European Commission. Some thought it should have ranked higher, and that the potential of the network benefits for Europe was enormous. Others agreed and said that in addition to a legal or paralegal solution they needed a framework for the development of the connection. In addition, two obvious developments to accompany that were instant payments and mobile payments.

One issue was the balance of responsibilities between the traditional financial services industry, new entrants, and consumers. It was acknowledged that consumers had to accept accountability for themselves; however, the industry also had to provide some of the protection that consumers wanted.

Cybersecurity was a significant issue. There was a dangerous presumption that technology was safe and secure. The industry had to ensure that sensitive information stored on digital platforms was secure. There was also the question on the extent to which the big data challenge for privacy would become more nightmarish than it already was. It was stated some consumers were not capable of making complex financial decisions, regardless of the level of education provided.

Thus interesting opportunities were arising around new risk pools. The internet had brought >>>

>>> opportunities, risks and threats from the global connectedness it provided.

It was outlined that current cyber crime costed around \$445 billion globally. A lot came from beyond individual regional boundaries, which was something that both regulators and the industry needed to be aware of; the insurance industry certainly was.

A further issue was how the market rewarded people that did well. Comparison and review sites had received very good consumer responses, which served to encourage certain behaviours; however, they were a form of self regulation and not standard regulation.

There was still an issue around resolving disputes, in which the market could not be relied upon to provide a solution. They recognised that technology and innovation always had positives and negatives, but they had no immediate response to the dispute resolution issue. One way to answer that question was to investigate what incentives there were for protecting people.

The industry was working with regulators and national security agencies to find a balance between privacy and security. They had to be aware that information had to be shared with national security agencies and that self protection involved recognition of the trade off between security and privacy. It was agreed that regulators needed to improve their coordination and cooperation on security and cyber crime. Regulators needed more sophisticated ways of stress testing. It was also agreed that, prior to regulation, they needed strategy.

Regulatory challenges

It was clear that the panellists wanted an efficient Capital Markets Union and seamless flowing of markets. However, the panellists were talking about a moving target. The challenge was in knowing which tools could be utilised to achieve that end and allowing the best technology to win. Precautionary regulation would likely stifle innovation. Instead, some advocated an approach to wait and see. When required, regulators would be able to act swiftly. Regulators had also to distinguish between official standards and de facto standards as in current technology, the de facto usually won.

The regulators were rather far behind, and unless some innovative thought occurred in the Commission and other bodies, they would struggle to keep up.

Digital Developments in Retail Finance and Big Data

Retail finance was still bottom in terms of consumer satisfaction, and so changes were welcome. However, the impact of fintech on the average

consumer was currently not large. Of the 315 million European internet users only 15% had completed any cross border trade, therefore there was opportunity for development. The panellists were also beginning to see the UK as frontrunner in digital innovation.

Some struggled to accept that robo advice and processes could model the challenges that people would face over a five to seven-year period. However, they accepted that perhaps they just did not understand the algorithms used.

Some trends were identified in the digital environment. First was the increasing number of products bought online; second was the movement towards 24/7 availability. However, it was highlighted that when buying financial products online it was easy to buy a toxic investment product, and redress then had to be considered.

In order to reap the benefits of digitalisation they needed a digital upgrade to financial consumer protection. It was thought that the majority of consumers had a generic profile and could have had more standardised products. However, they required safeguards; not all European countries had robust protection agencies and standards, which presented a danger of regulatory arbitrage.

One challenge was the volume of transactions in fintech; the question was how to ensure that the public authorities of the industry kept up with them. A second was how to ensure that there was a level playing field maintained between those who wanted to engage through digital and those that did not.

Transparency of costs was identified as one of the proficiencies of fintechs, and was something that was welcomed from new market entrants.

Big data was a concern for some. Consumers had the potential to profit from more aggregate information, but that came alongside privacy issues. It was highlighted that the big issues in the insurance industry regarding big data were on risk pricing, acquiring data, and developing products more appropriate for individuals' risk needs. Big data also helped to inform customers and served to influence behaviour.

Big data was also mentioned in relation to credit, where it had helped those that did not have a credit footprint. Big data would allow firms to make more personalised risk assessments, which gave rise to questions around what information would be used to inform credit and insurance areas.

