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TEXTS ADOPTED

P8_TA(2017)0211

FinTech: the influence of technology on the future of the financial sector

European Parliament resolution of 17 May 2017 on FinTech: the influence of technology on the future of the financial sector (2016/2243(INI))

The European Parliament,

– having regard to its resolution of 26 May 2016 on virtual currencies[1],

– having regard to its resolution of 15 September 2016 on access to finance for SMEs and increasing the diversity of SME funding in a Capital Markets Union[2],

– having regard to its resolution of 22 November 2016 on the Green Paper on Retail Financial Services[3],

– having regard to the Commission communication of 14 September 2016 entitled 'Capital Markets Union – Accelerating Reform' (COM(2016)0601),

– having regard to the Commission staff working document of 3 May 2016 on crowdfunding in the EU Capital Markets Union (SWD(2016)0154),

– having regard to the Commission's public consultation paper of 10 January 2017 on 'Building a European data economy' (COM(2017)0009),

– having regard to the European Supervisory Authorities' report of 16 December 2016 on automation in financial advice,

– having regard to the European Supervisory Authorities' discussion paper of 19 December 2016 on the use of Big Data by financial institutions (JC 2016 86),

– having regard to the European Banking Authority's opinion of 26 February 2015 on lending-based crowdfunding (EBA/Op/2015/03),

– having regard to the European Banking Authority's discussion paper of 4 May 2016 on innovative uses of consumer data by financial institutions (EBA/DP/2016/01),

– having regard to the European Securities Markets Authority's opinion of 18 December

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[1] Texts adopted, P8_TA(2016)0228.
[2] Texts adopted, P8_TA(2016)0358.
[3] Texts adopted, P8_TA(2016)0434.

2014 on investment-based crowdfunding (ESMA/2014/1378),

– having regard to the European Securities Markets Authority's report of 7 January 2017 on the distributed ledger technology applied to securities markets,

– having regard to the report of the Joint Committee of the European Supervisory Authorities' of 7 September 2016 on risks and vulnerabilities in the EU financial system,

– having regard to the European Banking Authority's Risk Dashboard based on data as of the third quarter of 2016,

– having regard to the European Insurance and Occupational Pension Authority's (EIOPA) Risk Dashboard of March 2016,

– having regard to the EIOPA's Fifth Consumer Trends Report of 16 December 2016 (EIOPA-BoS-16-239),

– having regard to the European Securities Markets Authority's Risk Dashboard of the fourth quarter of 2016,

– having regard to the European Central Bank's Occasional Paper No 172 of April 2016, entitled 'Distributed ledger technologies in securities post-trading: Revolution or evolution?',

– having regard to the paper of the Committee on Payments and Market Infrastructures of February 2017 entitled 'Distributed ledger technology in payment, clearing and settlement: An analytical framework',

– having regard to Rule 52 of its Rules of Procedure,

– having regard to the report of the Committee on Economic and Monetary Affairs and the opinion of the Committee on the Internal Market and Consumer Protection (A8-0176/2017),

A. whereas FinTech should be understood as finance enabled by or provided via new technologies, affecting the whole financial sector in all its components, from banking to insurance, pension funds, investment advice, payment services and market infrastructures;

B. whereas financial services have always relied on technology and evolved in line with technological innovation;

C. whereas any actor can be a FinTech, regardless of the kind of legal entity it is; whereas the value chain in financial services increasingly includes alternative actors such as start-ups or tech giants; whereas this term therefore includes a broad range of companies and services which differ widely from one another, pose different challenges and the regulatory treatment of which has to differ;

D. whereas a broad range of FinTech developments are underpinned by new technologies, such as distributed ledger technology (DLT) applications, innovative payments, robo-advice, Big Data, the use of cloud computing, innovative solutions in customer onboarding/identification, crowdfunding platforms and many more;

E. whereas investment in the applications of FinTech represents billions of euros and keeps increasing every year;

F. whereas the applications of the technologies are maturing at different paces while the scale and impact of their development remain uncertain, but they have the potential to transform the financial sector in a very substantial way; whereas some FinTech applications may one day become of systemic importance;

