

FESE Response to the European Commission Consultation Document 'FinTech: a more competitive and innovative European Financial Sector'

Introductory remarks

The Federation of European Securities Exchanges (FESE) represents 35 exchanges in equities, bonds, derivatives and commodities through 20 Full Members from 29 countries, as well as 1 Affiliate Member and 1 Observer Member. FESE represents public Regulated Markets (RMs), which provide both institutional and retail investors with transparent and neutral price-formation.

At the end of 2015, FESE members had 9,201 companies listed on their markets, of which 6% are foreign companies contributing towards the European integration and providing broad and liquid access to Europe's capital markets. Many of our members also organise specialised markets that allow small and medium sized companies across Europe to access the capital markets; 1,299 companies were listed in these specialised markets/segments in equity, increasing choice for investors and issuers. FESE is registered in the European Union Transparency Register with number 71488206456-23.

FESE supports efficient, fair, orderly and transparent financial markets that meet the needs of well protected and informed investors and provide a source for companies to raise capital and for investors to hedge their portfolios. Through their RM and MTF operations, FESE members are regulated by their NCAs which implement the rules and standards agreed by ESMA.

Summary FESE response

FESE considers that FinTech can be an important driver to expand access to financial services for consumers, investors and companies, bringing greater choice and more user-friendly services, often at lower prices. New financial technologies can help individuals as well as small and medium-sized enterprises, including start-up and scale-up companies, to access alternative funding sources for supporting their cash flow and risk capital needs.

FESE believes it is worth highlighting the importance of establishing key principles upon which Europe can build a role in facilitating the development and implementation of FinTech. These principles include the need for:

- (i) The application of the same rules for the same services and risks based on the principle of technology neutrality;
- (ii) A risk-based approach built on proportionality and materiality which allows for flexibility, particularly in respect of innovation with small groups of customers, while ensuring a level playing field across the EU;
- (iii) A balancing of the local risks alongside the benefits of cross-border markets.

As FinTech develops, FESE believes the principles of flexibility, materiality and proportionality are, in particular, critical to allow for the emergence of disruptive technologies. At this stage, we consider that there are limited grounds for major changes to EU legislation and certainly no need for the development of a specific EU framework, particularly in a regulatory sense, for FinTech.

1. Fostering access to financial services for consumers and businesses

1.1. What type of FinTech applications do you use, how often and why? In which area of financial services would you like to see more FinTech solutions and why?

FinTech can be an important driver to expand access to financial services for consumers, investors and companies, bringing greater choice and more user-friendly services, often at lower prices. Current limitations in traditional financial service markets (e.g. opacity, lack of use of big data, insufficient competition), such as financial advice, consumer credit or insurance, may foreclose access to some categories of individuals and firms. New financial technologies can thus help individuals as well as small and medium-sized enterprises (SMEs), including start-up and scale-up companies, to access alternative funding sources for supporting their cash flow and risk capital needs.

Automation and standardisation has changed the way customers interact with market infrastructure providers, leading to an explosion in data volumes. Technological developments in relation to data analytics, field programmable gate array (FPGA), mobile technology, cloud computing, machine learning, artificial intelligence and blockchain are opening up new possibilities in relation to services FESE members use and provide to customers. Individually, these technologies have enormous potential and combined, they can offer an impressive array of new solutions for clients.

There are also potential synergies on FinTech and Sustainable and Green Finance which could be further and systematically developed at a high-level. The European Commission has a pivotal role on this issue and it would be beneficial to work together with all relevant players (e.g. companies, exchanges, financial institutions, and entrepreneurs) to ensure FinTech innovations are put to maximal use to help address sustainability challenges in the real economy.

1.2. Is there evidence that automated financial advice reaches more consumers, firms, investors in the different areas of financial services (investment services, insurance, etc.)?

Yes

If there is evidence that automated financial advice reaches more consumers, firms, investors in the different areas of financial services, at what pace does this happen? And are these services better adapted to user needs? Please explain.

FESE notes that whereas data analysis systems used to be rules-based, we are now seeing a seismic change in approach, which will progressively shift towards using machine learning and artificial intelligence to eliminate bias in the analysis and discover new patterns in the data.

Moreover, cloud technology, which is being widely adopted globally, can make it cost effective to store and process data.

1.3. Is enhanced oversight of the use of artificial intelligence (and its underpinning algorithmic infrastructure) required? For instance, should a system of initial and ongoing review of the technological architecture, including transparency and reliability of the algorithms, be put in place?

