

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE**

Digital Disruption in Financial Markets – Note by Spain

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1. This contribution addresses the subject of the roundtable on “FinTech and Disruptive Innovation in Financial Markets”, to which the OECD has asked for contributions regarding the meeting of the Competition Committee, on June 5th 2019. This contribution focuses mainly on the CNMC advocacy work regarding Fintech. Namely, in 2018 the CNMC conducted a [market study](#) on the impact on competition of new technologies in the financial sector, which was released on November 13th 2018.

2. For that purpose, this note is structured as follows¹. The first section provides a general overview of Fintech including the main takeaways from the point of view of its impact on competition. The second section develops a subsectoral analysis of specific Fintech innovations: distributed ledger technologies (DLTs), payment services, asset management and advice and crowdfunding². The third section includes the regulatory recommendations to ensure that the most is made from Fintech from the standpoint of competition and consumer welfare. An annex with a summary of a recent antitrust case in financial markets in Spain concerning syndicated loans is included.

1. General overview of Fintech

3. The Fintech phenomenon arouses great interest and gives rise to lively debates about its determinants and their possible effects. Today and given its relative novelty, the Fintech phenomenon lacks a universally accepted definition, which can generate some confusion in these debates. Therefore, it becomes imperative to establish a definition of Fintech as a starting point. The definition of Fintech adopted in this contribution will be as follows: Fintech consists of the disruptive application of new information and telecommunications technologies (ICT) to the financial system.

4. According to this definition, disruption is an intrinsic characteristic of Fintech. Thus, the “incremental” or not substantial innovations that merely introduce new technologies into the traditional way of doing business³, albeit economically relevant, will be excluded, e.g. incumbents becoming better banks through mobile and online banking⁴.

¹ This contribution tries to cover some of the questions raised in the Call for Contributions by the OECD (on March 14th) regarding this roundtable. Actually, the whole contribution refers to advocacy efforts (question 6), since it includes a summary and the main conclusions of CNMC market study. The sections on the general overview of Fintech and on subsectoral innovations include an assessment of the impact of Fintech on competition and consumer welfare (question 2). The last part deals with regulatory implications (related to questions 3, 4, 5, 8 & 9), with general recommendations which can be applied cross-country (instead of changes to specific pieces of domestic legislation).

² The CNMC study on Fintech also includes Insurtech, although it is not considered in this contribution for the sake of brevity.

³ McQuinn, A., Guo, W., & Castro, D. (2016). Policy Principles for Fintech. Information Technology & Innovation Foundation.

⁴ BIS (2018). *Sound Practices on the implications of fintech developments for banks and bank supervisors*.

Although these changes are likely to increase convenience for customers, boost productivity, reduce infrastructure costs, slash back-office expenses by automating or streamlining tasks, etc., they do not disrupt business models substantially.

5. This disruptive nature of Fintech is very easily ascertained after a wide-ranging analysis of the economics of financial industry. Indeed, any financial instrument (from a bank deposit to an insurance contract) essentially represents a promise of future payment or reimbursement, between a creditor party (for whom the instrument is an asset) and a debtor party (for whom the instrument is a liability). Due to this fiduciary nature, or the hope of fulfilling this future commitment, every financial instrument incorporates a significant degree of uncertainty. This forces agents in financial markets to constantly incorporate and analyze all the available information in order to value properly a financial instrument, since its value will be, in short, pure expectation. As a result, information becomes the key input in the financial industry.

6. Furthermore, in this context of uncertainty regarding the fulfillment of future payment commitments, the situation is further complicated by the presence of information asymmetries, both *ex ante* and *ex post*, which hinder the proper functioning of financial markets. These asymmetries of information exacerbate the need for new and accurate information, the lack of which can prevent many mutually beneficial exchanges from being realized, that is, it can lead to sub-optimal situations.

7. As a result, information is by far the most important input of the financial industry. Financial innovation and the development of new agents, tools and instruments have allowed for centuries, not without significant failures and costs on many occasions, to improve the exploitation of the information available for a better valuation of financial products. In this sense, Fintech can be seen as another step in the effort to minimize, in a productive way, information asymmetries through an efficient exploitation of all available information in order to properly assess financial products.

8. The Fintech phenomenon can lead to a better or more efficient satisfaction of financial needs. Several factors may explain the advent of the Fintech phenomenon, such as recent technological innovations in certain areas of ICT, the development of the sharing economy and services on demand, or widespread distrust after the global financial crisis. Even the heavier regulation of the financial sector, partly in response to the global financial crisis, may have stimulated this disruptive innovation.

