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FinTech: regulatory challenges and open questions

1. Introduction

Until the early 1990s we used to live in a world in which a strict correspondence existed between the type of financial *contracts*, the type of *risk*, and the type of *financial institution* managing it. For regulators, the set of financial players could be neatly partitioned according to the risks prevailing in their balance sheets, and the corresponding risks their default would have posed to their clients and to the economy as a whole. Nowadays, a quarter of a century later, the financial landscape looks very different. Several waves of financial and technological innovations have eroded the boundaries between products and financial intermediaries. In banking, the typical set of products that for long had been exclusive remit of licensed credit institutions – payment services, deposits and loans – have been unbundled and are now separately provided by a much wider array of players.

FinTech is now bringing the process to a new level. Also in light of the amounts invested in new technologies and the blend of new entrants – dedicated start-ups and well-established and trusted technology or financial services companies – FinTech has the potential to transform the financial system across a broad range of products and services. And this is a good thing, as it would help improving efficiency and customer satisfaction in a financial industry still struggling to rebuild its reputation after the financial crisis. It would be disgraceful if financial regulation ended up setting barriers to protect incumbent banks. I strongly believe that any attempt to artificially reconstruct the neat boundaries prevailing until the 1990s would not only be out of date and against the public interest; it would also be bound to fail.

At the same time, it is undeniable that FinTech is raising challenges for regulators. I see three main questions:

i. Do new products and services raise new risks for financial stability, market confidence, societal objectives such as the reduction of money laundering and financial crime, and consumers of financial services, which require regulatory or supervisory action?

ii. Is there a differential application of the rules to the various players competing in the same product and service markets, and if so does it generate an unlevel playing field?

iii. And with specific reference to the EU, is a divergent attitude by national regulators towards financial innovation potentially driving a redistribution of risks and cross-border business, which impair the smooth functioning of the Single Market?

I do not have the ambition to give final answers to these questions today. But I will try to explain how the EBA is approaching these questions in concrete cases. The EBA founding regulation explicitly requires that the Authority monitor new financial activities and adopts guidelines or recommendations to promote the safety and soundness of markets and convergence of supervisory practices. Also, the EBA is asked to establish an internal Committee dealing with financial innovation, with a view to achieving an EU-wide coordinated approach by competent authorities to the regulatory and supervisory treatment of innovative activities. This work may also lead to advice to the European Commission, Council and Parliament to consider changes to the legislative framework. I will therefore spend some time summarizing our work on particular FinTech innovations, which we have assessed in the last 3 to 4 years. The case studies I have chosen deal with Virtual Currencies, ‘Robo-advice’, and payment initiation and account information services under the revised Payment Services Directive, or PSD2.

I will then conclude by having a wider look at the topic, away from particular innovations, with a focus on more “horizontal” FinTech issues, which cut across the financial sector and specific innovations. This broader work, which the EBA has launched this year and includes a far reaching mapping exercise, will eventually lead the EBA to address fundamental issues relating to the definition of banking, the perimeter of regulation and the authorization and supervisory regimes necessary to address risks whilst enabling the benefits of innovations to be fully realised.

2. Monitoring innovation: three case studies

The EBA task of monitoring innovation is based on the analysis of the root causes of the crisis, especially the design of increasingly complex structured financial products and the development of the “originate to distribute” model, which allowed to disproportionately increase the amount of leverage in the financial system. Regulatory arbitrage, and regulatory competition between jurisdictions, played a significant role in the building up of risks that led to the financial crisis. A consistent supervisory approach to financial innovation across the Single Market was therefore deemed desirable to avoid regulatory arbitrage and a corresponding mandate was conferred on the EBA. However, supervisory convergence is desirable for other reasons too. For example, it can be of benefit to legal entities that want to capture growth opportunities by providing their innovations across Single Market. It also reduces compliance costs for these firms and may even facilitate product launches in a wider geographical area than may otherwise have been possible.

Furthermore, innovations are not necessarily driven by regulatory arbitrage. Most of them arise in the pursuit of genuine business objectives, such as revenue generation, cost reduction, or the widening of customer choice and convenience. And, in general, innovation can foster competition in a market. A consistent approach to innovation can facilitate market participants developing and maintaining confidence in the innovation in question, rather than seeing its growth being stifled by mis-conduct, security breaches, mis-appropriation, or other failures to which the public would be alerted.

In order to facilitate confidence in sound innovation, the EBA assesses the potential benefits and the risks of the innovation, to determine which, if any, regulatory and supervisory action may be needed. Our approach follows several steps:

i. Characterise the innovation;

ii. Identify the types of market participants;

iii. Identify the potential benefits;

iv. Identify and then prioritise the risks;

v. Identify the risk drivers;

vi. Assess if existing rules already address the risks;

vii. Assess which, if any, additional regulatory or supervisory measures are required;

viii. Assess the extent to which a consistent EU approach is needed.