There was uncertainty over the extent to which big data would be replaced by having better >>>

>>> access to micropayments, as well as the extent to which the big data challenge for privacy would become more challenging. The answer was unclear, but work needed to be completed in that area.

Used the wrong way, it was dangerous and so it was important that protections were available. However, it was also important that the protection was flexible. An ideal answer would have been one in which digital financial services contributed towards enhancing privacy.

Digital Trade and Consumer Confidence

Digitalisation also worked to break down national biases. It was plausible to have a platform, investor, and investment in three different regions. However, the key information for consumers in those cases was what protections they had and whose dispute resolution they could use if it went wrong.

There was uncertainty on whether the industry would need a cross border dispute settlement system, but they agreed that they needed to work on an answer before they started to build skyscrapers. It was agreed that confidence in the system needed to be developed. It was highlighted that the ombudsman service in the UK had worked well in the case of individual problems with individual products. A public authority intervention seemed to be a sensible response.

Few Europeans traded digitally across borders. That provided an opportunity, if executed well. There

were also opportunities, particularly with long term products, to communicate more effectively with customers. However, those opportunities came with inbuilt challenges that needed to be overcome through technology.

There was a question around whether they wanted to move towards encouraging uptake of security investment, to improve consumer confidence. There was a general fear of the unknown. People tended to migrate towards things that they were familiar with, which was a behavioural pattern seen beyond the financial services.

It was noted that firms were not obliged to adhere to out of court complaint systems when it came to redress.

Conclusion

There were opportunities in Europe, if handled correctly. They wanted an open and innovative environment and to encourage attention on cross border issues. They also had to be aware of the security issues and monitoring by regulators and supervisors needed to be adapted to the digital world. Other important areas of focus included stress testing, creating a level playing field, and building consumer confidence.

Addressing those issues in the right way would result in huge potential dividends for Europe in financial services, digital technologies, retail, and across the wider economic frame. ●

Fintech and blockchain: what prospects for improving efficiency in capital markets?

KEY ISSUES | *This roundtable concentrated on discussing the benefits that can be expected from the development of blockchain and Distributed Ledger Technology (DLT) solutions in the capital markets in terms of efficiency, the impact on the existing market structure and post-trading processes, as well as the operational, regulatory and supervisory conditions needed for the development of such solutions.*

Expected benefits and challenges of Blockchain technology

Potential savings and efficiencies were widespread and easily identifiable particularly for Blockchain and Distributed Ledger Technology (DLT) applications and in the securities post-trading area. Financial technology could lead to new business models and

contribute to a significant growth of the industry via lower transaction costs, shorter delays, greater convenience, thus facilitating access to capital markets. Potentially billions could be saved. Polls had shown that the expected benefits of Blockchain included transparency and easier tracking, reduced reconciliations and increased capital mobility. Blockchain was however not a silver bullet and >>>

>>> its actual impacts were still unclear, several speakers considered.

These evolutions had to be viewed in the wider context of digitalisation, which was nothing new in the financial sector. Dematerialisation and developments related to the internet for example had been expanding for many years. DLT was a further step of this development. Moreover DLT did not have a monopoly on distributed databases, which were already used but their development was expected to increase with DLT applications. The benefits of data distribution were not disputed, but there were constraints that needed to be addressed, such as issues of maintenance and access. DLT was therefore not the solution to all problems and it would have to be adapted depending on the strategy pursued.

The development of Blockchain would probably not be a big bang evolution

The complete overhaul of capital markets would not be seen for 15-20 years and applications to core clearing and settlement processes for blue chip stocks were still a remote objective, several speakers considered. Blockchain technology would probably first apply to small and discrete processes that surround the main settlement and clearing engines and provide incremental benefits.

It was still difficult to determine at present whether Blockchain would lead to disruption or incremental evolution, some speakers believed, because the securities industry was not known for radical shifts. Building integration with existing infrastructures in capital markets was an issue of importance and genuine infrastructural change would take many years. There were limited incentives to move away from the current functioning of the market, due to the huge investments needed and legal issues. There were also governance issues to be addressed regarding: the technology, who could participate in the network, the roles and responsibilities in the network and possible sanctions for misbehaviour. Moreover benefits may not be individual but shared with the entire network of players interacting in the capital markets.

