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Pablo Hernández de Cos
Governor

Introduction: financial and technological innovation

Good morning. Let me begin with some brief thoughts I consider necessary for putting this debate into context. For some years now an increasing number of day-to-day aspects of our lives are being affected by the phenomenon of growing digitalisation. So much so that certain services, which just a few years ago were practically unavailable to the average citizen, have now become routine in our daily lives.

Financial services are evidently no exception here. Indeed, it is worth recalling that the financial sector has always been a pioneer in incorporating technological innovations into its business models. Yet today's so-called "fintech phenomenon" has novel facets differentiating it, in my opinion, from what occurred in previous waves of technological change in the financial sector, and which warrant detailed scrutiny of the process. This also explains the growing interest of international agencies – such as the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (BCBS) – in an in-depth assessment of its potential implications for the structure and functioning of the financial system.

Clearly, technological innovation offers opportunities to enhance the efficiency of what we might call the "traditional" financial sector. But more significant perhaps is the fact that the technological advances have enabled the different traditional functions performed by financial institutions (making of payments, maturity transformation, risk-sharing, capital allocation) to be segregated. That means these can now be done individually by new, non-bank players.

Against this background, and unlike the previous waves of technological innovation, traditional financial intermediaries appear to be facing more difficulties than in the past in adapting and responding nimbly. Simply observing the circumstances makes us realise that, paraphrasing Reinhart and Rogoff's work on economic crises, "this time is different".

Which characteristics of the fintech phenomenon make it different from previous waves of innovation?

The first distinctive element of the current fintech phenomenon is the host of innovative technologies emerging and maturing at great speed in the form of a cluster: mobile banking, artificial intelligence, digital identity, distributed ledgers, cloud computing, etc. These make it difficult for traditional organisations to focus on a single innovative technological element, as was the case with the Internet in the 1990s and computerisation in the 1970s and 1980s. Moreover, this range of technologies is enabling new providers to respond swiftly to users' specific demands and needs, creating new services.

The global environment of growing digitalisation I initially referred to accelerates these transformation processes. Thus, a growing number of consumers have adapted readily and quickly to the new technologies and demand a similar user experience in all areas of their life, including their financial dealings. Consequently, new solutions in the areas of mobile banking and alternative funding platforms are expanding rapidly and transcend national borders. By way of example, the proportion of retail payment transactions routed by non-bank entities in China rose from 59% in 2013 to 76% in 2017. Likewise, on FSB estimates, the global peer-to-peer loan market currently accounts for somewhat more than 3% of the household debt figure, with China once again the pacemaker.

This backdrop highlights another differentiating factor of the current technological innovation process: the relevance of data. Growing digitalisation means that the volume of information available on users is increasing exponentially. Developments like the “Internet of things” will but further boost this trend. And so much so that, on some estimates, the current stock of data will have increased fivefold in scarcely five years. At the same time, greater computer capacity to store and swiftly process all this information opens the way for an increase in the options of new services provided to customers. Prominent in the financial realm is the growing role of automated algorithms in decision-making in areas such as customer identification and recognition, the granting of loans and the detection of fraudulent practices, among others.

These developments in financial services mean, for instance, that a considerable volume of valuable information for estimating customer creditworthiness is being generated outside the space in which traditional financial intermediaries operate. Also, the proliferation of initiatives such as open banking, underpinned by the dynamism of application programming interfaces (APIs), might erode the competitive edge banks had that was based on a knowledge differential not previously accessible to third parties. This scenario poses a challenge for financial institutions, whose business has traditionally been underpinned largely by their capacity to obtain, store, process and exploit the abundant information available to them, both on their customers and on markets.

How are traditional financial intermediaries adapting to this new environment?

The new wave of technological/financial innovation is evidently altering the cost structures and influencing the economies of scale and scope of financial business. This is leading traditional intermediaries, and banks in particular, to modify their business model and offer their services in a different way.

Faced with the challenge to adapt, traditional financial intermediaries have evolved from an initially more defensive reaction to a position more inclined towards collaboration within the new ecosystem. The main exceptions here are, possibly, the technological giants in the Asian markets and, albeit on a lesser scale, the more direct competition observed between banks and fintech firms in the segment of lending to households and SMEs.

Banks are seeking to step up collaboration through various channels. They have deployed ambitious acquisition programmes using financial-technical company acceleration programs (better known as “innovation accelerators”). Also of note is the growing role of financial institutions as benchmark investors in specialist venture capital funds.

This collaboration drive is aimed at prompting growth to occur more organically, making it easier for the differential contributions of fintech firms to ultimately integrate into bank structures more efficiently. In fact, a growing number of institutions advocate the creation of in-house digital areas pursuing a genuine internal fintech activity as a catalyst for what are traditionally lengthy transformation cycles.

New models, new players, new risks

Overall, the current wave of technological/financial innovation offers a broad range of potential improvements in the quality, quantity and immediacy of financial services accessible to citizens, simultaneously reducing the costs of these services.

Yet at the same time, it may also increase some of the financial or operational risks already known and create other, new risks.

Firstly, from a macroprudential perspective, we should weigh up the potential systemic implications of fintech. That means, first, evaluating the interrelations in the financial system; these might increase significantly in the new competitive and technological environment, including the banking sector, facilitating the propagation of shocks.

Indeed, the global dimensional of technology and of many of those offering its essential components leads to the financial sector becoming progressively more interconnected and interdependent from an operational standpoint. This also magnifies cybernetic threats, which become one of the main risks to financial stability.

Additionally, this involves taking into consideration aspects such as the potential reputational contagion caused by the provision of financial or technological services to households and firms by the new entities, which do not always have the governance and control structures of financial institutions. These reputational costs may arise from such sensitive aspects as privacy and access to individual data, and the financing of illicit activities.