One of the challenges in this process is to ensure that we take an approach that is proportionate and that not only mitigates the significant risks but also harnesses the benefits of the innovation. These are difficult trade-offs to make for a regulator, and where exactly the appropriate balance will lie tends to differ depending on the innovation that is being assessed.

I will now present three case studies to illustrate how the EBA's approach to financial innovation works in practice.

3. Virtual currencies

Virtual currencies (VCs) emerged on the EBA's radar in 2013. By then, VCs such as Bitcoins had already been in existence for two years or so. However, in autumn 2013, we became aware of the increasing use of VCs by consumers as a means of paying for goods and services. The interest to the EBA was linked to our remit as a payments regulator and because of our mandate to protect consumers. At the time, VCs were the only use case of the technology commonly referred to as Distributed Ledger Technology or Blockchain, and our assessment applied to that only.

In December 2013 the EBA issued a public warning, making consumers aware of the risks to which they are exposed when using VCs as a means of payment, including: price volatility; absence of consumer rights for re-imbursement if the entity holding the VCs becomes insolvent; and risk of seizure by law enforcement agencies. The warning, which is a tool specific envisaged in the EBA founding regulation to communicate to the general public information about risks and potential for consumers' detriment, was widely reported by media outlets across the EU.

What was left unaddressed in this first step of our work was the question whether VCs can and should be regulated. In order to answer this question, the EBA carried out additional work and, 6 months later, issued an Opinion to the EU Commission, Council and Parliament as well as to the national supervisory authorities. In that Opinion, the EBA followed the methodological approach I outlined earlier: we characterized the innovation by developing a working definition of VCs, then identified potential benefits, risks, risk drivers, assessed existing EU law and then arrived at some recommendations.

Supporters of VCs attributed numerous advantages to VC schemes. What we identified as common to all of them is that, at that early stage of the development of VCs, many benefits remain hypothetical, as the advantages have often not (yet) materialised. The benefits attributed to VCs included:

- lower transaction costs than conventional payments;
- lower transaction processing time;
- contribution to economic growth;
- enhanced financial inclusion through easier access to the financial system; and
- greater security of personal data as a result of anonymity.

Following some extensive assessment, the proclaimed benefits of VCs appeared to be less convincing within the EU. This is because several pieces of EU legislation that entered into force in the last few years had already established an inclusive, fast, and low-cost market for intra-EU payment transactions. For example, the SEPA Regulation prescribed maximum transaction speeds and the Payment Accounts Directive imposed requirements on all banks to offer a basic bank account for any resident in the EU. The only claim of a distinctive benefit that we found convincing was the potential contribution to economic growth through new types of businesses that did not exist before, which we readily acknowledged. We then proceeded to identify the risks – a significant number, more than 80 – and to prioritise them, distinguishing three main categories:

- risks for which no regulatory mitigation is required, for example because they can be left to market participants to address;
- risks that are likely to require mitigation but require further analysis to determine how and who should deal with those risks;

- risks that definitely require mitigation, such as those related to financial crime, terrorist financing, and anti-money laundering (AML).

We also distinguished between risks to *users*, such as security, fraud, lack of protection in case of insolvency; risks to *non-user market participants*, such as those to merchants accepting VCs; risks to *financial integrity*, such as money laundering, crime and terrorist financing; risks to *payment systems and payment service providers in fiat currency*, e.g. because of spill-over effects from transactions in VC to those in fiat currencies.

This very granular analysis led the EBA to recommend that the European Commission, Council and Parliament make several legislative changes. In particular, we argued that

- specific entities, such as VC wallet providers and exchanges, should be subject to the Anti-Money Laundering Directive – a point that was taken up by the co-legislators;

- VC should not become a regulated financial activity, e.g. should not be subject to the PSD2 and thus not be considered a payment service;

- the coordination efforts between the different (types of) supervisory authorities in the EU should be strengthened to mitigate cross-border risks.

- national authorities should discourage regulated financial institutions from buying, holding or selling VCs, so as to allow this innovation to continue developing but outside of, and thus with limited impact on, the regulated financial sector.

4. Robo-advice

Another piece of work we developed focused on the increasing role of "automation in financial advice". This includes the various ways in which the human interaction in the relationship between consumers and financial institutions is being replaced by automated tools, such as algorithms, at the end of which the consumer receives, or perceives to receive, advice or advice-like recommendations. As this phenomenon has been occurring across financial sectors, the EBA joined forces with EIOPA and ESMA, its sister authorities responsible for the insurance companies and securities markets.

We applied the same methodology, but came to very different conclusions from those on virtual currencies.