An outside-in movement triggered by third parties was possible but would require the whole industry to move which seemed unlikely in the short term without significant intervention from central authorities, a panellist suggested. Moreover changes in securities laws that may be required were a complex issue. The internet had previously brought many changes but the main market players had largely remained unchanged. First-movers are expected to propose new solutions but they will probably be peripheral to the core clearing and settlement processes. A panellist suggested that many firms had already decided to provide technology and know-how to incumbent companies, rather than

entering in direct competition with them due to high compliance costs in particular. Such collaborations could be a more efficient way of providing these technologies for society.

Significant transformation could however be expected over time. It was agreed that smart contracts would be a fast moving catalyst for change. There was no question that contracts could be reduced to an algorithm, and that algorithms would become a very powerful asset used in conjunction with other technologies, for both firms and regulators.

A significant amount has been invested in order to cover all relevant aspects of the evolution of financial technology. The approach was to identify opportunities, build solutions and learn from them. Learnings were both technical and non-technical, including issues related to the governance of the network. The main technical challenge of DLT was to build applications which could leverage the properties of the underlying ledgers.

However it was clear that electronification would not rule out risk in capital markets. Digital finance methods were still subject to possible manipulations and errors; and alongside the possibility for error would come a necessity for responsibility and a call for supervision in order to ensure sufficient trust. Finally technology could disturb the present capital markets ecosystem which was highly tuned with different levels of intermediation, thus potentially creating new risks.

Policy development and oversight strategies

Working out a strategy for policy development and supervision was a pressing issue given the uncertainty regarding the precise impact that technology might have on the financial services sector and related policy fields. Trade-offs between supporting innovation and prudence should be avoided, a regulator believed. At the same time, regulators should endeavour not to stifle innovation and treat it in a flexible manner. Moreover striving for artificial separations between traditional banking and digital finance was warned against, even if legal issues had to be adapted to digital contexts. Technology should be treated neutrally on a “same business, same risk, same rules” basis and a specific entity needed to be responsible for operational risk. They needed a level playing field with modernised rules that could ensure the efficiency and effectiveness of best market forces in the long-term.

The “First Do No Harm” regulatory approach used during the mid 1990s for the internet could be used as a source of inspiration, an official suggested. Evolutions such as Blockchain could not be decided by regulators, could not be held off and were going to happen. Moreover diverse and contradictory regulations should be avoided, as well as laborious ones which might kill off >>>

>>> innovative business models. Rules will need to be adapted to quickly evolving technology and the related data completed.

From a central bank perspective, there were three angles to consider: the impact of technology on regulatory and oversight capacities; the catalyst function to be played by the ECB in the further integration of financial markets: i.e. issues related to access to data and to its circulation, as well as standardising practices; and finally the perspective of an infrastructure operator such as TARGET2Securities (T2S) regarding the capacity for technology to increase efficiency safely. Cyber-resilience was also an issue and developing an appropriate IT stress testing framework was essential to ensure that technology was resilient.

Mechanisms such as regulatory sandboxes were useful for testing innovative products, services and business models but technology was quickly evolving and may have systemic relevance.

Regulators needed to anticipate changes and modernise their approach. The current ruleset needed to be rethought for the digital world, because it partly ignored digital realities and the fact that decisions would increasingly be made by artificial intelligence and algorithms rather than human interaction; legal issues had to be adapted to these changes. They also needed to ensure that digital technology developed in a way which allowed it the greatest utilisation by both industry and regulators.

It was further advised that a supervisor ultimately had to act on a clear legal basis, which was why it was essential

to ensure sufficient legal certainty. The availability of appropriate trading data at the global level was also an essential issue.

A culture clash was expected with the increasing development of Fintechs. It was suggested that firms in the post crisis era had become accustomed to seeking permission before acting, which differed from the culture of Fintech firms that never sought permission. There was however confidence that the world would unite and that a common development could be achieved although it may not happen in a straight line.

The importance of standards

The importance of standards for the development of technology in capital markets was emphasized. It had been the key issue for the T2S project. Standards would also be essential for moving things forward with regard to Fintech applications. However, it was emphasised that much time would pass before Blockchain would be ready. Many technologies rendered the same service, and it was as yet unclear which of those would be dominant, if any. A layer of standards was required to allow each service to do their job whilst offering consumers a space to build applications in confidence. Moreover a sandbox where practitioners, innovators and regulators could collaborate would be useful.

