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**Co-operation between Competition Agencies and Regulators in the Financial Sector
- Note by Spain**

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More documents related to this discussion can be found at:

www.oecd.org/daf/competition/cooperation-between-competition-agencies-and-regulators-in-the-financial-sector.htm.

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1. The National Commission for Markets and Competition (CNMC) wishes to contribute to the discussion on Co-operation between Competition Agencies and Regulators in the Financial Sector to be held at the forthcoming OECD Competition Committee's meeting on 4-8 December 2017.
2. The brief report hereunder contains a description of the most relevant steps taken by the Spanish National Authority in the past 10 years regarding its collaboration with financial regulators, as well as an analysis on the impact of new technologies on the financial system (Fintech), since the CNMC is preparing a background document on this issue.

1. Competition Policy Enforcement and Financial Regulators

1.1. Introduction

3. It should be noted that competition authorities and financial regulators sometimes have complementary goals; on other occasions, their objectives might clash and this trade-off could create a certain degree of tension between them. This may happen when competition authorities try to facilitate entrance in the market by new operators – such as fintechs, for example- and central banks, in charge of financial entities oversight, fear for market stability or new risks for the sector. These different interests and concerns make the coordination and cooperation between competition authorities and financial regulators more important than ever.

4. Article 17 of the Competition Act 15/2007 (CA) in its original form¹ described the obligations of collaboration between the National Competition Commission (NCC) and the sectoral regulators in exercising their functions in matters of common interest. In particular, Article 17 (2) stipulated:

“a) The sectoral regulators shall inform the National Competition Commission about the acts, agreements, practices or conduct that they may know of while exercising their powers which present signs of being contrary to this Act, providing any matter of fact available to them and, as the case may be, attaching the corresponding opinion.

b) The sectoral regulators shall also request a report from the National Competition Commission, before its adoption, on the circulars, instructions or general decisions pursuant to the corresponding sectoral regulations that may significantly impact on the competition conditions in the markets.

*c) The National Competition Commission shall request the sectoral regulators to issue the corresponding non-binding report within the framework of proceedings of **concentration control** between undertakings that carry out activities in the sector of its competence.*

¹ <https://www.boe.es/buscar/act.php?id=BOE-A-2007-12946&tn=1&p=20070704>

*d) The National Competition Commission or the competent bodies of the Autonomous Communities shall request the sectoral regulators to issue the corresponding non-binding report within the framework of proceedings instituted due to **conduct restrictive of competition** pursuant to Articles 1 to 3 of this Act.”*

5. The entry into force of the Act 3/2013 creating the National Commission for Markets and Competition (CNMCCA)² deleted Article 17 as most sectorial regulators (telecoms, energy, transport, etc.) were integrated into the CNMC. Therefore it seemed that it was not necessary for the CNMC to request the non-binding reports from sectoral regulators under article 17.

6. Nonetheless, the CNMC retains the faculty of requiring any agency or body belonging the Public Administration to provide the data, information or reports that are necessary for the performance of its tasks with regard to merger control and antitrust proceedings, as provided for in Articles 55 (6) and 39 (1) of the CA.

7. In view of the above, the present report describes the collaboration procedures used in the different stages mentioned, and the main actions carried out, within the framework of merger control and antitrust in the financial sector. This is particularly relevant given the process of both technological and regulatory change that this sector is experiencing.

1.2. Merger Control Procedure

8. **Before the CNMCCA**, and with Article 17 (2) c) still in force, those mergers that required a mandatory report from the sectoral regulator must always be notified through the submission of the ordinary notification form, even if they met the requirements for a short form notification. This requisite was justified, among other things, by the necessity of having the report from the corresponding regulator, which increased the complexity of the procedure.

9. As stated in Article 63 of the Defence of Competition Regulation (DCR), the defunct NCC requested the report from the regulator, accompanying the request with a copy of the notification form, fixing a deadline for its issuing. Neither the CA nor the DCR provided a fixed deadline for the receipt of the report, but the National Authority used to set a deadline of 20 working days. The request of the report implied, as provided in Article 37 of the CA, the suspension of the maximum period for resolving the merger proceeding, since the information provided could contain critical data needed for the decision.

10. The information provided by the sectoral regulator generally focused on the description of the activities developed by the undertakings involved and their business data, product market definition and market shares, entry barriers, distribution channels, analysis of efficiencies and market impact (accompanied, in the case of the Bank of Spain, by an opinion on the transaction, though non-binding).

11. The restructuring process of the Spanish financial sector in the past few years, mostly driven by the global financial crisis, triggered important concentration processes in the banking sector that were analysed by the Spanish competition authority (previously the NCC and now the CNMC).

² https://www.boe.es/diario_boe/txt.php?id=BOE-A-2013-5940

12. The first wave of mergers in the banking sector took place in 2010 and involved mainly savings banks, whose number was slashed from 45 to 15 entities. In a second stage (2012-2013), on the one hand several banks born during the previous concentration process were acquired by other credit institutions; on the other hand, some banks were acquired by other entities in the context of a public intervention triggered by the financial crisis (Fund for the Orderly Restructuring of the Banking Sector, FROB). In all cases, the Spanish Competition Authority, after having requested and assessed the mandatory report from the regulator, has authorized the mentioned transactions, given that they would not raise any competition concerns.