G. whereas FinTech developments should contribute to the development and competitiveness of the European financial system and economy, including European citizens' welfare, at the same time as enhancing financial stability and maintaining the highest level of consumer protection;

H. whereas FinTech can lead to considerable benefits, such as faster, cheaper, more tailor-made, more inclusive, more resilient and more transparent and better financial services for consumers and businesses, and can open up many new business opportunities for European entrepreneurs; whereas in the area of retail financial services the consumer experience is the driving force for market players; whereas progress and innovation in the financial sector should not exclude cash as a means of payment;

I. whereas the development of new financial services and the digitalisation of existing services will change market dynamics for the financial services sector, by introducing new forms of competition, innovation, partnerships and outsourcing by and between actors;

J. whereas promoting fair competition, neutralising economic rents where those exist and creating a level playing field for financial services in the EU is a prerequisite for boosting FinTech in Europe and for delivering cooperation between all actors;

K. whereas economic research has shown that cost-efficiency of the financial system could lead to lower consumer prices for retail financial products and services; whereas FinTech can contribute to this price decrease;

L. whereas FinTech solutions can increase access to capital, in particular for SMEs, through cross-border financial services and alternative lending and investment channels such as crowdfunding and peer-to-peer lending, thereby strengthening the capital markets union (CMU);

M. whereas FinTech developments can also facilitate cross-border financial flows and the integration of capital markets in Europe and thus encourage cross-border business, thereby enabling the completion of the CMU;

N. whereas FinTech developments, in particular in the area of domestic and cross-border payment solutions, can also support the continued development of a single market in goods and services and facilitate the achievement of the G20 and G8 '5x5 objectives' of reduction of cost of remittances;

O. whereas FinTech can serve as an effective tool for financial inclusion, opening up tailor-made financial services to those who could not access them before and thereby making growth more inclusive; whereas addressing problems of financial education and digital skills among European citizens is necessary for FinTech to generate real financial inclusion;

P. whereas legislation, regulation and supervision have to adopt to innovation and strike the right balance between incentives to innovative consumer and investor protection and financial stability; whereas FinTech requires a more balanced attitude as between ‘regulating the institution’ and ‘regulating the activity’; whereas the complex interplay between FinTech and the current regulation can result in mismatches, with companies and service providers being regulated differently even if they perform substantially identical activities and with some activities not being well captured by the definition and/or scope of activities in the current regulation; whereas the current EU consumer and investor protection framework for financial services does not address all FinTech innovations adequately;

Q. whereas the European Supervisory Authorities (ESAs) have started identifying the potential risks and benefits of innovative financial technologies; whereas national competent authorities are monitoring these technological developments and have come up with different approaches; whereas to date the development of a FinTech ecosystem in Europe has been hampered by divergent regulation across Member States and a lack of collaboration across markets; considers that decisive EU action with a view to fostering a common approach to FinTech is important for the development of a strong FinTech ecosystem in Europe;

R. whereas FinTech can contribute to risk reduction in the financial system by decentralisation and deconcentration of risks, faster clearing and settlement of cash payments and securities trades, and better collateral management and capital optimisation;

S. whereas FinTech can be expected to have some of its most significant impacts on the post-trade value chain, which includes services such as clearing, settlement, asset custody and regulatory reporting, in which technologies such as DLT could have the potential to reshape the entire sector; whereas within this value chain some intermediaries such as custodians, central counterparties (CCPs) and central securities depositories could in the long term become redundant while some other functions will still have to be performed by independent, regulated entities;

T. whereas RegTech can lead to considerable benefits for financial institutions and supervisors by allowing new technologies to be used to address regulatory and compliance requirements more transparently and efficiently and in real time;

U. whereas InsurTech refers to insurance enabled by or provided via new technologies, for example through automated advice, risk assessment and Big Data, but also by insuring against new risks such as cyberattacks;

V. whereas increased access to finance for companies working on FinTech products and services, and for the innovative business partners who supply them with the technological material they need to provide these products and services, is urgently needed to boost financial innovation in Europe, in particular for start-ups to become scale-ups; whereas, in this context, the availability of venture capital as a source of funding and the presence of a strong technology sector are key factors for fostering a dynamic FinTech ecosystem in Europe;