It was suggested that standardisation had five key areas that needed to be looked at: governance of access; the status of legal entities used for supervisory and reporting purposes; consistent data semantics; algorithms and their maintenance; and integration strategies between legacy systems and DLT. ●

Conduct and culture: what priorities in the financial services industry?

KEY ISSUES | *The objective of the session was to clarify the expectation of customers, policy makers and executives in the EU financial sector in the global context, regarding culture and conduct, and to outline the realistic benefits that can be expected in that respect.*

In addition, the participants were asked to assess the progress already achieved regarding this topic and to list political, managerial, supervisory, etc. success factors required to make a significant breakthrough toward sufficient improvements.

How to improve conduct and culture?

Conduct was acknowledged as one of the biggest risks faced by major financial institutions. The 25

largest banks had received combined fines and litigation costs of \$260 billion since 2009. This would increase by an additional \$65 billion by the end of 2017. >>>

>>> The first dimension of improving conduct and culture was trying to position sustainability ratings as similar in importance to financial ratings. This meant looking closely into product governance as well as strategic and treasury investments. Secondly, institutional clients needed to select conduct risk and culture as selection criteria for their asset management providers. Thirdly, conduct and culture needed to be extended to the retail franchise. If the quality was right, if it was made transparent, and if the product was suitable, then it would improve client outcomes. Finally, conduct and culture had to be part of capital planning, treating conduct and reputational risk as part of the business risk in terms of capital underpinning.

Change needed to be part of the management objectives. This was no longer about quantitative targets but about the ethics code and qualitative objectives, and was now part of the objective-setting, assessment and incentivisation of the team and the management. A financial institution should be run so that it was in everybody's DNA to ask whether something was right, rather than whether it was legal. If this was done correctly it could translate into more and better business.

Culture and governance of firms was seen as an important long-term focus. Culture shared values and norms within a firm that characterised the organisation and the mind-sets that drove the behaviours of the firm. Remuneration and promoting effective links between the risks run by the firm and individual reward could serve as a mechanism for discouraging excessive risk-taking and short-termism.

At a firm-level, there were three particular aspects where firms could benefit from an increased and continuing focus on culture. The first was an increasingly sustainable business model. The second was more effective risk management. The third was the ability to respond more effectively when things did go wrong.

People had moved past anger and denial, but the current mood still had to change. Middle management needed to be brought along, and those at the bottom needed to be listened to. Sometimes what was right was not clear, and people should be enabled to see the tools available to help with the grey areas, as a lot of what they dealt with was not black and white.

One of the big concerns was that the perception of the public would be that these fines were simply the cost of doing business. A culture of bad conduct put institutions and financial markets at risk. Conduct was not an asset class, and it did not stop at a border,

so regulators should be mindful of harmonising rules as much as possible. It should not be a tick-box exercise.

Progress made so far

There had been examples of direct ways to do this, such as the bankers' oath in the Netherlands, which would lead to conversations within organisations, though it went against the Anglo-Saxon culture. Another was the code of conduct for tax advisors in Denmark, making the expected norms and values for tax advisors very clear.

The Dutch supervisor, the Nederlandsche Bank, had since the crisis adopted a framework which analysed the board's effectiveness, the risk culture and the readiness for cultural change.

The ECB had launched a thematic review on internal governance called RIGA, covering both qualitative aspects of boards' functioning and risk appetite frameworks of banks. The ECB joint supervisory teams had gone in to look at the agendas into which the information had been flowing, but they had also observed meetings and taken part as observers to grasp the quality of debate. Composition of boards and their members' suitability was also verified. This had ultimately been a means to test the risk culture within the institution.

In the UK, the Fair and Effective Markets Review had looked into fixed income, credits and currency. Fines had served a purpose in flushing out the issue, but in the UK there had been a move towards the Senior Managers Regime, which continued the focus on individual accountability, to support the rebuilding of public trust. Culture was not something that only applied to client-facing staff, but was for everyone. This went to the point around subcultures: trading desks might feel loyalty to other trading desks rather than to the institution they worked for. Anyone raising an error or mistake needed to be supported through the process rather than being marginalised.