13. When merger control proceedings in the financial sector have required report from the regulator, the Spanish Competition Authority has usually turned to the Bank of Spain and the General Directorate of Insurance and Pensions Funds at the Ministry of Economy.

14. Annex I compiles some of the most significant cases in which a mandatory report was required from the Bank of Spain, according to Article 17 (2) c), from the beginning of the financial crisis in 2007 to the creation of the CNMC in 2013 (the last report was requested on 16th September 2013, receiving the answer on 4th October).

15. Similarly, Annex II compiles the cases related to the insurance sector in which a report from the General Directorate of Insurance and Pensions Funds was required, from 2007 to 2013 (the last report was requested on 27th June 2013).

16. **From the date of entry into force of the CNMCCA**, the obligation to request a report from the regulator was removed. However, as said before, the CNMC kept nevertheless the faculty of requiring any agency or body belonging the Public Administration the necessary information for the performance of its tasks, as provided for in Articles 55 (6) and 39 (1) of the CA.

17. In this way, the collaboration between the CNMC and sectoral regulators has been maintained, but this time in the form of requests for information, containing questions concerning the participants of the transaction, product market definition and market shares, entry barriers, distribution channels, analysis of efficiencies and market impact.

18. This request for information is not bound by a pre-defined deadline, just like the report, but a time limit of 15 working days has been usually set in accordance with the provisions of Article 39 of the CA.

19. The answer to this request is usually accompanied in the case of the Bank of Spain by an opinion on the transaction, though non-binding, as in the report.

20. With regard to the merger control procedure, the CNMC adopted on 21st October 2015, following the regulatory change introduced by the CNMCCA, a Communication on the cases in which the short form notification is applicable. The purpose of the Communication was to improve transparency and objectivity in those cases that meet the conditions to be notified through an abbreviated form. In this way, the analysis of the cases would allow the CNMC to dispense the participants from the obligation to provide certain information³, given that the recent experience after the creation of the new institution had shown that information needs were lower.

³ This usually happens in those cases that comply with those requirements of Article 56 of the CA and 57 of the DCR.

21. However, the CNMC keeps the right to require the ordinary notification form in certain cases, such as restrictions that could require an in-depth analysis to determine whether they are ancillary restraints, cases that could generate conglomerate effects that could hinder effective competition in the market, or when the competition authority considers it necessary to request the report, to which the Article 55 (6)⁴ of the CA relates, from those sectoral regulators that are not integrated into the CNMC.

22. As in the previous period, when merger control proceedings in the financial sector required further information from the regulator, the Spanish Competition Authority has usually turn to the Bank of Spain and the General Directorate of Insurance and Pensions Funds.

23. Annex III compiles some of the cases in which the CNMC has requested information from the Bank of Spain, since the entry into force of the CNMCCA in 2013 (the last request for information has been sent on 18th October 2017). Similarly, Annex IV compiles the cases related with the insurance sector in which the CNMC has requested information from the General Directorate of Insurance and Pensions Funds since the entry into force of the CNMCCA (the last request for information has been sent on 7th October 2015).

24. To conclude, the restructuring process of the Spanish financial sector in the past few years has implied a strong coordination between the National Competition Authority and financial regulators. An intense learning process has characterized this coordination, first to ensure an effective coordination in terms of the information requested and provided, but also in terms of procedural deadlines. The legislative change that removed the obligation to request a report from the sectoral regulators has not reduced the coordination but has made it more flexible.

1.3. Anticompetitive Conducts

25. Collaboration with the financial regulators in conduct cases has also been frequent in recent years.

26. Two recent cases in the financial sector deserve special mention:

1.3.1. Case S/DC/0579/16 DERIVADOS FINANCIEROS

27. The Spanish Competition Authority has analysed a possible price agreement in the interest rate derivatives contracted on occasion of syndicated loans. According to the investigation, banks of the syndicate could have coordinated to fix the same strike price for these financial options instead of quoting individual prices, excluding price competition for the derivative (horizontal price fixing to the detriment of the borrower).

28. Moreover, the loan agreement contained a clause (jointly agreed upon by the banks of the syndicate) 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. This contractual obligation could lead to

⁴ Article 55 (6) of the CA: “Article 55. Notification of economic concentration. [...] 6. At any moment during the procedure, the National Competition Commission may request third operators the information that it deems appropriate for the adequate assessment of the concentration. It may also request the reports that it deems necessary to resolve to any body of the same or different Administration.”

29. foreclosure of third party providers of derivatives, which could be partly explain by the transaction costs of not being member of the syndicate credit and taking part of the insurance (derivate).

30. The case is still pending on the final decision of the board.

31. The CNMC hold several meetings and conversations with the Directorate-General of the Treasury and Financial Policy, the Bank of Spain and the Instituto de Crédito Oficial (ICO) and sent formal requests of information to the Bank of Spain and ICO on applicable legislation, performance of syndicated loans market and interest rate derivatives, quantification of both types of products and other questions (demand and supply side characteristics, price fixing mechanism, information obligations, etc.).

1.3.2. The CNMC's 2016 Report on cash machine fees

32. An unexpected decision by some of the most important national banks to charge a fixed fee on cash withdrawals in their ATMs to non-clients, brought about an important change in the national interchange fees scheme and obliged the government to introduce an amendment to the Payment Services Law 16/2009, including, among other issues:

- The prohibition for ATMs owners of charging non-clients for cash withdrawals (but they can apply a fee to the issuing bank).
- The amount of the fee charged on the issuing bank can be subject of agreements between owner and card issuing bank. In the absence of agreement, the owner will be who fix the fee.
- The card issuing bank can neither transfer its clients a bigger fee than that charged by the owner of the ATM, nor charge them with extra fees linked to the cash withdrawal operation itself (this clause aims to prevent issuers from applying two fees on the same service).