W. whereas cyberattacks are an increasing threat to all digital infrastructure, and therefore also to financial infrastructure; whereas the financial sector is three times more at risk of attacks than any other sector; whereas the safety, reliability and continuity of its services are prerequisites for guaranteeing public trust in the sector; whereas its retail consumers are also highly vulnerable to similar attacks or to identity theft;

X. whereas connected devices are an integral part of FinTech services; whereas the Internet of Things (IoT) is especially vulnerable to cyberattacks and therefore poses a particular challenge for cybersecurity; whereas a connected system is only as safe as its weakest element;

Y. whereas, as FinTech emerges, consumers and investors must be able to continue relying on high standards of consumer and investor protection, of data protection and privacy rights and of legal responsibility on the part of financial services providers;

Z. whereas, to facilitate FinTech it is important to create a coherent and supportive regulatory framework and a competitive environment that can enable FinTech to develop and make use of various innovative tools for secure encryption and online identification and authentication with a simple interface;

AA. whereas automation in the financial sector, as in other sectors, may disrupt existing patterns of employment; whereas improving and developing skills training and retraining will need to be at the heart of any European FinTech strategy;

AB. whereas because of network effects the market structure in many areas of the digital economy is geared to a small number of market participants, which poses challenges in the areas of competition law and antitrust law;

Defining an EU framework for FinTech

1. Welcomes the new developments in the area of FinTech, and calls on the Commission to draw up a comprehensive FinTech Action Plan in the framework of its Capital Markets Union (CMU) and Digital Single Market (DSM) strategies, which can contribute overall to achieving an efficient and competitive, deeper and more integrated and stable and sustainable European financial system, provide long-term benefits to the real economy and address the needs of consumer and investor protection and of regulatory certainty;

2. Welcomes the recent creation of a FinTech Task Force, with the role of assessing innovation in this field and, at the same time, devising strategies for meeting potential challenges posed by FinTech, as well as the launch of a public consultation on FinTech by the Commission; invites the Commission to involve Parliament in the work of the Fin Tech Task Force; considers these recent Commission initiatives to be fundamental steps towards the development by the Commission of a comprehensive strategy for FinTech and for reducing regulatory uncertainty for FinTech;

3. Considers that FinTech can help to enable the success of CMU initiatives, for example by diversifying funding options in the EU, and encourages the Commission to harness the benefits of FinTech in driving forward the CMU;

4. Calls on the Commission to deploy a proportionate, cross-sectorial and holistic approach to its work on FinTech, drawing lessons from what is done in other

jurisdictions and adapting to the diversity of actors and business models made use of; calls on the Commission to act as first mover when necessary in order to create a favourable environment for European FinTech hubs and firms to scale up;

5. Stresses that financial services legislation at both EU and national levels should be revised when necessary and should be sufficiently innovation-friendly, so that a level playing field between actors can be achieved and maintained; recommends in particular that, in accordance with the ‘Innovation Principle’, the potential effects of legislation on innovation be properly assessed as part of an impact assessment, which should result in those developments providing to the full extent ‘significant economic and societal benefits’;

6. Stresses that, with a view to ensuring a level playing field while facilitating ease of access for new market entrants and preventing regulatory arbitrage across Member States and legal statuses, legislation and supervision in the area of FinTech should be based on the following principles:

   (a) Same services and same risks: the same rules should apply, regardless of the type of legal entity concerned or its location in the Union;

   (b) Technology neutrality;

   (c) A risk-based approach, taking into account the proportionality of legislative and supervisory actions to risks and materiality of risks;

7. Recommends that the competent authorities allow and encourage controlled experimentation with new technologies, both for new entrants and existing market participants; notes that such a controlled environment for experimentation may take the form of a regulatory sandbox for FinTech services with potential benefits for society, which brings together a wide range of market participants and already exists with success in several Member States; highlights that a proactive and forward-looking engagement by authorities, in a dialogue with market participants and all other relevant stakeholders, is necessary and can help supervisors and regulators to develop technological expertise; invites competent authorities to consider developing financial and/or operational stress-testing tools for FinTech applications where they may cause systemic risks, complementary to the ESRB’s work;