No

Please elaborate on your answer to whether enhanced oversight of the use of artificial intelligence is required, and explain what could more effective alternatives to such a system be.

FESE members already deploy artificial intelligence for market surveillance. Unstructured data from electronic communications such as emails, instant messages and social media are thereby tied to traditional surveillance data such as orders, cancels and amendments. This provides a complete view of individual traders' communications including who they corresponded with internally and externally across every communication channel.

Ensuring that the use of artificial intelligence does not frustrate rights of individuals or customers is important and regulators need to be able to request reliable information on what the technology is applied to. However, an enhanced oversight of the use of artificial intelligence would risk limiting and slowing the progress in using this technology.

1.4. What minimum characteristics and amount of information about the service user and the product portfolio (if any) should be included in algorithms used by the service providers (e.g. as regards risk profile)?

1.5. What consumer protection challenges/risks have you identified with regard to artificial intelligence and big data analytics (e.g. robo-advice)? What measures, do you think, should be taken to address these risks/challenges?

1.6. Are national regulatory regimes for crowdfunding in Europe impacting on the development of crowdfunding?

Don't know / no opinion / not relevant

Please elaborate on your reply to whether there are national regulatory regimes for crowdfunding in Europe impacting on the development of crowdfunding. Explain in what way, and what are the critical components of those regimes.

FESE does not have an opinion on whether national regulatory regimes for crowdfunding is impacting the development of crowdfunding in Europe.

FESE supports the development of a sound equity culture in Europe. In this context, it is important to support investor protection and prevent practices from developing that would have a negative impact on the public's confidence in these markets. It could therefore be helpful to develop EU legislation to protect investors and provide a transparency regime on a European level. The regulatory requirements applicable to peer-to-peer and marketplace lending should be aligned with the framework applied to financial institutions following the principle "same service – same rules".

1.7. How can the Commission support further development of FinTech solutions in the field of non-bank financing, i.e. peer-to-peer/marketplace lending, crowdfunding, invoice and supply chain finance?

1.8. What minimum level of transparency should be imposed on fund-raisers and platforms? Are self-regulatory initiatives (as promoted by some industry associations and individual platforms) sufficient?

FESE considers that investors should be entitled to enjoy the same level of protection when accessing different finance opportunities, regardless of the form of the investment. This should also apply to fund-raising platforms, including crowdfunding. The transparency and reporting requirements for peer-to-peer and marketplace lending should be enhanced successively in line with the growing relevance of such services, with a view to ensuring consumer protection and effective supervision of market risks. The guiding principle should always be “same service – same rules”.

Sensor data analytics and its impact on the insurance sector.

1.9. Can you give examples of how sensor data analytics and other technologies are changing the provision of insurance and other financial services? What are the challenges to the widespread use of new technologies in insurance services?

1.10. Are there already examples of price discrimination of users through the use of big data?

No

Please provide examples of what are the criteria used to discriminate on price (e.g. sensor analytics, requests for information, etc.)?

FESE members have not observed price discrimination of users through the use of big data. However, the use of Big Data may result in more targeted offerings and exclude certain customers from certain offers. Big Data will, in particular, be helpful in accurately predicting the behaviour of customers. In customer segmentation, customer sentiment analysis will help with devising applications that can tailor the decision-making process for customers. It is possible that the use of Big Data could in some circumstances lead to restrictive commercial practices by limiting access to certain services that can be deemed inappropriate for certain customers.

It is already possible to legally challenge a refusal of offer. Provided privacy rules and regulations are adhered to, FESE considers that the use of Big Data will not compromise the overarching obligations of financial institutions to treat their customers in a fair manner.

Other technologies that may improve access to financial services

1.11. Can you please provide further examples of other technological applications that improve access to existing specific financial services or offer new services and of the related challenges? Are there combinations of existing and new technologies that you consider particularly innovative?

2. Bringing down operational costs and increasing efficiency for the industry

2.1. What are the most promising use cases of FinTech to reduce costs and improve processes at your company? Does this involve collaboration with other market players?

Cost savings can generally be realised through further automating and digitalising processes, reducing manual labour or/and intensive reconciliation processes. Blockchain-based applications can play a key role here, as does the use of cloud services.