33. The new regulation included a mandate to the CNMC to prepare an annual report on ATMs fees in Spain.

34. To elaborate the 2016 Report⁵, the CNMC requested information on the number and geographical distribution of the cash machines in Spain and has kept close contact with the financial regulator on the matter.

- Regarding the insurance sector, the CNMC requested information to the General Directorate of Insurance and Pensions Funds for Case S/0267/10 CAJA SEGUROS REUNIDOS CAMPAÑA SEGUROS REASEGUROS and Case S/0204/09 SEGUROS DECESOS, both now ended with decisions by the Council.

35. Moreover, it is important to highlight here that the now CNMC fulfils its obligation of collaboration with other institutions as sectoral supervisor, according to Article 17 (2) b) of the CA.

36. One noteworthy example in this sense is the request from the Secretary of State of Economy for comments on the draft text of the Royal Decree-Law No 11/2015 of October 2nd, on fees charged on cash withdrawals in ATMs. In the same vein, the CNMC

⁵ <https://www.cnmc.es/novedades/2016-07-19-la-cnmc-publica-el-informe-sobre-las-comisiones-por-la-retirada-de-efectivo-en>

was requested for comments by the Bank of Spain on the Draft Circular of 2016 on information obligations relating fees charged on cash withdrawals in ATMs.

37. Additionally, the CNMC is now cooperating with the Directorate-General of the Treasury and Financial Policy with regard to the transposition of the new Payment Services Directive⁶ that should be introduced in our legal regime by January 2018, in particular regarding fintech's access to the market and regulatory technical standards.

2. Impact of New Technologies on the Financial System (FINTECH)

2.1. The Financial System: Main Economic Fundamentals

38. In order to estimate the overall impact of Fintech on the financial system, it is necessary to understand beforehand the functioning of the financial sector through the lens of economic theory. This would allow to identify how Fintech is likely to shake precisely the very same foundations of the financial sector, by impacting directly on the roots of the financial activity. The reason is simple: information is by far the most essential input of the financial sector and Fintech is but a breakthrough in capitalizing on information.

39. However, it is worth noting that this approach will abstract from the specific, current environment faced by financial agents. More precisely, this economic overview will ignore the existence of a massive corpus of legislation that affects significantly the actual performance of financial companies in developed economies, since this legislation broadly distorts the incentives of financial institutions in both intended and unintended ways. Furthermore, the financial sector is one of the most regulated industries in any developed economy, to such an extent that unfortunately the attempt to assess the economic impact of a single piece of financial regulation on the structure of incentives has become a virtually impossible task.

40. Accordingly, this kind of analysis will necessarily restrict to the economic basics of the financial industry in order to identify the broad, structural effects of Fintech. Furthermore, it is not the aim of this analysis to be an exhaustive theoretical research but a basic guide of economic exploration of the effects of Fintech on the financial system.

41. Financial institutions can be roughly divided into financial markets and financial intermediaries. Their coexistence (why intermediaries are needed at all if agents can use markets directly) can be explained on the grounds of market frictions or imperfections, since financial institutions intermediaries are but a private-sector solution to these frictions or imperfections. More precisely, their *raison d'être* is the efficient reduction of transaction costs, that is to say, the profitable mitigation of information and matching asymmetries between lenders and borrowers.

42. As for information asymmetries, financial institutions (intermediaries and markets) specialise in collecting and analysing information about counterparties, as well as monitoring and screening them in order to minimise problems of adverse selection and moral hazard. Matching asymmetries arise in three fundamental dimensions: size,

⁶ DIRECTIVE (EU) 2015/2366 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC ([here](#)).

maturity and risk. First, lending and borrowing needs tend to exhibit indivisibility or a “lumpy” nature, that is to say, they cannot be scaled down (or up) at will. Financial intermediaries and markets can manage the match, either by pooling funds and then distributing them into different investments (financial intermediaries) or by dividing investments into portions or slices called securities (financial markets). Second, there may be also a chronological mismatch between the maturities (time horizon) of the various financial instruments offered and demanded by agents. In this case, financial intermediaries and markets can typically succeed in matching different maturities, either through the banking and, to a lesser extent, insuring activity (financial intermediaries) or through marketable securities which need not be held until their maturity date (financial markets). Finally, lenders and borrowers may differ in the amount of risk incorporated to the transaction, so financial intermediaries and markets may adapt some risks of the borrowers to the preferences of the lenders by making use of some statistical regularities, such as the law of large numbers. Therefore, financial markets and intermediaries help to transform some financial claims into others with different characteristics.

43. Like every economic activity, the financial industry combines some scarce resources or inputs to create some needed financial products or outputs. In this process, information is a key input. Indeed, the relationships built in the financial sector rely crucially on trust and confidence in the counterparty since most financial products are but a promise of or claim to future (and hence uncertain) payments, whose fulfilment depends considerably on the good faith of the liable party. Therefore, information asymmetries and opportunistic behaviour plague financial services and they exhibit a fiduciary nature (in a broad, non-legal sense). This fiduciary nature pushes agents to continuously seek new information to assess the correct value of financial instruments and profit from it. Thus, it seems reasonable to say that the financial sector is an information-intensive industry.