9. Although the Fintech phenomenon is in its infancy, it is possible to foresee some opportunities and challenges through the lens of the competition authority. As for opportunities, Fintech entails, firstly, a process innovation that can involve significant efficiency gains, especially seeking the personalization or individualization of financial services. Secondly, this better use of information can also represent a product innovation, since it can expand the production frontier by generating new products or services that were previously unavailable due to information problems. Thirdly, new (often small) competitors are disputing markets to traditional financial institutions, and contestability in some financial activities could lead to the remodeling of some sectors and even entities, such as the possibility of unbundling of the financial institutions. Fourthly, Fintech can promote financial inclusion, allowing greater access to finance for consumers and businesses, especially SMEs.

10. However, the advent of Fintech also entails some important challenges. First, as some of these new businesses are based on digital platforms (crowdfunding) and networks, they could acquire significant market power thanks to indirect network effects. Secondly,

regarding antitrust law, Fintech raises relevant questions for competition authorities on access to information, the role played by algorithms and the potential leveraging of Big Techs that could be tempted to extend their market power to the financial sector. Thirdly, the effect of increased competition on risk taking and the stability of financial intermediaries (especially in the banking sector) remains an unresolved question. Fourthly, since Fintech's *raison d'être* is a better exploitation of information, this could raise concerns about the possibility of price discrimination and the extraction of consumer surplus. Finally, there are important cybersecurity concerns, since the expansion of Fintech could make a highly digitized financial sector more prone to cyber-attacks and cybercrime.

11. In conclusion, despite its risks that should be tackled on a case-by-case basis, Fintech has a great potential in two broad respects. First, Fintech may promote competition in the financial sector, whose positive impact may spill over the economy as a whole. The entry of new competitors and new business models can generate higher efficiency via more affordable prices and better and more differentiated services. Moreover, the financial activity can be disintermediated and unbundled. Second, Fintech can mitigate certain market failures, such as information asymmetries, which give rise to public intervention in the form of financial regulation. Therefore, the extension of the Fintech phenomenon should lead to rethink financial regulation.

2. Subsectoral developments within the Fintech ecosystem.

2.1. Distributed Ledger Technologies

12. Distributed ledger technologies (DLTs) are a tool that can be deployed horizontally throughout the financial sector (and the whole economy). They allow keeping and updating a digital record of transactions in a transparent manner, thanks to validation by participants or “nodes” of the network⁵. There are two types of DLTs: permissioned and permissionless⁶.

13. Permissionless DLTs, such as blockchain, allow all nodes to validate transactions. Therefore, they are more disruptive. In a positive sense, they reduce transactions costs, fostering competition along the whole economy. In a negative one, they can facilitate information exchange in ways which are more opaque to watchdogs (competition agencies included therein). Furthermore, even if in theory validation is open to any agent, most systems require in practice high computing power, energy usage and/or digital assets. This tends to concentrate validation power on a few agents and creates the incentives of creating pools (which can be the only way for small agents to participate in the system).

14. Permissioned DLTs only allow trusted counterparties to validate and update the digital record of transactions. Hence, even if they mean an improvement compared to existing networks and infrastructures, they are less disruptive (since transactions costs do

⁵ McQuinn, A., Guo, W., & Castro, D. (2016). Policy Principles for Fintech. Information Technology & Innovation Foundation.

⁶ Deutsche Bundesbank. (2016). Technology-enabled financial innovations: a source of opportunities and risks. Financial Stability Review, 67-77.

Catalini, C., & Gans, J. S. (2016). Some Simple Economics of the Blockchain. NBER Working Paper Series, 22952.

not disappear to the extent that validating nodes have to be typically remunerated). And they are not exempt of competition concerns, like foreclosure of competitors by restricting the access to the system or exchanges of information within the closed network.

15. Within the DLTs ecosystem there are specific innovations worth mentioning. On the one hand, cryptocurrencies (or digital/virtual currencies), which are (generally privately-issued) digital representations of value using cryptographic means to validate transactions and regulate the creation of currency in a (generally decentralized) network⁷. On the other hand, initial coin offerings (ICOs), with which firms (normally start-ups) can raise funding by creating and selling to the public their own digital currencies, normally in the form of tokens⁸. These two innovations can disrupt respectively the areas of payments and funding, which are critical inputs for competition, even if they have specific risks to be factored in.

2.2. Payments

16. The revolution in payment systems is one of the most paradigmatic features of Fintech⁹. The emergence of new players and services is patent in digital wallets (both online and mobile), an ideal groundwork for BigTech firms but also for other business in retail, telecommunication and manufacturing. And also in Third Party Payment Service Providers¹⁰ (TPPs), which can provide Payment Initiation Services (PIS, which help to facilitate and initiate a payment order to merchants by accessing information on users' bank accounts, so that more online payments may take place through transfers instead of credit/debit cards) and Account Information Services (AIS, which access information on users' bank accounts to offer related services: promotions of financial or non-financial services, budget control, asset management and advice, etc.).