2.2. What measures (if any) should be taken at EU level to facilitate the development and implementation of the most promising use cases? How can the EU play its role in developing the infrastructure underpinning FinTech innovation for the public good in Europe, be it through cloud computing infrastructure, distributed ledger technology, social media, mobile or security technology?

Please see also our response to question 3.9 below.

We believe it is worth highlighting the importance of establishing key principles upon which Europe (meaning at the EU *and* national levels) can build a role in facilitating the development and implementation of FinTech. These principles include the need for:

- (i) The application of the **same rules** for the same services and risks (including across different pieces of legislation) based on the principle of **technology neutrality**;
- (ii) A **risk-based approach** built on **proportionality and materiality** which allows for **flexibility**, particularly in respect of innovation with small groups of customers (i.e. **sandboxes**), while **ensuring a level playing field** across the EU;
- (iii) A balancing of the **local** (country) risks alongside the **benefits of cross-border markets** (i.e. scalability, interoperability and passporting of services).

As FinTech develops, we believe the **principles of flexibility, materiality and proportionality** are, in particular, critical to allow for the emergence of disruptive technologies. At this stage, we consider that there are limited grounds for major changes to EU legislation and certainly no need for the development of a specific EU framework, particularly in a regulatory sense, for FinTech.

However, a **focus on consistency of approach**, particularly in terms of ensuring a level playing field, across Member States would be very helpful at this stage. Such an approach might very well facilitate the later emergence of a specific EU framework. An example concerns the current emergence of '**regulatory sandboxes**' in some Member States. While we do not favour the creation of a single EU sandbox, we do believe it would be helpful for the EU to adopt common supervisory principles – at ESMA level - to govern the framework of such sandboxes. At the very least, there should be greater information sharing between the regulators concerned.

In general, greater coordination and information exchange between regulators would be helpful, in a first stage, in terms of developing a predictable, consistent and clear legal environment across the EU.

Going forward, standards, interoperability and built-in porting mechanisms should be promoted at EU level. However, it should be ensured that the spirit behind regulation such as EMIR and MiFID II/MiFIR is carried through to new technological solutions, even though some adaptations of the latter may be needed.

2.3. What kind of impact on employment do you expect as a result of implementing FinTech solutions? What skills are required to accompany such change?

FESE considers that FinTech is likely to have an overall positive influence on employment. In some sectors, employees will be replaced by new technological solutions. However, FinTech innovations will also generate employment opportunities through the creation, management and monitoring of new services. Information technology and cybersecurity expertise are and will continue to be in high demand.

RegTech: bringing down compliance costs

2.4. What are the most promising use cases of technologies for compliance purposes (RegTech)? What are the challenges and what (if any) are the measures that could be taken at EU level to facilitate their development and implementation?

Machine learning and artificial intelligence can be used for compliance purposes but market surveillance would be the primary area of use. Artificial intelligence (AI) can be used to monitor systems and recommend actions and is a great tool to improve performance. Where currently only a static alarm is triggered, the development of AI solutions means that machines will learn from problems as they occur and will solve them. However, AI also raises questions of liability in case of errors, for instance if an AI solution does not pick up on an anti-money laundering case that is later discovered.

Recording, storing and securing data: is cloud computing a cost effective and secure solution?

2.5.1. What are the regulatory or supervisory obstacles preventing financial services firms from using cloud computing services?

As recently reemphasised by EBA, the use of cloud services is considered as outsourcing, making it subject to general outsourcing requirements. However, the general outsourcing rules are in parts ill equipped to the specificities of cloud services as a highly standardised and scalable service. Especially problematic in this regard is the required right to audit and administrative access of the cloud provider.

In addition, NCAs across the EU have established different approaches how to deal with cloud services, for instance as regards data location. A harmonisation at EU level would be helpful in harnessing the full potential of cloud services.

2.5.2. Does this warrant measures at EU level?

No

Please elaborate on your reply to whether the regulatory or supervisory obstacles preventing financial services firms from using cloud computing services warrant measures at EU level.

FESE considers that the EU financial regulatory framework should remain technology neutral. The current generic EU legislation for outsourcing is sufficient to frame cloud outsourcing. However, it would be useful if national regulators, within ESMA, adopted a harmonised approach to confirm guidance and instructions on financial institutions' requirements when outsourcing to the cloud.

2.6.1. Do commercially available cloud solutions meet the minimum requirements that financial service providers need to comply with?