2.2. How Fintech can disrupt the Financial System

44. The application of information and communication technologies (ICT) to the financial sector is not new. The digital transformation of the financial industry started in the late 1960s with the installation of the first automatic teller machines (ATM) but it has accelerated in the last two decades, to such an extent that several national monetary and financial authorities are currently revising their regulatory frameworks to accommodate these new types of business. Furthermore, from a competition perspective, in recent years this process has been carried out partly by newcomers or new entrants that have disputed, for the first time in decades, the market to traditional financial institutions.

45. The phenomenon of Fintech is a very diverse one. Originally, the term “Fintech” was coined to name a single project of Citicorp in the 1990s but it has since gained extent. Currently, “FinTech” in a broad sense refers to the use of ICT to deliver financial services. However, this term encompasses two alternative development paths for private-sector actors, namely the FinTech in a narrow sense and its mirror image, the TechFin, and both are related to their implications regarding financial regulation or RegTech.

46. The broad concept of Fintech can be broken down into two distinct categories according to the strategy followed, either “from finance to technology” (firms in the financial sector that seek to address unmet needs or to improve the way some needs are currently met by leveraging new developments in ICT). Or “from technology to finance” (companies in the ICT sector that enter the financial industry). Although this distinction can be relevant from the point of view of regulators and supervisors, since it is crucial to

establish when a fintech or techfin is subject to financial regulation, in this analysis the term “Fintech” will be used in its broad definition.

47. Yet, the regulatory framework is also affected by this technological development, giving rise to “Regtech” or the application of technology to regulatory activity. It is worth noting that the application of ICT to regulation can be undertaken by financial services firms pursuing lower costs of complying with tougher post-crisis regulation, as well as by regulators and supervisors pursuing a more efficient enforcement and monitoring of this more complex financial regulation. Therefore, Regtech encompasses both the private and public sector.

48. Clearly, the success of Fintech lies in the ability to meet financial needs more efficiently. There are several “primitive” factors that can explain the emergence of Fintech, but the most recurrently cited drivers are:

- The recent rapid technological innovations in some areas of ICT, such as artificial intelligence (AI) and big data, distributed computing, cryptography and mobile access internet, with the characteristic of being “overlapping and mutually reinforcing”⁷;
- The growth of the sharing economy (services on demand), as these technological innovations have unveiled the existence of ample opportunities for the individualization of services, which can be extended to the financial sector;
- The Global financial crisis has contributed too, as the collapse of traditional financial channels, especially banking, in many economies and the public distrust about the current design of the financial system have fuelled a search for new innovative ways of connecting borrowers and lenders;
- The burdensome regulation of the financial sector, tightened in response to the Global financial crisis, might have progressively diminish the capacity or the necessity of regulated (incumbent) financial institutions to innovate and adapt to changes in demand.

49. Up to this time, the phenomenon of Fintech posts interesting questions from the perspective of industrial organization and competition. New entrants (start-ups) are playing a prominent role. It is true that incumbent financial institutions are becoming more and more active in the development of financial technologies, but it is a highly significant feature that outsiders are positioning themselves at the vanguard of the phenomenon of Fintech. Furthermore, although some of these new entrants are big global companies (for instance, Amazon or Alibaba), many of them are relatively small start-ups operating in regional markets. This would reveal the absence of substantial entry barriers in some sectors, which would be logical as some of this business were hitherto non-existent. The entry of new agents could considerably change the current market structures as a result of the displacement, transformation and even disappearance of incumbent financial intermediaries, and even a radical restructuring of the financial industry as a whole cannot be ruled out.

50. It is soon to ascertain the effects of Fintech on financial systems but given the fundamentals of the financial industry, it is possible to glimpse some opportunities and challenges of the phenomenon of Fintech.

51. Among the opportunities, some are worth pointing out:

⁷ IMF. (2017), *Fintech and Financial Services: Initial Considerations*. SDN/17/05, Washington DC.

- First, Fintech entails an innovation process that can bring about significant efficiency gains, because it can enhance the exploitation of the most important input in the financial industry: information. Indeed, this more efficient use of information (for instance, algorithms that assess more reliably the creditworthiness of clients) will help reduce the information and matching asymmetries which are the *raison d'être* (and the source of profit) of the financial industry. One particular strand of this process of innovation comes from the “customer centricity”, i.e. the customization or individualization of financial services in the wake of the sharing economy, that naturally increases customer satisfaction and welfare;
 - Moreover, this better use of information can represent a product innovation as well, since it can expand the production frontier by generating new products or services that were not previously available owing to severe information limitations (in quantity but also in treatment). In this respect, TechFins play an important part as they typically have access to relevant information about clients beyond the financial realm and develop;
 - As a disruptive wave, new (often small) competitors are disputing the markets to traditional financial institutions. It could be possible that this previously unknown contestability becomes a structural feature of the financial industry if Fintech allows for a permanent reduction of entry barriers, thereby boosting market discipline. Indeed, contestability in some activities could force some degree of unbundling of traditional financial institutions, especially banks, from the current gigantic (often too-big-to-fail) highly-integrated firms to smaller ones;
 - Fintech can foster financial inclusion, not only in developing countries that lack stable financial markets and intermediaries but also in industrialised countries, where small clients are not offered the whole range of financial services that big clients have at their disposal.
52. However, the advent of Fintech poses some major challenges as well:
- There are important cybersecurity concerns as the spread of Fintech might make a highly digitised financial sector more prone to cyberattacks;
 - From the perspective of competition, some of these new services are based on digital platforms and networks, which can grow to the point of acquiring significant market power thanks to complex effects, such as direct and indirect network effects, and this require a closer approach by competition authorities to avoid market abuses;
 - The effect of competition on financial intermediaries’ (banks) risk-taking and stability remains an unresolved debate, so the presence of new actors disputing some of their markets may add to the convoluted scheme of incentives. However, it is worth highlighting that financial regulation plays a critical role in this respect.