It was crucially important that an environment was created where regulators could share understanding and effectively discuss how better to move forward. There was no single right answer, but firms could learn from one another. The UK had introduced individual accountability for senior managers in banks, and were committed to extending accountability to other sectors. This was an approach that complemented the increased clarity of responsibility on senior managers.

Diversity was also a big help. The Dutch Central Bank had established a special division to >>>

>>> look at culture and conduct, introducing psychologists and anthropologists, where they had used to hire economists. The introduction of more colourful people had helped.

Different roles in culture change

Regulators needed to set an appropriate framework with incentives to get it right. Supervisors needed to effectively apply that framework with strong enforcement consistently across the single market. Businesses needed to assert a better control as to what was happening within firms and develop a sound culture in the area of values and ethics. A lot had been done from a regulatory standpoint in the EU, in the Markets in Financial Instruments Directive (MiFID II) framework. The entire relationship between the company and the investor had been addressed there: a true root-and-branch reform. In a few years, it would be clear whether there was a better regulatory framework to foster a more ethical approach within firms. Businesses needed to take the issue more seriously, which was not easy in a competitive environment.

The Commission wanted to see firmer focus and commitment to conduct supervision from European supervisors across the EU. The dialogue between supervisors and companies was extremely important; there were a lot of good developments coming from the private sector, but more would be needed going forward. A fair game required good rules, a good referee, but also fair play by the players.

Bad conduct was hard to define, but everyone knew it when they saw it. It was also important for regulators to work together to prevent bad apples moving from one jurisdiction or asset class to another. Bad apples could bring down institutions in terms of reputation. It was important to have the right incentives in place. There was not a choice between making money and doing good.

What was lacking on the industry side was a framework which linked risk culture across dimensions. It was not clear that conduct risk could be properly addressed without a proper risk culture framework. Since 2011, the EBA guidelines on internal governance had been available, covering six areas and around 30 principles. They offered an adequate ground for reviewing the internal governance structures of banks, and ensuring that the shortcomings to having a proper risk culture implemented are fully addressed. From the industry side, the question was why they should engage in cultural change. Addressing specific behaviours aligned with the core values and vision was the best starting option. There was a strong incentive to address the cultural issue as a trigger for innovation,

and an underlying sound risk culture at the end. This issue should be the main incentive and driver for the industry to engage or take culture seriously.

Everyone wanted to create and foster the conditions for positive ethical and cultural moves. The FCA should be applauded for stepping back from their cultural thematic review at the start of the year, and recognising it was more about engagement with firms. Market participants would appreciate benchmarking results being made visible and transparent.

Looking Ahead

Sanctions were only part of the solution, but they were an important part. Their imposition was not desirable; however, sanctions were needed which were a real deterrent, which meant they should be high enough to scare financial institutions, and required supervisors who were sufficiently strong and credible. Some supervisors were quite advanced in Europe, and a process whereby ideas on best practice could be exchanged was desirable. Supervisors also had a role in dealing proportionately with things that might go wrong; it was important that enforcement action continued to have a credible deterrent effect.

The industry would welcome a more harmonised approach to assessment of board members and key function holders. Rules varied from country to country. In the UK the senior managers' certification regime was very stringent, but elsewhere in Europe there was a lack of legislation. Clarity was also needed on the RIGA findings, and whether they would feed into the SREP process; this process was not solely about capital. On suitability, a peer review of fit and proper had been conducted, and the results had been embarrassing. It was difficult to make progress given the differing legislation.

The sector would be helped by increasing diversity on many levels, but it started at the board. People needed to feel engaged and invested in their business. ●

Climate change: what impacts on the financial sector?

KEY ISSUES | *The panellists were asked to clarify the diverse types of challenges posed by climate change to the financial sphere and the subsequent roles for the public and private sectors to address them appropriately.*

The session also tried to assess the sense of urgency that addressing the challenges related to the topic requires. The impact that the recent Treaty of Paris had on clarifying the issues, related stakes and the roles for public and private players was also commented.