Don't know / no opinion / not relevant

Please elaborate on your reply to whether commercially available cloud solutions do meet the minimum requirements that financial service providers need to comply with.

Standard contracts provided by cloud services providers are often not suited to the needs of financial infrastructure providers, necessitating renegotiations. Particularly contentious aspects are the contractual right to audit, contractual and technical service resilience, information protection with our key management, administrator access of the cloud provider and change management of services provided by the cloud provider.

However, it is FESE's understanding that cloud service providers are working continuously on complying with the applicable legislation, and that cloud solutions fulfilling the EU requirements should shortly be available for financial institutions.

2.6.2. Should commercially available cloud solutions include any specific contractual obligations to this end?

No

Please elaborate on your reply to whether commercially available cloud solutions should include any specific contractual obligations to this end.

Cloud service providers should have a dialogue with their customers to this end. This is especially important in the light of:

- Confusing data security regulations in the EU. For example, the cloud security regulations in EU. The General Data Protection Regulation (GDPR) manages the storage and transmission of personal data, which makes it complicated to ensure security compliance when services provided have multiple data centers in different jurisdictions.
- Handling/giving the control of a company critical applications of business and data is a major concern. This can reduce the business' ability to be flexible, i.e. the company needs to reach out to its cloud provider, which can put their data and business under the mercy of a third-party (licensor or contractor of the cloud services provider).

Disintermediating financial services: is Distributed Ledger Technology (DLT) the way forward?

2.7. Which DLT applications are likely to offer practical and readily applicable opportunities to enhance access to finance for enterprises, notably SMEs?

DLT has the potential to accelerate, decentralise, automate and standardise data-driven processes and therefore to alter the way in which assets are transferred and records are kept. In particular, DLT allows cross-verification of information in a transparent and dependable way and can simplify complex verification and validation processes to ensure adequate functioning.

2.8. What are the main challenges for the implementation of DLT solutions (e.g. technological challenges, data standardisation and interoperability of DLT systems)?

FESE considers that hurdles to wide scale adoption of DLT in securities markets are less related to possible limitations in the DLT itself but more related to contextual aspects such as for example business model/market model design, technical integration/transition, legal/regulatory complexity.

Though there are technical issues remaining to be solved before DLT is suitable for wide scale adoption in large scale securities markets, FESE considers it likely that such technical issues will be solved. While it may take some time, a large collective effort by incumbents and newcomers to the financial technology space is ongoing to solve such identified issues. The development of DLT itself also naturally has an impact on the timeframe for adoption of DLT in securities markets.

For solutions based on DLT to reach actual implementation in securities market, visions for the future need to be broken down into defined descriptions of services and solution that not only are accepted and desired by its intended consumers but also meet legal, regulatory and technical requirements. DLT is not a panacea that will replace all existing infrastructure in securities markets. Hence, DLT solutions need to be integrated into the existing ecosystem of infrastructure in securities market, which will require some efforts and time. Transition planning and execution is also important in DLT business cases when the intention is for DLT to replace legacy technology.

Agreement across market communities around transition planning and execution is critical, as there is otherwise a risk that a transition process gets stuck half-way (leaving participants with the unattractive situation of having to support parallel infrastructures) and no-one will invest in a transition project if this risk is present.

Taking the above into account it is reasonable to assume that early adoption of DLT in securities markets is likely to happen in markets where regulatory, technical and business complexity is relatively low and that adoption in more complex and demanding environments is likely to follow once DLT has proved its worth in small to medium sized implementations.

2.9. What are the main regulatory or supervisory obstacles (stemming from EU regulation or national laws) to the deployment of DLT solutions (and the use of smart contracts) in the financial sector?

FESE considers that, while the regulatory approach to DLT should be prudent, legal and regulatory uncertainty can be an important challenge to the adoption of DLT on a large scale in securities markets. The situation varies across different jurisdictions and regulatory regimes but some proposed business models enabled by DLT are so innovative that they do not fit into existing legislation and regulation. The problem is then not that existing regulations prohibit new models but that there is a lack of legal certainty in relation to activities in the new business model. Such examples include, but are not limited to, certainty about the representation of assets and ownership in DLT format, settlement finality, conflict of laws, governance, aspects of company law, cross border regulation, data privacy, etc. For these models based on DLT to get wide adoption in large scale securities markets some legal and regulatory “innovation” is required. However, it is still too early to determine whether there is a concrete need for legislative action. Areas of legal uncertainty connected to DLT-based applications need to be considered in depth, in close dialogue between market participants and regulators.