2.3. Specific Fintech Revolutions Relevant from the Standpoint of Competition

53. This section aims at depicting the most significant Fintech innovations from the perspective of competition, taking into account their impact not only on the financial system but also on the whole economy.

2.3.1. Mobile wallets and online payments.

54. The revolution in payments is one of the most paradigmatic Fintech innovations.

55. Payment systems have been subject to scrutiny by Competition Agencies, regarding both concerted practices and abuse of dominance. Indirect network effects, inherent in multi-sided markets, add an extra dose of complexity to assess some conducts and may create dynamics of concentration and barriers to entry. Furthermore, some government interventions, such as regulations on fees and obligations to “honour all cards”, may distort competition.

56. The development of mobile and online wallets is disrupting the payments ecosystem beyond the impulse to e-commerce. Mobile wallets provide an alternative to traditional offline methods and this competition between means of payments is bound to mean better conditions for merchants and consumers, balancing market power in relations which were considered to be more dominated by banks and credit card companies. By reducing the costs incurred by users and retailers (in terms of money, time and inconvenience), more transactions would be completed.

57. But the competitive effects are also dynamic. Merchants can gather more data about transactions (useful for inventory management) and users, like personal information from social network profiles or geolocation. This is the case not only in online transactions but also in proximity payments, which take advantage of new technologies (like NFC, BLE or QR codes) that allow users to pay using mobile wallets in smartphones. Retailers are empowered to expand their services, such as targeted advertising and promotions. This improves users’ experience substantially in terms of both convenience and customization, creating additional demand.

58. Furthermore, the revolution of payments transcends the financial system. We have seen how it increases competition in the business to consumer (B2C) retail sector, since lower transaction costs allow small merchants to compete with big players. But it also facilitates business to business (B2B) payments, which may be critical for Small and Medium Enterprises (SMEs) to engage in more competitive environments, like international trade. Finally, by improving the potential for consumer to consumer (C2C), or peer to peer (P2P) payments, the procompetitive effects can reach other sectors, like sharing or reselling goods and engaging in personal and professional services, empowering “prosumers” and “micro-merchants”.

59. Therefore, financial regulators should embrace this revolution in mobile payments. New entrants, many of them not coming from the traditional financial sector, should not face unnecessary or disproportionate barriers to access the market and to develop their activity. And the rationale for some regulations (like caps on fees and “honour all cards” rules) should be reassessed given the fresh competition from alternative means of payment.

2.3.2. Blockchain and cryptocurrencies

60. Blockchain is a technology which allows keeping and updating a digital ledger of transactions in a shared and decentralized manner, thanks to validation by participants or “nodes” of the network through a consensus mechanism. This marks a stark contrast with traditional ledgers, which are centralized and controlled by “notaries”, who regulate the validity of transactions and the access by designated users.

61. Therefore, blockchain is a “permissionless” distributed ledger technology (DLT), to the extent that there is no restriction on participants to become “nodes”, so that validation does not need a central counterparty. There are other technologies which are

“permissioned”, since they only allow trusted counterparties to engage in validating and updating the digital record of transactions.

62. Blockchain has been widely used in the area of payments mostly through the flourishing of cryptocurrencies, privately-issued digital representations of value which use cryptographic means to validate transactions. But blockchain deserves a separate consideration, since it can be applied to most areas of financial markets, to track the ownership and keep a record of assets and liabilities and to settle payments (including in insurance, as will be seen below). Actually, the outreach goes well beyond the financial sector by facilitating direct business-to-business (B2B) transactions without intermediation. Blockchain may also be convenient in the secure and agile maintenance of administrative and private databases and registers (like property records or the use intellectual property rights).

63. These types of innovation have the potential to reduce transactions costs, turning real, monetary and financial flows more agile and less costly by reducing back-office outlays and the need for intermediation services. Moreover, these technologies can help firms in keeping corporate records and managing their financial decisions (like issuing equity/debt and paying dividends/coupons). And they facilitate the design of smart contracts which, according to a pre-written logic, can automate financial and real transactions depending on several contingencies. Smart contracts can be of paramount importance in insurance markets (as will be noted below). Finally, they can reduce regulatory, compliance and audit costs thanks to transparency and “traceability” of transactions.

64. Nonetheless, some intermediation costs may still persist, since in permissioned technologies there are trusted counterparties (which normally levy small fees on their services) and in “permissionless” schemes there are normally premia to incentivize the nodes to validate transactions. Furthermore, there are concerns related to the high computing power, energy usage and/or digital assets needed to validate transactions, creating a concentration of clout in a few “nodes”. Finally, there are technical challenges regarding scalability, the ability to validate more transactions per second, and resilience, to both frauds and errors. These issues are more pressing in “permissionless” schemes where “nodes” may lack the incentives to invest in the network (to improve scalability and security) or where governance issues may arise to reverse fraudulent or incorrect transactions.