17. This a prototypical supply-side shock¹¹. More competition and choice in payment services should mean more static efficiency, i.e. lower costs and/or more customization for consumers and firms. The impact on firms is especially positive from the standpoint of competition, since payment services are a very relevant input. More affordable payment services mean wider opportunities for firms (especially for SMEs) to engage in more competitive environments (such as international trades).

18. And efficiency gains are also dynamic, given the integration of payments with other related services (taking advantage of scope and network economies) and the use of the data and information.

⁷ McQuinn, A., Guo, W., & Castro, D. (2016). Policy Principles for Fintech. Information Technology & Innovation Foundation.

⁸ Catalini, C., & Gans, J. (2018). Initial Coin Offerings and the Value of Crypto Tokens. MIT Sloan Research Paper, 5347-18.

⁹ WEF. (2017). Beyond Fintech: A Pragmatic Assessment Of Disruptive Potential In Financial Services.

¹⁰ Vezzoso, S. (2018). Fintech, Access to Data, and the Role of Competition Policy.

¹¹ Canada Competition Bureau. (2017). Technology-led innovation and emerging services in the Canadian financial services sector.

19. The main risks and challenges arise from the access of data by new entrants, whose role as a barrier to entry is controversial¹². And there are also claims that some firms (mostly Bigtech but also retail and telecommunication corporations) may take advantage of their entry into payment services to consolidate their dominance in their core business.

2.3. Asset management and advice

20. Fintech has also shaken the industry of asset management and advice¹³. The most straightforward innovations include “Digital Comparison Tools” (DCTs, like price comparison websites) and Financial aggregators and personal financial management tools (PFM, like AIS, abovementioned in the areas of payments). Other more disruptive models use social media tools, like sentiment and networking platforms (social media data analytics to provide advice and management services) or copy/social/mirror trading (where it is possible to mimic financial decisions of the best rated investors within a platform). Finally, the most radical innovation is the use of artificial intelligence in automated robo-advisors.

21. Needless to say, all these innovations (especially robo-advisors) yield static efficiency gains¹⁴ through lower intermediation costs, broadening financial inclusion (allowing the access of more consumers to these services). And they are also a source of dynamic efficiency¹⁵ by providing more information and by potentially minimizing conflicts of interest through separation of advice and management. Although some experts also warn that information problems might be exacerbated because of complexity of products and more opaque conflicts of interest¹⁶.

2.4. Crowdfunding

22. Crowdfunding is the channeling of funds peer-to-peer (P2P) from a large pool of backers to a particular project or venture (normally of a relatively small size), usually through a digital platform¹⁷. In for-profit crowdfunding in financial markets, the most relevant segments are P2P lending and equity crowdfunding (although it is also reaching other segments such as real estate, fixed-income debt instruments and invoice trading).

¹² Autoritat Catalana de la Competència. (2017). Payment Systems. 16/2017.

AdC. (2018). Inovação Tecnológica e Concorrência no Setor Financeiro em Portugal. Issues Paper, Versão Preliminar para Consulta Pública.

¹³ IOSCO. (2017). IOSCO Research Report on Financial Technologies (Fintech).

¹⁴ Canada Competition Bureau. (2017). Technology-led innovation and emerging services in the Canadian financial services sector.

¹⁵ FCA. (2017). Working paper on the supply of fiduciary management services by investment consultancy firms.

¹⁶ IOSCO. (2017). IOSCO Research Report on Financial Technologies (Fintech).

¹⁷ Agrawal, A. K., Catalini, C., & Goldfarb, A. (2013). Some Simple Economics of Crowdfunding. NBER Working Paper Series, 19133.

23. Again, efficiency gains are both static (due to lower transactions costs in financial intermediation) and dynamic¹⁸ (due to the better management of information and the exploitation of network effects). This can foster competition throughout the whole economy due to the mitigation of credit rationing by reducing the reliance on the traditional banking credit channel, especially for small, nascent and innovative firms.

24. Although it is fair to recall that some experts also warn about potentially exacerbated information problems and conflicts of interest because of the “originate to distribute” model¹⁹. Furthermore, there is a specific concern in terms of competition, which is the increased risk that dominant players use equity crowdfunding platforms²⁰ to get information and potentially control decisive shares of potential new competitors²¹.

3. Policy recommendations²²

25. Relying on the previous assessment, the main policy and regulatory takeaways identified by the CNMC in response to Fintech are the following:

- Financial regulators should embrace the Fintech phenomenon and adapt to it, given its promising impact on competition and efficiency.
- The potential of Fintech innovations to address market failures (especially imperfections of information) must be taken into account in two senses. On the one hand, to ensure that regulation is neither an unnecessary nor a disproportionate barrier to the entry and development of new business and services. On the other, to rethink the rationale of existing regulation, which in some cases might lose its

¹⁸ Schwienbacher, A., & Larralde, B. (2012). Crowdfunding of Small Entrepreneurial Ventures. In D. Cumming, *The Oxford Handbook of Entrepreneurial Finance* (pp. 369-391). New York, New York, USA: Oxford University Press.