As an example, the requirement within the **EU CSD Regulation** to register all settlement solutions – including those based on DLT – could be a major constraint. This is because, although DLT will act as a pure database (i.e. not taking positions), inclusion within the scope of CSDR would imply capital requirements, a situation which would undermine the operation of such a solution.

Outsourcing and other solutions with the potential to boost efficiency

2.10. Is the current regulatory and supervisory framework governing outsourcing an obstacle to taking full advantage of any such opportunities?

Yes

Please elaborate on your reply to whether the current regulatory and supervisory framework governing outsourcing is an obstacle to taking full advantage of any such opportunities.

Please see our response to question 2.5.1. It is important that the regulatory framework is clear and practical as legal uncertainty and unnecessary burdensome requirements will constrain the use and development of outsourcing services. This is in particular applicable to the monitoring, control and quality assurance of outsourcing.

2.11. Are the existing outsourcing requirements in financial services legislation sufficient?

Yes

Please elaborate on your reply to whether the existing outsourcing requirements in financial services legislation are sufficient, precising who is responsible for the activity of external providers and how are they supervised. Please specify, in which areas further action is needed and what such action should be.

FESE considers that further details and guidance is needed in terms of e.g. the organisational requirements within the outsourcing party (the company outsourcing its services), especially with a focus on quality assurance and regarding monitoring and controls of the outsourcing service provider. The responsibility for the activity of the external providers lay within the outsourcing party. The relevant NCA should have the possibility to supervise the external provider on an ongoing basis.

Other technologies that may increase efficiency for the industry

2.12. Can you provide further examples of financial innovations that have the potential to reduce operational costs for financial service providers and/or increase their efficiency and of the related challenges?

3. Making the single market more competitive by lowering barriers to entry

3.1. Which specific pieces of existing EU and/or Member State financial services legislation or supervisory practices (if any), and how (if at all), need to be adapted to facilitate implementation of FinTech solutions?

FESE supports a “do no harm” approach. Technological developments are moving faster than the underlying legal and regulatory frameworks and in order not to impede innovation and investment, a rigid application of existing rules must be avoided. A predictable, consistent and straightforward legal environment should instead be promoted.

FESE supports a proactive approach where existing laws and regulations are adapted to new technical developments. Active involvement of regulators and supervisors is desirable to create a clear and predictable framework. Areas which would benefit from a review include licensing requirement for FinTech companies, data protection, conflict of laws, outsourcing, cyber security, settlement finality and proper legal recognition of holding and transferring securities and other types of assets. There is also a need to create clear governance and accountability rules for the firms operating in this area.

Please see also our answers to questions 2.2 and 2.9.

3.2.1. What is the most efficient path for FinTech innovation and uptake in the EU?

3.2.2. Is active involvement of regulators and/or supervisors desirable to foster competition or collaboration, as appropriate, between different market actors and new entrants?

Yes

If active involvement of regulators and/or supervisors is desirable to foster competition or collaboration, as appropriate, between different market actors and new entrants, please explain at what level?

Examples like Silicon Valley in California highlight the need for a start-up ecosystem to foster the development of innovative new services. FESE believes that an effective European start-up ecosystem would not only benefit FinTechs, but also start-ups beyond the financial sector to the benefit of European growth and competitiveness.

There are different aspects characterising a start-up ecosystem, not all of which are within the remits of the EU:

- Infrastructure (including affordable office space, availability of broadband networks, network effects with other start-ups and incumbents),
- Access to finance (especially early stage risk financing),
- Tax incentives (a tax regime incentivising investments in research and development and allowing for loss carryback and loss brought forward etc.),
- Skilled labour (application oriented university education, availability of qualified experts),
- A positive attitude toward entrepreneurs and start-ups (reduced red tape for entrepreneurs, one-stop-shops in dealing with supervisors, a second chance mentality etc.),
- Adequate data protection rules.

In terms of more direct steps to be taken, supervisors on national and European level can play an important role in supporting innovative FinTechs by establishing a one-stop-shop contact point, bringing together expertise from different financial services areas.

Please see also our response to question 3.1 above.

FinTech has reduced barriers to entry in financial services markets - But remaining barriers need to be addressed

3.3. What are the existing regulatory barriers that prevent FinTech firms from scaling up and providing services across Europe? What licensing requirements, if any, are subject to divergence across Member States and what are the consequences? Please provide the details.