8. Highlights that some central banks are already experimenting with a central bank digital currency (CBDC) as well as other new technologies; encourages the relevant authorities in Europe to assess the impact of the potential risks and benefits of a distributed ledger based version of a CBDC and the related necessary requirements in terms of consumer protection and transparency; encourages them to experiment as well, in order to keep up with market developments;

9. Emphasises the importance of regulators and supervisors developing sufficient technical expertise to adequately scrutinise increasingly complex FinTech services; underlines that, thanks to this scrutiny on an ongoing basis, regulators will be able to detect and anticipate specific risks of different technologies and to step in immediately and with a clear agenda when it becomes necessary;

10. Stresses therefore the importance of a one-stop shop for FinTech service providers and

users within the regulatory and supervisory authorities; recognises the need to break down supervisory silos across sectors, and recommends close cooperation by financial sector supervisors with other relevant national and European bodies that have the required technological expertise;

11. Calls on the Commission and the Member States to encourage and support more research projects related to the FinTech;

12. Underlines the importance of boosting financial innovation in Europe; calls for facilitated access to finance for innovative financial service providers and the innovative undertakings which supply them with the material needed to provide these services;

13. Stresses that FinTech companies contribute positively to the development of financial intermediation, but also create new risks related to financial stability; notes that the regulatory and supervisory authorities receive a great deal of information through the balance sheets of established financial institutions related to the implementation of numerous regulatory frameworks such as *c*apital requirements, leverage ratio, liquidity ratio and others, while in the case of non-banking lending entities in such cases as crowdfunding and Peer-to-Peer (P2P) it is difficult to obtain sufficient information on the financial intermediary activities of their balance sheets; therefore urges the regulatory and supervisory authorities to consider how they could obtain the appropriate supervisory information for maintaining financial stability and, where necessary, to impose regulatory constraints on their balance sheets in order to achieve and maintain financial stability;

14. Stresses that RegTech has the potential to improve compliance processes, in particular the quality and timeliness of supervisory information, by making them less complicated and more cost-efficient; calls on the authorities to clarify the legal conditions under which the outsourcing of compliance activities by a supervised entity to third parties is allowed, ensuring that appropriate supervisory arrangements over third parties are in force and that legal liability for compliance remains with the supervised entity; calls on the relevant authorities, in particular the Commission as part of its work related to the European Post-Trade Forum, to take a proactive approach in trying to understand the barriers to using new FinTech and RegTech solutions in areas of pre- and post- trade processes that are covered by the Markets in Financial Instruments Directive (MiFID), the European Market Infrastructure Regulation (EMIR) and the Central Securities Depositories Regulation (CSDR) and, where no barriers exist, to clarify the right of actors to use such solutions for the purpose of fulfilling their obligations under those pieces of legislation;

15. Recalls that innovative financial services should be available throughout the EU and should therefore not be unduly hindered from cross-border supply inside the Union; calls on the Commission and the ESAs to monitor and avoid overlaps of regulation, new barriers to entry on the market, and national barriers to those services; calls on the Commission to prevent barriers between Member States due to inconsistencies between national regimes and to promote best practices in regulatory approaches of Member States; further calls on the Commission and the ESAs to apply, where applicable, passporting regimes to providers of new financial services offered across the Union; supports the Commission’s efforts to address how the EU can help improve choice, transparency and competition in retail financial services to the benefit of European consumers, and emphasises that this goal should be complementary to the objective of

improving the efficiency of the financial system;

16. Welcomes the fact that a vibrant set of FinTech communities have emerged throughout the EU; calls on the Commission and the related EU economic governance authorities to work closely with the FinTech hubs and augment the smart entrepreneurship of these communities and their endeavours, by encouraging and financing innovation and by embracing them as a source of future competitive advantage for the EU in the financial sector;

17. Notes that FinTech start-ups find themselves particularly vulnerable to patent abusers, i.e. entities that buy patents with the intention of asserting them against businesses already making use of the technology rights through threats of patent infringement lawsuits; calls on the Commission to analyse this situation and to suggest measures to counter patent abusers in the FinTech area;

18. Stresses the potential role of FinTech for the digitalisation of public services, thereby contributing to their increased efficiency, for instance in the area of tax collection and prevention of tax fraud;