2.3.3. Asset management

65. The industry of asset management and advice is one of the most shaken by the Fintech revolution, with many new and innovative business models which share some (if not all) of these underlying factors: the use of social media, the revolution of big data (much cheaper to be accessed, collected, stored, processed and disseminated), artificial intelligence and the emergence of digital platforms.

66. The most straightforward innovation has been the generalization of financial comparison websites from common and traditional services (retail banking, mortgage advice and insurance) to more sophisticated ones (like investment funds).

67. There are also financial aggregators which merge an investor’s information from different sources (e.g. banking institutions) to exploit that data and offer related services such as investment management and advice.

68. Sentiment and networking platforms use varied tools and techniques (like social media analytics) to conduct professional research on financial markets useful to provide advice, brokerage and management services.

69. Social trading (also called mirror or copy trading/investing) allows investors to follow a leader in their portfolio decisions, using social network tools to build trust and reputation.

70. Electronic trading platforms automate trading and record keeping, matching orders in innovative ways and connecting agents in information and transaction networks. They improve information, transparency and data, leading to pricing efficiencies and an increased participation in both sides of the market.

71. Robo-advisers provide portfolio management and advice based on artificial intelligence, be it fully-automated or human-assisted.

72. These innovations share some advantages. They increase competitive pressures to the extent that they increase transparency and participation. This, together with cost reductions, can lead to pricing efficiencies.

73. They raise some risks and concerns as well. The use of social media (in social trading and in sentiment and networking platforms) can generate herd behaviour and vulnerability to the dissemination of false information. In some cases consumers might lack a general understanding of these products, which may be worrisome especially in those innovations (like social trading, robo-advising or electronic trading) where investment decisions are automated. Some services (like price comparison websites or financial aggregators) may be subject to conflicts of interest and anticompetitive practices. Many of these innovations (like social trading and robo-advising) also generate regulatory disruption to the extent that they are very difficult to classify into the current business models.

2.3.4. Crowdfunding

74. Crowdfunding can be defined as the channelling of funds peer-to-peer (P2P), from a large pool of backers to a particular project or venture, usually through a web platform and foregoing the need of face-to-face interactions. Crowdfunding has broadened its scope from non-profit motives, such as funding from consumers in exchange of rewards and donations to political or development campaigns, to profit-oriented motives like crowdfunding via (especially) lending and (to a lesser extent) equity. Nowadays it is even spreading to other financial products such as property and real estate, debt issuance (fixed-income instruments) and invoice trading.

75. Crowdfunding is an archetypal supply-side innovation in financial intermediation: lower costs, competitive pressure compressed mark-ups and for incumbents, reduced prices, higher quality (in this case in the form of customisation, diversification or ancillary services) and bigger quantity. This increase in supply is of paramount importance to address problems of credit rationing and to increase competition well beyond the financial sector (since credit is an input in all sectors and is critical for new entrants).

76. The former are traditional static effects arising from more competition but there are also dynamic effects regarding two crucial aspects in crowdfunding: information and network effects.

77. As for the role of information, crowdfunding is relatively transparent in comparison with traditional credit markets (which tend to be one-to-one, more opaque to agents not directly involved in the transaction). Through crowdfunding platforms many agents can know whether (and to what extent) a project is performing or not. This may generate suboptimal outcomes when agents overreact to information, through self-fulfilling expectations or herd behaviour. But crowdfunding platforms can prevent these outcomes through a better use of information and data, adding value by scoring and rating projects, assessing borrowers' reputation and recommending projects to investors according to their portfolio diversification and their risk profile.

78. As for network effects, the indirect ones are evident: lenders prefer platforms with more borrowers (so that they diversify their portfolio) and borrowers prefer platforms with more lenders (not only in order not to depend crucially on any of them but also because some lenders provide inputs other than credit, such as feedback or guidance on the project). This may trigger direct network effects as well: lenders may prefer platforms with more lenders (the scoring/mechanisms would work better, sophisticated investors could be followed...).

79. The crucial role of information and the existence of network economies (together with scale, scope and learning economies linked to their comparative advantage in exploiting information and data) imply that crowdfunding platforms exhibit dynamic efficiencies as financial intermediaries (beyond the static gains coming from competitive pressures).

80. But these efficiencies have to be assessed against some risks attached to crowdfunding. As has been noted above, crowdfunding might exacerbate some market imperfections (like herd behaviour or moral hazard). But at the same time platforms have incentives to self-regulate given the interdependence of demands. There are also other concerns from the point of view of competition, since crowdfunding platforms can provide a tool for incumbents to access information on (and control of) actual or potential competitors.

2.3.5. Insurtech.

81. The use of new technologies in the insurance market goes beyond the incremental effect of information and communication tools, like the improvement of customer service, productivity and efficiency. It is actually disrupting business models in several ways.

82. The most straightforward innovation is the application of price comparison websites (PCWs) and financial aggregators to insurance services. Although it could be argued that this is just an incremental innovation, the engagement of some of these websites and apps in brokerage services suggests that they are actually disrupting, and competing with, the traditional insurance industry. For instance, price comparison websites and financial aggregators have an advantage over traditional companies when using big data and social network profiles to offer tailored services.