As stated in question 1.6, it could be helpful to develop EU legislation to protect investors and provide a transparency regime on a European level. The regulatory requirements applicable to peer-to-peer and marketplace lending should be aligned with the framework applied to financial institutions following the principle “same service – same rules”.

Please also see our response to question 3.1 above.

3.4. Should the EU introduce new licensing categories for FinTech activities with harmonised and proportionate regulatory and supervisory requirements, including passporting of such activities across the EU Single Market?

No

If the EU should introduce new licensing categories for FinTech activities with harmonised and proportionate regulatory and supervisory requirements, including passporting of such activities across the EU Single Market, please specify in which specific areas you think this should happen and what role the ESAs should play in this. For instance, should the ESAs play a role in pan-EU registration and supervision of FinTech firms?

FESE agrees that the EU general regulatory framework needs to be geared towards fostering technological development. However, Fintech companies should not be treated different than established businesses. This is not only a question of level playing field, but a special treatment could potentially hamper FinTechs in a future stage of development, e.g. if the business model only works with a tailored regulatory framework and would not be viable in a real-world setting.

We consider that companies providing the same services should abide by the same rules no matter which is their supervisory authority in order to ensure a level playing field. FESE thus fully supports the work of the ESAs regarding supervisory convergence to foster a common supervisory culture among national competent authorities.

3.5. Do you consider that further action is required from the Commission to make the regulatory framework more proportionate so that it can support innovation in financial services within the Single Market?

No

If you do consider that further action is required from the Commission to make the regulatory framework more proportionate so that it can support innovation in financial services within the Single Market, please explain in which areas and how should the Commission intervene.

To benefit investor protection and financial integrity, the guiding principle should be that the same rules should apply to the same services, regardless of which entity is providing them. FESE takes the view that supervisory convergence is a vital element for both established financial markets institutions and FinTechs to fully realise the growth potential of the single market - the EU should thus continue to focus on ensuring market harmonisation, stability and transparency, regardless of the technological underpinnings.

3.6. Are there issues specific to the needs of financial services to be taken into account when implementing free flow of data in the Digital Single Market?

No

Please elaborate on your reply to whether there are issues specific to the needs of financial services to be taken into account when implementing free flow of data in the Digital Single Market, and explain to what extent regulations on data localisation or restrictions on data movement constitute an obstacle to cross-border financial transactions.

3.7. Are the three principles of technological neutrality, proportionality and integrity appropriate to guide the regulatory approach to the FinTech activities?

Yes

Please elaborate on your reply to whether the three principles of technological neutrality, proportionality and integrity are or not appropriate to guide the regulatory approach to the FinTech activities.

FESE considers that the three principles of technological neutrality, proportionality and integrity are appropriate. However, it is important to apply the principle of proportionality in such a way that it does not result in undue advantages for some business but to promote a level playing field. In line with our answer to Q2.2, we believe there is a need for a degree of convergence among regulators in terms of the approaches they are taking to facilitate the emergence of FinTech to ensure that a level playing field is maintained across the EU. However, this does not translate into support for an EU regulatory framework, but rather for ESMA led convergence work in specific areas, such as the emergence of regulatory sandboxes.

Role of supervisors: enabling innovation

3.8.1. How can the Commission or the European Supervisory Authorities best coordinate, complement or combine the various practices and initiatives taken by national authorities in support of FinTech (e.g. innovation hubs, accelerators or sandboxes) and make the EU as a whole a hub for FinTech innovation?

As stated elsewhere in our response, FESE would support initiatives by the Commission or ESAs to better coordinate the various practices and initiatives taken by NCAs in support of FinTech. For example, FESE supports any proposal designed to enhance understanding of FinTech by supervisors through regular forums bringing together all stakeholders as well as the proposal to design a system whereby knowledge can be shared across EU supervisory authorities. In addition, we support the proposal to give the EU a role in in terms of coordinating NCA sandboxes, particularly in cross-border environments.

3.8.2. Would there be merits in pooling expertise in the ESAs?

Don't know / no opinion / not relevant

Please elaborate on your reply to whether there would be merits in pooling expertise in the European Supervisory Authorities.

Please see our response to question 1.7 above. ESAs could contribute to an EU FinTech Hub.