19. Stresses that because of network effects the market structure in many areas of the digital economy is geared to a small number of market participants, which poses challenges in the areas of competition law and antitrust law; calls on the Commission to reassess the suitability of the regulatory framework for competition for addressing the challenges of the digital economy in general and of FinTech in particular;

20. Stresses that there is scope for further improvement in the means that can be used for cross-border payments; supports the development of such payment means within Europe, and regrets the high degree of fragmentation of the online banking market in the EU and the lack of a EU-wide, European-owned credit or debit card scheme; believes this is essential for the proper functioning of the CMU, and a crucial part of the Digital Single Market, fostering European e-commerce and cross-border competition in financial services; calls on the Commission to identify the steps ahead towards creating an environment supportive to the growth of such a system; recognises the need for such a system to coexist and, where appropriate, be inter-operative with other innovative payment solutions in the interests of competition;

21. Stresses that consumers are the driving force behind the rise of FinTechs; underlines that the goal of any future legislative changes should be to support consumers in this transformation;

Data

22. Recalls that the collection and analysis of data play a central role for FinTech, and therefore stresses the need for consistent, technology-neutral application of existing data legislation, including the General Data Protection Regulation (GDPR), the Revised Payment Service Directive (PSD2), the Electronic Identification and Authentication Services (eIDAS) Regulation, the Fourth Anti-Money Laundering Directive (AMLD4) and the Network and Information Security (NIS) Directive; stresses that in order to scale up innovative finance in Europe a free flow of data within the Union is needed; calls on the Commission to take measures to ensure that only objective and relevant data elements are used in the context of the provision of financial services; welcomes

the Commission's public consultation of 10 January 2017 on the 'data economy' (COM(2017)0009), which should provide evidence and establish whether or not barriers exist to the free flow of data across the Union;

23. Emphasises the need for clear rules on data ownership, access and transfer; highlights that increasing amounts of data are generated by machines or processes based on emerging technologies, such as machine learning; stresses that the GDPR provides a clear legal framework on personal data but that more legal certainty is needed regarding other categories of data; believes, in this regard, that a clear distinction should be made between raw data and data resulting from further processing;

24. Stresses that open banking and data sharing contribute to ensuring that all FinTech business models can grow together, for the benefit of consumers; underlines, in this regard, the recent achievements of the PSD2 regarding payment initiations and access to account data;

25. Highlights the benefits that cloud computing can have for consumers and providers of financial services, in terms of cost efficiency, decreased time to market and a better use of ICT resources; notes that there are no clear, comprehensive European rules or guidelines for outsourcing data to the cloud with regard to the financial sector; stresses the need for the development of such guidelines and for a common approach to the use of cloud computing across national competent authorities (NCAs); stresses that such rules or guidelines are necessary to bring agility and speed to cloud adoption; underlines that high standards of data security and consumer protection should be a part of those guidelines; calls on the Commission and the ESAs to study different possibilities in this regard, such as pre-approved contracts between cloud service providers and financial institutions;

26. Notes the necessity of creating more awareness among consumers as regards the value of their personal data; notes that consumers can enter into contracts to share digital content in exchange of the payment of a fee; underlines that this may lead to economic benefits but can also be used in a discriminatory way; calls on the Commission to investigate the possibility of a European data sharing strategy with the aim of putting consumers in control of their data; believes that a clear, consumer-centred approach will increase trust in cloud-based services and stimulate new innovative services offered by diverse actors in the financial value chain, e.g. by using application programming interfaces (APIs) or facilitating direct access to data for electronic payment services; asks the Commission to investigate the future potential of Personal Information Management Systems (PIMS) as technical tools for consumers to manage their personal data;

27. Recalls, in the context of the increased use of customer data or big data by financial institutions, the provisions of the GDPR, which grant the data subject the right to obtain an explanation of a decision reached by automated processing and to challenge this decision[1]; stresses the need to guarantee that incorrect data can be changed and that only verifiable and relevant data are used; calls on all stakeholders to increase efforts to guarantee the enforcement of these rights; is of the opinion that consent given to the use of personal data needs to be dynamic and that data subjects must be able to alter and adapt their consent;

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[1] See recital 71 of the GDPR.