83. A more significant development is the flourishing of peer-to-peer (P2P) insurance networks, sometimes relying on the Blockchain technology and smart contracts. The disintermediation in the relation between insurers and customers not only reduces costs but also lays the groundwork for greater customization and less capital-intensive risk management. Furthermore, a more direct contact between both sides (using some tools such as social networks) can mitigate fraud and reduce risk premia.

84. Social brokering is a further step in Insurtech and consists in grouping users in clusters in order to negotiate more favourable and/or tailored conditions. The revolution of data analytics and the internet of things (with information arising from smartphones, cars, homes, appliances, etc. which is key to car, property and health insurance) allows higher discrimination among consumers in terms of their risk. But this challenges the aim of many sectoral regulations which sometimes impose equal treatment.

85. In a halfway point between P2P and social brokering we find other innovations in the form of microinsurance, many of them related to the sharing economy, such as on-demand insurance or pay-per-use on demand for small transactions.

86. As happens with other innovations, Insurtech is a source of static and dynamic efficiency gains, increasing competition and potentially improving the optimality of market outcomes. The abovementioned business models exhibit lower overhead costs, better risk pooling, pricing efficiencies and easier risk transfer, what could lead to reassess the adequacy of capital requirements.

87. Nonetheless, despite the higher efficiency of many these innovations, the soundness of risk management would remain an issue to be safeguarded by regulation. And the impact of price discrimination should also be assessed from the point of view of equity and fairness.

2.4. Concluding Remarks of Fintech's Impact on Markets and Competition

88. Regulatory implications have already been discussed in each section dealing with specific Fintech innovations. Nonetheless, it may be advisable to draw general conclusions and takeaways for regulators:

- The update of financial regulation may be warranted to the extent that some innovations address market failures (like imperfect information).
- Fintech innovations show that the focus of regulation must shift from regulating entities to regulating activities.
- Financial regulation must embrace competition and innovation coming from new business models and innovation while safeguarding trust and investment protection. The self-regulation incentives of platforms must be factored in when designing the regulatory response.
- The risks to financial stability should not be overstated since many of these innovations are still small in size. Tools like “regulatory sandboxes” can help to plan an appropriate regulatory framework in the long term.

ANNEX I

2010-2013

- C/0240/10 CAJA DUERO/CAJA ESPAÑA, consistente en la fusión entre CAJA DUERO y CAJA ESPAÑA, mediante la creación de una nueva entidad denominada Caja España de Inversiones, Salamanca y Soria, Caja de Ahorros y Monte de Piedad.
- C-0259/10 MARE NOSTRUM, consiste en la integración de CAJA DE AHORROS DE MURCIA (CAJA MURCIA), CAIXA D'ESTALVIS DEL PENEDÈS (CAIXA PENEDÈS), CAJA GENERAL DE AHORROS DE GRANADA (CAJA GRANADA) y CAJA DE AHORROS Y MONTE PIEDAD DE LAS BALEARES (SA NOSTRA).
- C/0228/10 CAIXA MANLLEU/CAIXA SABADELL/CAIXA TERRASA, consistente en la fusión entre Manlleu, Caixa Sabadell y Caixa Terrassa, con resultado de la creación de Unnim.
- C/0271/10 REDSYS/ REDY, consiste en la fusión de las sociedades REDSYS SERVICIOS DE PROCESAMIENTO, S.L.U. y REDES Y PROCESOS, S.A.
- C/0289/10 CAIXA GALICIA/CAIXANOVA.
- C/0408/11 BANCO POPULAR/BANCO PASTOR, consistente en la toma de control exclusivo de BANCO PASTOR, S.A. por parte del BANCO POPULAR ESPAÑOL, S.A.
- C/0397/11 BBK/KUTXA/CAJA VITAL, consistente en la integración de BILBAO BIZKAIA KUTXA (BBK) CAJA DE AHORROS Y MONTE DE PIEDAD DE GIPUZKOA Y SAN SEBASTIAN (KUTXA) y CAJA DE AHORROS DE VITORIA Y ALAVA (CAJA VITAL).
- C/0393/11 CAJA RURAL DEL SUR/CAJA RURAL DE EXTREMADURA/CAJA RURAL DE CÓRDOBA, consiste en la creación de un grupo cooperativo de crédito por parte de CAJA RURAL DEL SUR, SOCIEDAD COOPERATIVA DE CREDITO, CAJA RURAL DE EXTREMADURA, SOCIEDAD COOPERATIVA DE CREDITO y CAJA RURAL DE CORDOBA, SOCIEDAD COOPERATIVA DE CREDITO.
- C/0422/12 BANCO SABADELL/BANCO CAM, consistente en la toma de control exclusivo de BANCO CAM, S.A. por parte del BANCO DE SABADELL, S.A.
- C/0438/12 CAIXABANK/BANCA CÍVICA, consistente en la toma de control exclusivo del GRUPO BANCA CIVICA por parte de CAIXABANK, S.A.
- C/0445/12 BBVA/UNNIM, consistente en la adquisición de control exclusivo de UNNIM BANC, S.A. SOCIEDAD UNIPERSONAL por BANCO BILBAO VIZCAYA ARGENTARIA, S.A.
- C/0456/12 UNICAJA/CEISS, consistente en la integración de MONTE DE PIEDAD Y CAJA DE AHORROS DE RONDA, CADIZ, ALMERIA, MALAGA, ANTEQUERA Y JAEN (UNICAJA) y CAJA ESPAÑA DE INVERSIONES, SALAMANCA Y SORIA, CAJA DE AHORROS Y MONTE DE PIEDAD (CEISS).
- C/0488/12 CAIXABANK/BANCO DE VALENCIA, consistente en la adquisición por CAIXABANK, S.A. del control exclusivo de BANCO DE VALENCIA, S.A.
- C/0494/13 BANCO SABADELL-BANCO MARE NOSTRUM DIRECCIÓN TERRITORIAL CATALUÑA Y ARAGÓN, consistente en la toma de control exclusivo de la Dirección Territorial de Cataluña y Aragón del BANCO MARE NOSTRUM, S.A. por parte del BANCO DE SABADELL, S.A.

