

Keynote Address: A Measured Approach to Fintech

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Ladies and gentlemen,

Today is a day of no small importance, as regulators and market players are brought together under one roof to discuss the challenges and opportunities that financial technology has the potential to introduce. I would like to thank Afore Consulting for inviting me to speak today.

My theme today is about taking a measured approach to FinTech. By this I mean both that we are carefully monitoring and assessing FinTech – ensuring that we have the measure of different innovations – and that we are balanced and considered from a policy and rulemaking perspective, taking risks and opportunities into account.

Let me expand on this idea of a measured approach a little more. There are two strands to it. The first strand of a measured approach involves monitoring innovations diligently and intelligently. Monitoring developments in FinTech can be a challenging task, as the technology used in financial markets becomes ever more sophisticated. To help us in our task, we can identify some important structural features common to different financial technologies, as I will explain. These structural features suggest our monitoring is aided by thinking about FinTech innovations in functional terms. In other words, when we are monitoring trends and prioritising our work on FinTech, it is useful to focus on the economic functions that new technologies perform and the risks and the benefits they bring. To help us do this, we have devised the ESMA financial innovation scoreboard, an analytical framework, based around economic functions, for monitoring innovation more generally.

Following monitoring, the second strand of our measured approach is to take action in a measured way. In other words, we consider carefully how best to act, weighing risks and benefits in an objective fashion. From a regulator you would expect a focus on risks, however, I think it is equally important that regulators consider the opportunities of FinTech, especially for consumers. Considering how technological innovations have helped us in our daily lives, FinTech can for example bring more simplicity and transparency.

Structural features of FinTech

Starting with the first strand of our measured approach, how do we do intelligent monitoring of FinTech? We do this by understanding the landscape we are exploring. We look for patterns. With this in mind, what patterns, or overarching features, do we see in common across different FinTech innovations?

FinTech involves information technology

The management of information – in simple terms, record-keeping – is at the heart of all financial activity. Reflecting this fact, FinTech relies on information technology. For example, a retail investor can manage his or her investment portfolio online, or by using a mobile app. Another example is the use of the cloud by financial sector firms to store and retrieve customer data.

The information technology that underpins FinTech is dramatically reshaping our economies and societies in many ways. We can interact and transact across the globe in ways that would have been hard to imagine just a generation ago. We can book tickets, order deliveries, hail taxis and manage our finances from our phones. Information technology has completely changed the face of the workplace, allowing teams of people to share information and collaborate on projects remotely. Indeed, an organisation like ESMA, which draws on the expertise of National Competent Authorities (NCAs) across the European Union, would not be able to function in the way it does without information technology. As with other manifestations of information technology, FinTech is leading to radical changes in how financial services are produced and consumed.

FinTech may follow an innovation spiral

One pattern that we see as innovation takes place – including in the development of FinTech – is that one innovation leads to another. In some cases, successful technologies, products or services may emerge from failed innovations, just as they may build on previous successes. This process of iterative development is known as the ‘innovation spiral’.

A clear example of this innovation spiral – and one that brings challenges for regulators – is in distributed ledger technology, commonly called blockchain technology, on which ESMA consulted and then published a report in 2016. An early application of this technology was virtual currencies such as Bitcoin, which have gained much prominence in the last year or so, and are often in the headlines of the financial press. We have seen astonishing price increases despite major difficulties in ascertaining fundamental value. Extreme price volatility further raises risks for investors, and earlier this month ESMA, with the other ESAs, issued an investor warning in this regard. In recent months we have seen virtual currencies themselves as the building block for further innovation, in the form of Bitcoin futures contracts in the US. We see virtual currencies as an unstable building block, however, as they generally lack the key characteristics of a currency and are unregulated under EU law.

Another way in which blockchain innovation has spiralled is in Initial Coin Offerings, or ICOs. Through ICOs, firms aim to raise capital by offering 'tokens' or 'coins' that are built using the same blockchain technology that underpins virtual currencies. ICOs are therefore a recent innovation on top of a recent innovation. A source of risk for investors is that ICOs may not provide important information to investors, in contrast to information required for IPOs. Last year ESMA issued statements on ICOs, reminding firms of their regulatory obligations and alerting investors to the high risks involved. These risks include the fact that certain ICOs may fall outside of the regulated space. ICOs are also vulnerable to fraud or illicit activities. Our analysis of ICOs was aided by the fact we had already consulted on the potential uses of blockchain in the financial sector.

The innovation spiral, where one technology lays the foundation for another, therefore points to the value in establishing a thorough technical understanding of FinTech.

FinTech may follow a regulatory dialectic

Another concept that describes how financial innovation – including FinTech – often evolves is the notion of a 'regulatory dialectic'.¹ Market participants take into account existing rules and regulations when they innovate. In response, authorities may seek to amend the regulatory framework, which may then prompt further innovation, and so on. In some cases, market participants innovate in order to frustrate the intended effect of the rules. Some shadow banking activities during the financial crisis are an example of a negative regulatory dialectic. Banks created off-balance vehicles that earned returns but avoided heavy capital charges.

In other cases, innovations respond to the rules but not necessarily in a detrimental way, as in the case of RegTech. Regulatory technology builds on existing information technology, in an innovation spiral, and is a very clear example of a positive regulatory dialectic. After all, RegTech involves technological innovations that are explicitly designed to help us regulators do our jobs, and to help firms meet their regulatory obligations. Together with innovation hubs, RegTech provides an opportunity for a positive regulatory dialectic. We are in constant contact with firms, listening to them and communicating where we believe innovations may be beneficial to the financial sector and to our own work in particular.