Issues Faced by Financial Institutions resulting from Climate Change

Categories of Risk

There were several aspects of risk: the direct physical impacts of climate change; the the economic, regulatory and policy initiatives that were happening in consequence; the legal risks arising for those who are seen to have caused it, not mitigated it or who have insured against liability risks. Rating Agencies focussed on the first two categories but to date, physical risks had only a limited impact on most asset risk ratings. More of an impact was resulting from regulatory and policy initiatives in the areas of coal, oil and gas. One rating agency notably had reviewed its portfolio to assess the relevance of these risks across the sectors they covered, and had found that in 11 sectors, there was immediate and elevated risk coming out of either policy or regulatory initiatives; medium to longer term risk in 18 sectors; and lower risk in 57 sectors.

Financial stability risks affected the insurance industry most directly, because these had very long term assets matching very long term liabilities and others underwrite climate risk directly or indirectly. Prudential rules could not be easily adapted in order to mitigate climate change. The Bank of England was about to publish a staff working paper on how all of these issues affected central bank responsibilities notably via potential volatility in asset prices affecting financial stability. But also, volatility in energy and food prices would affect monetary stability.

Possible added value of financial institutions related to climate change

China alone required hundreds of billions of investment each year to support its transition to a greener economy. Beyond the discussion about

changing from fossil fuels to renewable and cleaner energy, more attention needed to be paid to how vulnerable economies would be helped to deal with the consequences of climate change. The 'V20' nations, consisting of 43 countries and around 1.6 billion people, were particularly vulnerable to catastrophic climate related risk. To address these kinds of risk, the reinsurance community, NDB community, private sector, the Green Climate Fund, and others would all need to work together. These countries were predominantly agrarian, and the risks posed by climate change in the agrarian community – including water supply and pollution control – needed to be borne in mind, with significant investment in mitigating them.

Actions Taken

The evidence for climate change was now incontrovertible and generally accepted, and appropriate policy actions needed to take place accordingly. The sooner the world took action to address climate change, the less extreme these measures would need to be.

The Financial Stability Board had set up a Task Force on Climate Related Financial Disclosures, which was due to report its final conclusions on how the landscape of existing measures could be simplified by the end of 2016. A G20 study group on Green Finance had also been set up, co-chaired by the People's Bank of China and the Bank of England, and would deliver a draft first report to ministers in July 2016.

Climate risk was now being factored into investment decisions globally. To make further progress, it would first be vital to improve information frameworks. Some progress had taken place in relation to this, but the standards were still too fragmented, and needed to be streamlined. The FSB task force would be examining the issue of disclosure frameworks, and financial benchmarks linked to climate >>>

>>> change needed to be developed. The rating agency sector was becoming increasingly focused on green finance, both in their day to day activities and in relation to investment processes and the availability of funding for green finance.

Policy-makers were trying to accelerate the transition towards green finance in other ways: for instance, France had passed a law that made the carbon footprint almost mandatory for asset owners.

Asset managers were also becoming increasingly active in the fight against climate change. They had invested in indexes such as MSCI, FTSE and S&P; new innovations had been developed that allowed polluting companies, or those with stranded assets, to reduce their climate change related risks without changing their market exposure in the short run. A platform was being developed under the rubric of the United Nations, which would allow investors to share knowledge in relation to climate change; 25 asset owners were now involved, who around COP 21 committed to the gradual decarbonisation of a total of USD 600 billion in Assets under Management. That was a sharp increase from USD 100 billion in just one year and showed that investors were moving into the right direction. Insurers aimed to both mobilise the supply of investable assets at the right price while avoiding price discontinuities, and determine what could be done in relation to risk mitigation: whatever happened some adaption risks would still need to be managed. One of the big challenges faced by the insurance sector was how to help identify long tail, unquantifiable risks through policy measures, consistent disclosures and consistent transparency, so that these could be priced into asset values. Pension providers were also adapting to the need for green finance, with one organisation having committed to a 25% reduction in the carbon footprint of its portfolio; earmarking €5 billion to invest in renewable energy; and doubling its commitment to highly sustainable investments from €29 billion to €58 billion. A number of banks had created partnerships with each other, with asset managers and super sovereigns to engage in creative financing to devise innovative new solutions, as had been seen with the financing of Meerwind.