We *characterized* the innovation, as a tool that is perceived to be advice, in which human interaction is (partly) replaced by algorithms; we then identified the potential *benefits*, such as: reduced costs; wider access to advice; better quality of service; additional revenue opportunities; and we identified the *risks*, such as flaws in algorithms; unclear allocation of liabilities; and the limited ability of consumer to understand or process information. Following a public consultation, the ESAs concluded that the innovation was unevenly spread across the three sectors and

Member States; already existing EU rules on advice are generally applicable to robo-advice, and no new rules were required to address risks and harness benefits. EBA, ESMA and EIOPA will continue monitoring, and revise their view if needed.

5. PSD2: Account information and payment initiation services

In the area of payment services, the EBA has been explicitly mandated to develop Technical Standards aimed at facilitating innovation. The revised Payment Services Directive (PSD2) will apply from January 2018 onwards and will bring about far-reaching changes, by facilitating innovation and enhancing competition. In particular, two new services are introduced in the legal text: account information and payment initiation services. The non-bank providers of these services will have the possibility to access the bank accounts of their customers, thus challenging the dominant position that banks hold in the provision of payment services.

The EBA was entrusted with the mandate to develop several technical standards, many of which are about the security requirements incumbent banks and market challengers will have to comply with when accessing payment accounts. The tasks assigned to the EBA required that difficult trade-offs between competing objectives of the PSD2 were addressed. For instance, the objective of enhancing competition, and therefore entry in the market by new firms challenging incumbent banks, had to be achieved while pursuing at the same time the objective of strengthening payments security and protecting consumers. Similarly, the objective of facilitating innovation and ensuring technology and business model neutrality had to be balanced with the objective of contributing to a single EU payments market, which might call for greater standardisation of some requirements and therefore potentially narrow down the room for innovation.

After lengthy and difficult public consultations and intense dialogue with all the different categories of stakeholders, we finalised the Technical Standards and submitted them to the Commission for final adoption. I believe we found a good balance. Following the consultation we maintained the requirement for third party providers to access customers' bank accounts via a dedicated interface, which is key to ensure proper authentication of the provider. But we also addressed the concern of non-banks that banks could deliberately make access difficult, by introducing a legal obligation for banks to ensure the same level of availability and performance as the interface offered to and used by their own customers, with the same level of contingency measures in case of unavailability. We also extended the exemptions to strong authentication based on transaction risk analysis, with a mechanism that should provide incentives to reduce the levels of fraud. Finally, we removed several references to technological standards to allow for greater neutrality and incentives to innovate.

6. Towards a holistic approach to FinTech

The approach followed so far by the EBA has been successful, I believe. But by focusing on separate innovations and addressing them one by one, we might be missing the big picture of the changes induced by FinTech. A proper response to the three questions I raised earlier on calls for a deeper understanding of the changes that FinTech is generating in the structure and functioning of financial markets – especially, in the relationships and interconnections between different types of players and, accordingly, in the generation and distribution of risks in the system. Also, it requires that we maintain an open mind as to the adequacy of the regulatory approach followed so far in the new world that is emerging as a result of financial and technological innovation.

Gillian Tett, US editor and columnist at the Financial Times, applied approaches derived from cultural anthropology to argue that the attitude of financial firms and authorities, and individual teams within financial firms and authorities, to work in silos played a great part in the lack of understanding of the gradual build-up of risks that led to the financial crisis. The hyper-specialised and segmented approach we tend to follow to understand new developments may mean that nobody is "connecting the dots" and understanding the interaction between different factors at play. Also, she argues that "…when our classification systems become excessively rigid, and silos dangerously entrenched, this can leave us blind to risks *and* exciting opportunities." [1]

The first point we have to understand is the type of interaction that occurs between traditional banks and new FinTech companies. Carolyn Wilkins, the Deputy Governor of the Bank of Canada, recently argued that while the new technology may be revolutionary, its overall effect on the financial system will be evolutionary: financial institution that adapt will survive, alongside with new service providers that will become part of the financial ecosystem. We tend to classify the relation between banks and FinTech firms as plain competition between incumbents and new entrants. While this is surely an important part of the story, it is unlikely to be all there is to it. For instance, in discussions I had with authorities and firms in emerging markets it came out that in some cases there might be implicit or explicit agreements to partition the market between banks and FinTech companies, with the latter targeting explicitly customers that are not served by banks – e.g., because the distribution of products via new technologies allows to reach areas of the country where there are few bank branches. But also in industrialised countries competition is not the only pattern in the relation between banks and FinTech firms. In a number of cases traditional banks established partnerships or joint ventures with FinTech companies, or acquired minority or majority stakes in their capital, with a view to benefit from financial innovation, restructure their distribution channels and enhance cost efficiency. We cannot rule out that, during this process, banks will use their relationship with FinTech firms to move parts of their value chain outside the remit of regulation, as it happened already in the run up to the financial crisis. Systemic risk may well be generated outside the perimeter of traditional, regulated entities: also smaller players could create critical dependencies within the financial system, especially if they connect directly to core payments infrastructures.