¹⁹ IOSCO. (2017). *IOSCO Research Report on Financial Technologies (Fintech)*.

Deutsche Bundesbank. (2016). *Technology-enabled financial innovations: a source of opportunities and risks*. *Financial Stability Review*, 67-77

²⁰ McQuinn, A., Guo, W., & Castro, D. (2016). *Policy Principles for Fintech*. Information Technology & Innovation Foundation.

²¹ There is a similar risk in the abovementioned ICOs.

²² In order to set a context for these recommendations (and since question 6 of the Call for Contributions by the OECD, on March 14th, asks for the justification and the impact of advocacy efforts in this sector) the objective of the CNMC with the market report was to provide financial regulators in Spain with a general guidance on how to respond to Fintech. So far, there have not been major changes to financial regulation as a consequence of Fintech, apart from the transposition of the EU Payments Directive (PSD 2, which implies the implementation of open banking principles in payments) and some adaptation by financial regulators (like a Fintech portal in the Securities regulator, CNMV, to assist innovative projects, and changes in the structure of the Bank of Spain and the CNMV to include specific units for Fintech and digital innovation in the financial sector). There is [draft Law of a sandbox](#) (following a [public consultation](#)) which has not yet reached the Parliament for its approval because of the advent of general elections. The CNMC is willing to assist regulators in preparing laws and other types of interventions to ensure an appropriate response to Fintech, relying on good regulation principles.

raison d'être, since the market failures which were used as its traditional justification might be tackled (at least partially) by Fintech.

- Regulation should focus on activities (instead of entities), since market failures are linked to a specific activity and not to the way a business is organized. As a corollary, reserves of activity should be avoided (as much as possible) in order to allow Fintech firms to take advantage of maximum efficiencies (e.g. through scope and network economies).
- Regulation should factor in the Regtech dimension of Fintech, i.e. the possibilities opened by new technologies (like blockchain) for less costly and more effective regulatory compliance. In the end, this might lead to lower the burdens associated to regulation and supervision activities.
- A regulatory sandbox may be useful to ensure that new innovative business models can develop without the initial burden of a heavy entry regulation. This can allow testing the waters of the effects of these business models (on stability, consumer protection, efficiency, competition...) and adopt an evidence-based regulatory response. Sandboxes can be complemented with innovation hubs, so that financial regulators assist undertakings (regarding business fit with regulatory models) while learning from them.
- Open-banking principles can be adopted to safeguard technological neutrality and non-discrimination, so that the access to given inputs is made in reasonable terms.

Annex: A recent antitrust case in financial markets in Spain

In summer 2015, the Competition Directorate of the Spanish Competition Authority (CNMC) initiated proceedings against four big Spanish Banks: CAIXABANK, S.A. (CAIXABANK), BANCO SANTANDER, S.A. (SANTANDER), BANCO DE SABADELL, S.A. (SABADELL) y BANCO BILBAO VIZCAYA ARGENTARIA, S.A. (BBVA) based on a complaint filed by INVERSIONES EMPRESARIALES VAPAT, S.L.U. (VAPAT), in which it denounced an infringement of article 1 of the national competition legislation (Ley 15/2007, de 3 de julio, de Defensa de la Competencia, LDC), consisting in alleged price agreements in the interest rate derivatives contracted on occasion of syndicated loans. The loan contracts contained a clause that obliged borrowers to contract certain financial products with each of the creditors (in particular, collars and swaps) as a means of hedging interest rate risks. According to the complaint, banks would be coordinating to fix the same strike price for these financial options instead of quoting individual prices under market conditions (as set out in the syndicated loan agreement) and, furthermore, pricing these products well above their market price.

During these proceedings, doubts were raised as to syndicated loans themselves and the way banks link them to contract hedging products. These doubts were not included in the Draft Resolution but motivated the DG Comp to commission a report on a systematic analysis of the loan syndication market, focusing on six EU Member States, and its possible implications for competition policy.

On the 1st of January 2017, the Directorate adopted a Statement of Objections, sending its Draft Resolution to the Council in April. On the 13th of February 2018, the Council of the CNMC adopted the Resolution qualifying the four banks conduct as an infringement of article 1 of the LDC and 101 of the TFEU, and imposing the following fines: SANTANDER 23.900.000 €, SABADELL 15.500.000 €, BBVA 19.800.000 € y CAIXABANK 31.800.000 €.

On the 5th of March 2019, the European Commission published the report on syndicated loans commissioned in 2017, which confirms the concerns of the Spanish Competition Authority, and identified potential competition risks, depending on the way that syndicates were formed and the hedging products designed, with have direct drawbacks for borrowers.