28. Notes that the increased use of customer data or big data by financial institutions may lead to benefits to consumers, such as the development of more tailored, segmented and cheaper offers based on more efficient allocation of risk and capital; notes, on the other hand, the development of dynamic pricing and its potential to lead to the opposite, which could be detrimental to comparability of offers and effective competition and to risk pooling and mutualisation, in the insurance sector for example;

29. Acknowledges the increasing combination of personal data and algorithms in order to provide services such as robo-advice; emphasises the efficiency potential of robo-advice and its potential positive effects on financial inclusiveness; stresses that, potentially, errors or biases in algorithms or in the underlying data can cause systemic risk and harm consumers, for example through increasing exclusion; asks the Commission and the ESAs to monitor these risks in order to ensure that automation in financial advice can really generate better, transparent, accessible and cost-efficient advice, and to address the increasing difficulty of tracing responsibility for damages caused by such risks in the current legal liability framework for data use; underlines that the same consumer protection requirements should apply to robo-advice as to face-to-face advice;

Cyber security and ICT risks

30. Emphasises the need for end-to-end security across the whole financial services value chain; points to the large and diverse risks posed by cyberattacks, targeting our financial markets infrastructure, the Internet of Things, currencies and data; calls on the Commission to make cybersecurity the number one priority in the FinTech Action Plan, and on the ESAs and the ECB in its banking supervision role to make it a key element of their regulatory and supervisory programmes;

31. Calls on the ESAs, in cooperation with national regulators, to regularly review existing operational standards covering ICT risks of financial institutions; calls furthermore, in view of the varying level of protection in the cybersecurity strategies of Member States, for ESA guidelines on the supervision of these risks; stresses the importance of technological know-how in the ESAs in enabling them to fulfil their tasks; encourages more research in this area;

32. Highlights the need for exchange of information and best practices between supervisors, as well as regulators and governments at their respective levels, between researchers and market participants and between market participants themselves; calls on the Commission, the Member States, market participants and the EU Agency for Network and Information Security (ENISA) to explore the potential of transparency and information sharing as tools against cyberattacks; suggests exploring the potential benefits of a single point of contact for market participants in this regard, as well as considering more coordinated approach in cybercrime investigation in the area of financial services, given their increasingly cross-border character;

33. Underlines that regulation on the provision of financial services infrastructure needs to provide for appropriate incentive structures for providers to invest adequately in cybersecurity;

34. Calls on the Member States to ensure the timely transposition of the directive on security of network and information systems (NIS Directive); welcomes the new public-private partnership on cybersecurity recently launched by the Commission with the

participation of the industry; asks the Commission to develop a series of new and concrete initiatives to strengthen the resilience of FinTech businesses in this sector against cyberattacks, especially SMEs and start-ups;

35. Notes that public confidence in the technologies concerned is vital for the future growth of FinTech, and flags the need for better education and awareness regarding the positive impact of FinTech on day-to-day activities, but also regarding network and information security risks for citizens and businesses, in particular SMEs;

36. Welcomes the continuous efforts in the field of standardisation which make connected devices safer; underlines, however, that safety needs to be granted beyond a minimum level of standardisation, especially because uniform standardised security precautions increase the risk of large security breaches due to a possible domino effect; strongly encourages companies to develop heterogeneous own responses to secure their devices and operations;

Blockchains

37. Underlines the potential of blockchain applications for cash and securities transfer, as well as for facilitating ‘smart contracts’, which open up a wide range of possibilities for both sides of financial contracts, in particular trade finance and business lending arrangements, which have the possibility to simplify complex commercial and financial contractual relationships at business-to-business (B2B) and business-to-consumer (B2C) levels; stresses that blockchain platforms are also suitable for the simplification of complex B2B and B2C transactions;

38. Recalls the benefits and risks of unpermissioned blockchain applications; invites the Commission to organise an annual multi-stakeholder conference on this subject; is concerned by the increased use of unpermissioned blockchain applications for criminal activities, tax evasion, tax avoidance and money laundering; calls on the Commission to closely monitor these issues, including the role of mixers/tumblers in this process, and to address them in a report;

Interoperability

39. Acknowledges the importance of APIs, as a complement to other tools that can be used by the consumer, in providing new actors with access to financial infrastructure; recommends the creation of a set of standardised APIs that vendors can use, for example in the area of open banking, in parallel with the possibility for such vendors to design their own software;