ANNEX II

- C/0512/13 BANCO SABADELL-CAM-AEGON-MEDITERRANEO VIDA, consiste en el paso de control conjunto a control exclusivo por parte de Banco Sabadell sobre CAM-AEGON Holding Financiero, S.L.
- C/0471/12 MAPFRE/BANKINTER/ BANKINTER SEGUROS GENERALES, consistente en la toma de control conjunto de BANKINTER SEGUROS GENERALES por parte de MAPFRE y BANKINTER, S.A.
- C/0464/12 C/0464/12 CAIXABANK / BANCA CÍVICA VIDA / CAJABURGOS VIDA / CAN SEGUROS DE SALUD, consistente en la adquisición de control exclusivo por parte de CAIXABANK, S.A. sobre BANCA CIVICA VIDA, CAJABURGOS VIDA y CAN SEGUROS DE SALUD.
- C/0451/12 COGEPAR/GROUPAMA, consistente en la adquisición del control exclusivo de GROUPAMA SEGUROS por parte de COGEPAR, mediante adquisición del 51% de forma directa y del 49% restante a través de SEGUROS CATALANA OCCIDENTE

ANNEX III

2014-2017

- C/0901/17 BANKIA/BMN, consistente en la adquisición de control exclusivo de BANKIA sobre BMN (pendiente de recibir la contestación del Banco de España y pendiente, por tanto, de resolución).
- C/0611/14 BBVA/CATALUNYA BANC, consistente en la adquisición por parte de BANCO BILBAO VIZCAYA ARGENTARIA, S.A. del control exclusivo de CATALUNYA BANC, S.A.
- C/0603/14 CAIXABANK / BARCLAYS, consistente en la adquisición por parte de CAIXABANK del control exclusivo de BARCLAYS BANK.
- C/0587/14 BANCO POPULAR/CITIBANK -ACTIVOS-, consistente en la adquisición de control exclusivo de los negocios de banca minorista, tarjetas de pago y mediación de seguros de CITIBANK ESPAÑA, S.A. por BANCO POPULAR ESPAÑOL, S.A.
- C/0535/13 APOLLO /EVO BANCO, consistente en la adquisición del control exclusivo de EVO BANCO, S.A por parte de APOLLO EUROPEAN PRINCIPAL FINANCE FUND II, L.P.

ANNEX IV

- C/0698/15 GACM/RACC SEGUROS, consistente en la adquisición del control exclusivo de RACC SEGUROS por parte de GACM ESPAÑA.
- C/0647/15 SEGURCAIXA ADESLAS/ SOCIEDAD DE PROFESIONALES/ IGUALATORIO DE ASTURIAS, consistente en la toma de control conjunto de IGUALATORIO MÉDICO QUIRURGICO DE ESPECIALIDADES DE ASTURIAS, S.A. DE SEGUROS por parte de SEGURCAIXA ADESLAS, S.A. DE SEGUROS Y REASEGUROS y SOCIEDAD DE PROFESIONALES MEDICOS DEL IGUALATORIO MEDICO QUIRURGICO DE ASTURIAS, S.L.
- C/0582/14 IBERCAJA / CAJA BADAJOZ VIDA, consistente en la adquisición por parte de IBERCAJA del control exclusivo sobre CAJA BADAJOZ VIDA, sobre la que ya tenía control conjunto.
- C/0568/14 MAPFRE/BANKIA/ASEVAL/LAIETANA VIDA/ LAIETANA GENERALES, consistente en la toma de control conjunto de ASEGURADORA VALENCIANA, S.A. DE SEGUROS Y REASEGUROS y LAIETANA VIDA COMPAÑIA DE SEGUROS DE LA CAJA DE AHORROS LAIETANA, S.A. por parte de MAPFRE VIDA SOCIEDAD ANONIMA DE SEGUROS Y REASGUROS SOBRE LA VIDA HUMANA y BANKIA, S.A. así como la toma de control exclusivo de LAIETANA GENERALES, COMPAÑIA DE SEGUROS DE LA CAJA DE AHORROS LAIETANA S.A. por parte de MAPFRE FAMILIAR COMPAÑIA DE SEGUROS Y REASEGUROS, S.A.
- C/0530/13 SEGURCAIXA ADESLAS/CAJASOL SEGUROS GENERALES/CAN SALUD, consistente en la adquisición del control exclusivo de las sociedades CAJASOL SEGUROS GENERALES, SOCIEDAD DE SEGUROS Y REASEGUROS, S.A. y CAN SEGUROS DE SALUD, S.A. por SEGURCAIXA ADESLAS.