3.9. Should the Commission set up or support an "Innovation Academy" gathering industry experts, competent authorities (including data protection and cybersecurity authorities) and consumer organisations to share practices and discuss regulatory and supervisory concerns?

Yes

If you think the Commission should set up or support an "Innovation Academy" gathering industry experts, competent authorities (including data protection and cybersecurity authorities) and consumer organisations to share practices and discuss regulatory and supervisory concerns, please specify how these programs should be organised.

Yes, FESE would support such an initiative which should, in particular, ease access for FinTech innovators to the Commission services and allow them to inform the relevant Commission services on new technologies, their functioning and implications in sectors in which they are developed. This could be done by extending the scope of the envisaged EU Blockchain Observatory to new technologies in general. The overall aim of this EU FinTech Hub would be to facilitate policy developments in the field of new technologies. This could contribute to ensure that new technologies are employed adequately, respect fair competition, and are developed for the benefit of the widest range of consumers.

3.10.1. Are guidelines or regulation needed at the European level to harmonise regulatory sandbox approaches in the MS?

No

Please elaborate on your reply to whether guidelines or regulation are needed at the European level to harmonise regulatory sandbox approaches in the MS?

FESE would advocate for an exchange of best practices rather than a harmonisation at European level of member states' regulatory sandbox approaches, as harmonisation could risk limiting national approaches.

3.10.2. Would you see merits in developing a European regulatory sandbox targeted specifically at FinTechs wanting to operate cross-border?

If you would see merits in developing a European regulatory sandbox targeted specifically at FinTechs wanting to operate cross-border, who should run the sandbox and what should be its main objective?

3.11. What other measures could the Commission consider to support innovative firms or their supervisors that are not mentioned above?

Role of industry: standards and interoperability

3.12.1. Is the development of technical standards and interoperability for FinTech in the EU sufficiently addressed as part of the European System of Financial Supervision?

Don't know / no opinion / not relevant

Please elaborate on your reply to whether the development of technical standards and interoperability for FinTech in the EU is sufficiently addressed as part of the European System of Financial Supervision.

Interoperability between each other and with legacy systems will be a key requirement for most use cases, not only in the area of blockchain-based applications, for the efficiency gains of the technology to materialise, especially as we can expect a gradual deployment of such application and different co-existing blockchain based networks.

While the development of European or global technical interoperability standards would facilitate this by providing a base layer of connectivity, experience show that such standards will be hard to establish in time to make a difference (e.g. complicated process to establish a Legal Entity Identifier (LEI)).

FESE would thus argue for market-based solutions including a commitment to a general necessity of interoperability.

3.12.2. Is the current level of data standardisation and interoperability an obstacle to taking full advantage of outsourcing opportunities? Please elaborate on your reply to whether the current level of data standardisation and interoperability is an obstacle to taking full advantage of outsourcing opportunities.

3.13. In which areas could EU or global level standards facilitate the efficiency and interoperability of FinTech solutions? What would be the most effective and competition-friendly approach to develop these standards?

3.14. Should the EU institutions promote an open source model where libraries of open source solutions are available to developers and innovators to develop new products and services under specific open sources licenses?

Please elaborate on your reply to whether the EU institutions should promote an open source model where libraries of open source solutions are available to developers and innovators to develop new products and services under specific open sources licenses, and explain what other specific measures should be taken at EU level.

Challenges

3.15. How big is the impact of FinTech on the safety and soundness of incumbent firms? What are the efficiencies that FinTech solutions could bring to incumbents? Please explain.

Technology has always been a source of structural change for financial markets, for instance with the rise of electronic trading. FinTech and RegTech has the potential to support the market to overcome certain barriers, while delivering efficiency gains and supporting risk mitigation. It could thus have ramifications throughout the whole lifecycles of securities on capital markets.

A number of different technologies have the potential to change the roles of financial markets infrastructures within the financial industry, including cloud computing support, the streamlining of IT architecture and harmonisation of applications, as well as robotics, data analytics and Artificial Intelligence (AI) enabling faster capture of the value.

However, using these new technologies should not be seen as an end in itself. It always needs to be carefully assessed whether the equivalent result to current ways of operating – in terms of transparency, stability and regulatory compliance – can rather be achieved with alternative technology, by improving existing technology or possibly through a combination of both.

FESE believes that combining innovative technologies, for instance blockchain based technologies, with established, highly regulated market infrastructures would be the natural choice in order to ensure market stability while making use of the innovative potential brought about through FinTech.