40. Considers that interoperability of FinTech services, both within Europe and through engagement with third-country jurisdictions and with other economic sectors, is a key condition for the future development of the European FinTech sector and the full materialisation of the opportunities that it can generate; encourages standardising data formats where possible, as is the case in PSD2, in order to facilitate this;

41. Calls on the Commission to coordinate the work of the Member States and market participants in order to ensure interoperability among the different national e-identification schemes; stresses that the use of these schemes should be open to the private sector; believes that remote identification means that are not set out in the e-

IDAS regulation should also be acceptable, as long as they are of a security level equivalent to the substantial assurance level of e-IDAS, and are thus both safe and interoperable;

42. Stresses the importance of interoperability of traditional and new payments solutions in order to achieve an integrated and innovative European payment market;

43. Asks the ESAs to identify in which cases targeted or risk-based authentication can be an alternative to strong authentication; further asks the Commission to investigate whether the strong authentication processes can also be executed by other entities than banks;

44. Calls on the ESAs, in cooperation with national regulators, to develop technology-neutral standards and licences both for know-your-customer and remote identification techniques, for example based on biometric criteria, which respect the privacy of users;

Financial stability and consumer and investor protection

45. Calls on the Commission to pay specific attention, in designing its FinTech action plan, to the needs of retail consumers and investors and the risks to which they might be vulnerable, in the light of growing expansion of FinTech in services to non-professional clients, for example in crowdfunding and peer-to-peer lending; stresses that the same consumer protection standards apply to FinTech services as to other financial services, irrespective of the channel of distribution or the location of the customer;

46. Calls on the ESAs to continue and accelerate their ongoing work on monitoring technological developments and analysing their benefits and potential risks, in particular as regards consumer and investor protection and financial inclusion;

47. Calls on the Commission to investigate to what extent FinTech can help provide consumers with better-quality financial advice and whether the fragmented EU regulatory framework dealing with advice is sufficient to accommodate this;

48. Considers that there is still considerable regulatory uncertainty around InsurTech, and stresses that this needs to be addressed so as to ensure security, privacy, fair competition, and financial stability; emphasises that greater legal certainty will help to ensure that consumers of poorly regulated InsurTech firms do not fall victim to losses or mis-selling, and will help both companies and consumers to better utilise InsurTech solutions;

49. Stresses the need to ensure that financial stability is enhanced alongside the development of FinTech solutions; encourages the examination of open-source, peer-reviewed technology as a means of achieving this goal; calls on the ESAs to partner with private-sector players in developing and evaluating innovative technologies that have the potential to safeguard financial stability and increase consumer protection, for instance by mitigating bias in algorithms or by increasing consumer awareness of cyberthreats;

50. Notes that diversity and competition among market participants are critical factors contributing to financial stability; calls on regulators and supervisors to monitor the impact of digitisation on the competitive situation across all relevant segments of the financial sector, and to design and deploy tools to prevent or remedy anti-competitive behaviour or distortions of competition;

Financial education and IT skills

51. Emphasises that both financial literacy and digital literacy are crucial factors for the efficient use of FinTech and for lower levels of risk in the FinTech environment;

52. Stresses that proper financial education of retail consumers and investors is necessary for FinTech to become a real tool for financial inclusion and to enable those consumers and investors who are ever more directly exposed to immediately accessible personalised financial investment products and services to make sound financial decisions autonomously on those offers and to understand all the risks stemming from using these innovative technologies; calls on the Commission and the ESAs to increase their support for initiatives to improve financial education; stresses that vocational training and information on consumer and investor rights should be easily accessible;

53. Recalls the Commission's forecast that by 2020 Europe might be facing a shortage of up to 825 000 ICT professionals; believes that more computer scientists are needed, and encourages the Member States to prepare for changes in the labour market that may occur faster than we might expect today;

54. Underlines the need for increased digital education and skills within the financial sector, within regulatory bodies and within society as a whole, including vocational training; calls on the Commission to present best practices in the context of its Digital Skills and Jobs Coalition;

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55. Instructs its President to forward this resolution to the Council and the Commission.