Contributions of the Financial Sector and appropriate Policies

Roles of Public and Private Entities to mobilise private financing and inflect high Vs. low-carbon financing ratio

There were a number of estimates regarding how much money would be required to meet global green finance goals, from \$38 trillion between 2015 and 2030 to \$114 trillion between 2010 and 2030. The public sector alone would not be able to provide

this much money. However, roughly \$95 trillion of assets under management was held by asset owners; as such, convincing even small number of investors to take action meant a significant reallocation of capital or debt, which gave policy-makers options.

The proliferation of ESG ratings around assets under management was significant. Around 30% of global assets under management have a ESG rating, which represents a steep increase from around close to zero a decade ago. Banks needed investors to help them de risk their portfolios, to enable them to re lend into the green economy.

The issue of infrastructure financing represented a key problem that needed to be solved. There was not yet an industrialised, homogenised asset class, and governments would need to be involved in helping to create this; France and China, among others, were leading in this space. The role of multilaterals needed to be increased, with major NPBs encouraged to create a homogenised product that global investors could dip into, pricing for sovereign and credit risk.

Market Failures require long-term policies to avoid late pro-cyclical reactions

Both climate change and the policy measures designed to address it would have unpredictable consequences. Financial markets were forward looking, and asset prices would change suddenly in response to breaking news; this was likely to give rise to financial stability risks, which had already been seen in relation to the global oil price. Entities were also leaving themselves open to mispriced risks by failing to price for the likelihood of companies being fined for pollution or other climate changing activities; even when entities were aware that they had risks, they did not necessarily know when they would crystallise or how large they could be.

The world was only now admitting that climate change was a problem, and was struggling to adjust. Investors would need to determine both how they could invest proactively in mitigation activities, and how they could avoid the risks created by the lack of mitigation over the last 25 years. Individually, all of the initiatives that had been outlined would be insufficient to meet global warming targets; all of the players in this space would need to consider how they could work together more effectively, while avoiding 'knee jerk' policy reactions to sudden crises that would add to instability.

The Treaty of Paris had been a change of tack

The Paris agreement had demonstrated that public authorities around the world were firmly >>>

>>> committed to limiting global warming to well below 2°. Since this agreement had been signed, there had been a number of developments: climate risk was increasingly being seen as a challenging part of the investor portfolio, only hedgeable to a certain degree. Around 1,800 gigawatts of renewable energy had been committed to by countries by 2030; the Paris plans represented an overall acceleration of decarbonisation from about 1.3% per year to 3% per year, which did not get the planet to its 2° target, but still represented a significant opportunity that would need to be taken advantage of. However, investors would not be attracted to this opportunity unless liquidity, risk sharing, and scale were addressed. Reporting was also becoming a more standardised area of activity.

Pursuing New Initiatives

Mitigating risks could be best done via greater disclosure, to encourage smaller market fluctuations when these risks materialised, and more accurate pricing. Operating via large risk pool mechanisms was also a promising approach, and micro insurance would be heavily in demand in agricultural communities in V20 type countries, such as municipal bond issuance.

Supply-side factors would also need to be considered: the projects had to firstly be available to be invested in. Project management capacity in the public sector would need to be rebuilt, and there would need to be good sectoral and regulatory frameworks, conducive to sustainable investments.

To make the transition, the EU would need to invest an additional €270 billion (or on average 1.5% of its GDP annually) over the next 4 decades¹. These investments consisted in large part of small projects, worth €10 million to €20 million; to mitigate the problems caused by the higher unit costs of these projects, and challenges in relation to finance, some bundling would need to take place. Private money was not yet being channelled effectively to deal with climate change in developing countries; these projects were notably difficult to structure.

In the current low-return, low-interest rate, low growth environment, there was enormous demand for yielding assets that could be appropriately priced. Investing in green had moved from being an exclusion strategy to an inclusion strategy; however, efforts would need to take place to ensure that price discontinuities did not arise because of abrupt policy changes, and that the pricing of these risks could be done with as much information and as much consistency of information as possible. Banks could help in a number of areas, including harmonisation of projects in relation to the non financing reporting directive, green securitisation, and credit enhancement; they would also need to give thought to the question of what would happen if a climate related catastrophe occurred. The FSB's guidelines for disclosure would allow the buy side to exercise more discerning judgment about what they invested in, and the infrastructure hub that had been established globally could not be allowed to fail. ●

1. http://ec.europa.eu/clima/policies/strategies/2050/index_en.htm