For a concrete example of our dialogue with firms in the context of RegTech I will mention data-gathering, which is a vital part of our work. Our mandates to collect data within frameworks such as EMIR and MiFID II are designed to ensure regulators and policymakers have proper oversight of the risk landscape, a capacity which was sorely lacking in the run-up to the financial crisis. But reporting requirements are inevitably costly for firms. RegTech enables some aspects of the reporting process to be automated and streamlined, lowering costs and improving efficiency.

¹ Kane, Edward J., 1981. "Accelerating Inflation, Technological Innovation, and the Decreasing Effectiveness of Banking Regulation," *Journal of Finance*, 36 (May), 355-367.

Monitoring FinTech by looking at economic function

Understanding how the process of innovation works – taking into account its structural features – enables regulators to take a coherent view of FinTech. Of course, each technological innovation is different. But as we monitor and assess FinTech developments, we find it helpful to keep in mind the radical changes brought by FinTech and other information technology. Put simply, we fully recognise the potential for FinTech to reshape the financial sector. We must keep in mind too the innovation spiral and the regulatory dialectic, so that in setting future policies we take into account the dynamic nature of FinTech.

Indeed, these ideas already inform ESMA's work in monitoring and prioritising our work in relation to innovation. For this we have devised a Financial Innovation Scoreboard, with which we perform an initial assessment of financial innovations according to the risks and benefits arising from functions they perform. In other words, we look at their essential economic characteristics - how do they transform maturity, how do they transfer risks, how do they create economic value?

Focusing on core functions is particularly important given how many innovations evolve over time, and their ever-increasing complexity. Indeed, in some cases, the technology itself inherently involves some degree of opacity. The use of machine learning by asset managers – often described as a 'black box' technology – is one such example. Some systematic – or 'quant' – funds use algorithms to spot deep patterns in data from a huge range of sources. The algorithms – which may be modelled on the structure of the brain, for example – learn through trial-and-error. As a result, the way they make predictions does not follow a transparent inferential process; we cannot follow their reasoning, so to speak. A functional assessment is especially important in such situations. Having identified the core economic functions of a new innovation, we then assess risks and benefits that relate to each of ESMA's objectives: financial stability, market integrity and investor protection.

Challenges and opportunities for regulators

The fundamental changes that technology is bringing to financial markets make FinTech a priority for financial market regulators. We need to monitor and to understand these changes so that we can respond to them in a balanced and effective way.

The European Commission recognises the importance of this challenge, which is why last year the Commission proposed to enhance the mandate and capacity of ESMA and the other two ESAs in this respect. The proposal wisely stresses a measured approach, envisaging that the ESAs harness the potential opportunities of FinTech while at the same time addressing possible risks that may arise from it.

Under the Commission's proposal, specific new tasks for the ESAs would include four areas. The first task envisaged is to pursue convergence on licensing requirements for Fintech companies. As with all convergence work, this will require close cooperation at a European level and a thorough understanding of the nature of different FinTech businesses. Greater convergence is something that FinTech firms continually ask for, and something which in turn

helps national authorities provide a considered, measured basis on which the FinTech sector can operate.

The second task is to clarify and update the supervisory outsourcing frameworks, especially cloud services. The cloud is reshaping many different sectors, allowing information to be stored and accessed remotely without the need to have extensive hardware on-site. It is driving down the costs of data storage and processes, facilitating other developments such as Big Data technologies. Across the financial sector, this reshaping of how and where information is stored and processed is driving the outsourcing of much back-office work, making our work on supervisory outsourcing frameworks a clear priority.

The third task set out in the Commission's proposal is that the ESAs will coordinate national technological innovation hubs. In that context, it may be appropriate to develop convergence measures regarding technological innovation hubs and regulatory sandboxes set up by Member States. ESMA has already been working with NCAs on information-sharing in this area. In doing this, we can ensure we have a solid understanding of the different models of innovation facilitation used by various authorities in the Union and beyond. Pooling expertise in this area and coordinating via the ESAs will allow our national regulators to design technological innovation hubs that best meet their goals. Financial firms are of course ever more global in their reach and outlook, and we need to ensure that the EU is the right place for cutting-edge firms to innovate and build their businesses, while ensuring that they meet all regulatory requirements.

Innovation hubs present us with another opportunity, namely a source of information for regulators. This helps us both to monitor FinTech and to decide how to act. Understanding first-hand how FinTech firms operate will allow us to ensure our regulations are properly targeted, addressing risks without stifling beneficial developments. Innovation hubs therefore offer the prospect of a positive regulatory dialectic.

The fourth task set out in the Commission's proposal relates to cybersecurity. The ESAs, working together with the Commission and the ECB, will pursue convergence of IT risk management and contribute to developing cyber stress testing modalities. It is hard to overstate the vital importance of cybersecurity in today's world. The risk of cybersecurity breaches – whether or not due to deliberate attacks – poses a material threat to the operation of market participants across the financial sector. Convergence of risk management activities among member states and across sectors – with the ESAs working together – will help ensure we can meet this challenge. ESMA is working to achieve state-of-the-art supervision of credit rating agencies and trade repositories to ensure we are alert to evolving cyber risks.

The Commission's proposals, if adopted, will provide the ESAs with a clear roadmap – and with much-needed resources – to meet the challenges and opportunities arising from FinTech.

Conclusion

I'll finish by returning to my opening theme – a measured approach. We first need to measure in the sense of monitoring FinTech. This requires us to understand how it evolves and to think



of innovations in terms of economic functions. Second, we need to act in a balanced way, taking account of risks and benefits.

FinTech is a fascinating topic, and it is reshaping the financial sector profoundly. We will use our measured approach to tackle the challenges FinTech brings, and to grasp the opportunities.

Thank you.