4. Balancing greater data sharing and transparency with data security and protection needs

4.1. How important is the free flow of data for the development of a Digital Single Market in financial services? Should service users (i.e. consumers and businesses generating the data) be entitled to fair compensation when their data is processed by service providers for commercial purposes that go beyond their direct relationship?

FESE considers that proprietary data rights are justified by the fact that entities having those rights invest in the production, development and control of data, making such data reliable and valuable. It is important to recognise the value of data and the proprietary rights attached to it since they incentivise the production of such data. Absent proprietary rights, the commercial value of data would disappear which would eliminate the willingness and incentives to invest in ensuring the quality and availability of the data concerned.

Storing and sharing financial information through a reliable tool

4.2. To what extent could DLT solutions provide a reliable tool for financial information storing and sharing? Are there alternative technological solutions?

DLT can provide reliability in the way that data once stored can be hashed, and the hash can be put into a distributed ledger so that anyone can easily verify in a later stage that the data has not been compromised with. From a resilience point of view, a distributed ledger would be much harder to attack as the data is stored in many locations and cannot as easily be compromised with. The sharing of data can also be made much more efficient by using the DLT concepts as it is built into the protocol for how to ensure everyone has an up-to-date record of information.

Cloud infrastructure with a central database that many can access and read from could also be an alternative for data storage and sharing. However, a central authority would be necessary to guarantee that data inputted or changed is valid.

4.3. Are digital identity frameworks sufficiently developed to be used with DLT or other technological solutions in financial services?

Yes

Please elaborate on your reply to whether digital identity frameworks are sufficiently developed to be used with DLT or other technological solutions in financial services.

Today there exists several digital identity solutions and many of them have proved to be stable and working. As both DLT and Digital Identity frameworks mostly rely on modern techniques they can easily be integrated with each other for trustworthy onboarding of customers.

4.4. What are the challenges for using DLT with regard to personal data protection and how could they be overcome?

There is a need for privacy and confidentiality in the course of daily business in financial services. The identity of a party to a transaction is usually not public unless legal provisions require the disclosure of this information.

Therefore, it is of utmost importance that DLT based networks are designed in a way that protects privacy when necessary without hampering the technology's benefits. As DLT based systems are capable of defining roles and limiting access to information based on these roles, the extent of the privacy issues depends on the type of information that is stored on the blockchain and on the governance of the respective system.

The power of big data to lower information barriers for SMEs and other users

4.5. How can information systems and technology-based solutions improve the risk profiling of SMEs (including start-up and scale-up companies) and other users?

4.6. How can counterparties that hold credit and financial data on SMEs and other users be incentivised to share information with alternative funding providers? What kind of policy action could enable this interaction? What are the risks, if any, for SMEs?

Security

4.7. What additional (minimum) cybersecurity requirements for financial service providers and market infrastructures should be included as a complement to the existing requirements (if any)? What kind of proportionality should apply to this regime?

FESE considers that regulations should align with present industry standards.

4.8. What regulatory barriers or other possible hurdles of different nature impede or prevent cyber threat information sharing among financial services providers and with public authorities? How can they be addressed?

The new NIS Directive on security of network and information systems will help in formalising reporting to authorities and FESE expect that authorities in turn will share this information in an anonymised way with financial service providers and other potentially affected parties as needed.

4.9. What cybersecurity penetration and resilience testing in financial services should be implemented? What is the case for coordination at EU level? What specific elements should be addressed (e.g. common minimum requirements, tests, testing scenarios, mutual recognition among regulators across jurisdictions of resilience testing)?

Industry standards should be followed on setting up timeframes for security testing based on risk.

Other potential applications of FinTech going forward.

4.10.1. What other applications of new technologies to financial services, beyond those above mentioned, can improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?

Data analytics, Machine Intelligence and Robo advice are already significantly aiding the decision process and quality of information being shared. Field programmable gate array (FPGA) also supports distribution of massive amounts of data with high throughput for market transparency and equality.

Cloud techniques to efficiently distributed data, easily scale storage needs and secure data for resiliency purposes will also help improve access to finance.

4.10.2. Are there any regulatory requirements impeding other applications of new technologies to financial services to improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?

Please elaborate on your reply to whether there are any regulatory requirements impeding other applications of new technologies to financial services to improve access to finance, mitigate information barriers and/or improve quality of information channels and sharing?