[1] Gillian Tett, *The silo effect*, Simon & Schuster, 2015, p.247.

These considerations lead to my second point: the definition of banking and the taxonomy on which the perimeter of regulation is based – or, using the terminology coined by Padoa-Schioppa,[2] the *essence of banking* and the *scope of banking*.

The definition of banking in the EU dates back to the First Banking Coordination Directive (1BCD) of 1977: banks are characterised as institutions that couple deposit-taking with the provision of loans. The joint supply of deposits and loans puts banks in the unique position to provide liquidity on demand. As deposit-taking is an activity reserved exclusively to licensed banks, they are the only institutions allowed to perform this function – which is also the reason of their direct access to the liquidity facilities provided by the central banks.

The Second Banking Coordination Directive (2BCD) in 1988 included an Annex with a very broad list of activities that banks were allowed to provide, on top of the essential ones defined in the 1BCD. Those same activities, including the provision of credit, may individually be provided also by other financial firms without the need for a bank licence. Each of these activities may be covered by specific regulatory requirements, including authorisation, as is the case for instance for the provision of payment services. But regulatory requirements remain generally less stringent and pervasive than for banks.

Hence, the regulatory taxonomy we are accustomed to work with since the start of the Single Market project is based on a two tier structure. In the first tier are banks, as the only institutions able to collect deposits and provide all the activities of the list, with consolidated supervision attracting under the remit of supervision all the business performed through subsidiaries. In the second tier we find a wide and diverse set of financial firms, which are subject to the more or less stringent regulatory requirements, or no requirements at all, according to the public interest attached to the services they are providing. They generally have to rely on banks for the provision of liquidity and cannot directly access central banking facilities. Recently, some countries have introduced a third tier and started to experiment with so-called *sandbox* or similar regimes, in order to facilitate the introduction of FinTech activities, in a controlled environment, without being subject to the full panoply of regulatory requirements.

Will this tiered framework prove durable and resilient to change? Or should we consider new regulatory taxonomies, more fitting for the new financial landscape? As of today, I am not in a position to give a definitive answer to these questions. But I think that until we have decided to move to any new framework we should strictly enforce the rules that we have and closely monitor any possible circumvention via new channels and players for the provision of financial products and services. In other terms, we should make sure that any form of deposit taking is restricted to licensed banks and that any new way of delivering the typical banking functions via leverage, liquidity provision and maturity transformation is closely monitored for possible inclusion in the perimeter of regulation and supervision. The same applies to FinTech innovations

[2] Tommaso Padoa-Schioppa, *Licencing Banks: Still Necessary?*, William Taylor Memorial Lecture, Group of Thirty, 2000.

that straddle other regulatory perimeters, such as payment services, electronic money or financial advice.

In the course of 2017, the EBA will step up its efforts to monitor innovation and the associated challenges for regulators and supervisors. We launched a mapping exercise on FinTech activities across the 28 EU Member States, as well as work on credit intermediation by firms falling outside EU solo prudential frameworks.

The work on credit intermediation will aim at understanding:

- whether firms are subject, under national law, to a solo prudential regime similar to that applied to credit institutions, to a bespoke prudential regime, or to no prudential regime;
- the scope of permitted activities for each type of entity;
- whether any reliance is placed on Article 9(2) CRD, on the exclusion from the prohibition on persons or undertakings that are not credit institutions from taking deposits or other repayable funds from the public;
- how each type of entity is classified when included in a banking group, i.e. whether it is included in the scope of consolidation as a financial institution or treated as an ancillary services undertaking;
- whether key services are being offered on a cross-border basis and, if so, how relevant are differences in national regulations in determining location choices of firms;
- whether the list of activities in Annex I to the CRD needs to be revised.

The EBA's work will also focus on the effects of the new wave of financial and technological change on business models and profitability of the various players, as well as on the distribution of risks within the system through a thorough assessment of FinTech entities operating across the Member States of the EU, the type of innovations they are deploying, and the status of authorisation or registration they have obtained.

A first deliverable is envisaged already in late summer 2017, when we plan to publish a discussion paper on FinTech.

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My view is that this will be a long journey. While conducting such analysis and debating the adequacy of the current framework, the attitude of regulators needs to remain vigilant, open minded and flexible. Academic research will be an important ingredient to achieve progress and contain the risk of group-thinking in the regulatory community. This is why today's event, and more broadly the initiative of Utrecht University, with the involvement of a number of research hubs and centres, is very welcome. I look forward to your input in the debate and in continuing the engagement in the months and years to come.

Thank you very much for your attention.