As we do not yet have a full credit cycle with these new technologies, we do not know the potential influence that these technologies, algorithms and new players may have on essential questions such as the relaxation of lending standards or on the procyclicality of credit policies. And that might have considerable macroeconomic consequences.

In this same vein, increased competition, greater speed in transactions and the use of common algorithms might lead to an increase in the volatility of the financial system, including banks' deposits.

In principle, fintech increases the degree of contestability of the financial market and, thereby, raises its level of competition and efficiency. However, from the competitive viewpoint, the role that "Big Tech" (the major technology companies) plays is crucial. Some of the characteristics of these companies – their strong levels of capitalisation, their capacity to tap cheap financing and their extensive customer portfolio on which they amass a huge volume of information – would place them in an enviable position were they to decide to pursue a massive expansion strategy in the financial sector.

The importance of information in the finance industry and the strong economies of scale in data access might facilitate this expansion. In fact, access to financial variables, along with the metrics on the personal circumstances and conduct of economic agents has been, and remains, a vital element for explaining Big Tech's interest in incorporating financial services into its value chain. Moreover, what indeed characterises these companies are their strengths in terms of capacity to take advantage, for the benefit of their other business lines,

of the considerable volumes of data they amass as a result of their interaction with their customers.

There are, then, new competitive and operational risks that might, for instance, take the form of major dependency on a small number of information providers. Indeed, the market for financial information and associated analytical services is one of the main examples signalled; in it, according to FSB analysts, two specialised entities account for almost 50% of market share.

In this environment, traditional financial institutions run the risk of being excluded from increasingly strategic databases. One example of these are customer consumption patterns generated through digital platforms, which may provide valuable information on customer creditworthiness.

In turn, financial institutions depend on a small number of technological services providers. These services may, for example, be related to cloud computing (which in many cases are provided by these same Big Tech companies with a high level of concentration, as the four main providers manage 60% of the market). Such dependence might give rise to the emergence of new systemic risks.

Regulatory challenges

Given the risks identified, it is particularly important to assess the suitability of the regulatory framework in the face of these new business models. This may be evaluated, on one hand, from the perspective of preserving financial stability (maintaining appropriate prudential standards) and of safeguarding customers; and, on the other, from the need not to unduly restrict the potential benefits to society of technology-based business models.

A characteristic Spain shares with several Latin American countries is that of a financial system in which high banking penetration predominates, with banks offering a wide range of financial services. The new providers, however, pursue a different strategy based on niche markets and on the distribution of third-party products.

In these circumstances it is important to guarantee a level playing field that will promote an orderly transition. In this connection, it is essential to ensure that the principle of neutrality is followed, so that similar risks arising from similar activities are subject to the same rules, irrespective of the provider.

Regrettably, this apparently straightforward principle is not free from complexity when it comes to applying it. We encounter the first obstacle on seeking to define the scope of application of the regulations. Technological change is blurring the functional borders that marked the definition of such scope. In fact, technological innovation not only adds greater segmentation to the standard value chain; it also promotes the creation of new chains. Consequently, we may find entities focusing exclusively on a very specific process, and others that combine the provision of financial services with activities unrelated to this sector.

When matters are thus blurred, the task of defining clear rules appropriately covering all possibilities becomes considerably more difficult. This is because the geographical areas in

which services are provided are also becoming blurred in light of the remote provision possibilities that the new technologies afford.

In any event, I would like to clarify an issue on which, in some cases, there is apparent misunderstanding. Contrary to what is thought, not all activity pursued by fintech companies lies outside the demanding regulatory perimeter characterising the financial system.

Regulators' efforts to have a framework better suited to this new reality is evident in areas such as payment systems and means of payment. For example, in the European Union, the recent Payment Services Directive (PSD-2) has been used, *inter alia*, to extend the regulatory perimeter, to allow new players into the fold and to give them the possibility of access to their customers' banking data. Further, there is a considerable volume of new operators which, following an initial trial phase, have sought the protection of a licence before making the leap into larger-scale operations.

Here we may stress the role of sandboxes (or controlled test environments). The aim of initiatives of this type (such as those being developed or launched in countries such as Mexico and Spain, among others) is to provide, with all due caution regarding security for participants and for the system as a whole, a flexible framework allowing entities to analyse whether new technology-based business models are viable.

Also, they allow the authorities involved to learn about their practical functioning and about the new risks associated with their activities. In exchange, this deeper knowledge of the activity pursued by these new actors opens the way for supervisors to fully exploit the principle of proportionality contained in the regulations for those viable projects that may leave the test space.

It is important to bear in mind that what is involved is a test environment and that, therefore, this is a temporary phase. Accordingly, for those projects that prove viable, the aforementioned general principle will prevail, applying an equivalent regulation for similar activities and risks.

The regulatory response to the complexity arising from fintech will inevitably turn on achieving greater cooperation and fuller coordination with other authorities, both at home and abroad. Moreover, the need for cooperation should not be confined to the initial phases of transformation and change in the sector; it should straddle more fundamental aspects. Hence, questions such as personal information privacy, consumer safeguards, ensuring fair competition and protection against cyber threats take on particular importance in an increasingly digital environment.

With particular regard to cyber threats, these must be addressed in a joint and coordinated fashion by the public and private sectors taking a comprehensive view, which makes international cooperation unavoidable. But in addition to these types of threats, it should also be borne in mind that any element of the new ecosystem may act as a gateway to the whole system. And it may, in that way, compromise security. Thus, it is not possible to address this risk with the same rules of proportionality or gradualism that prevail for other types of risks. In sum, it is vital to identify the critical points of the financial system in this connection, sharing information and good practices, and deploying a strategy of awareness aimed at society as a whole.

I would remind you that, strictly in the banking sphere, in 2018 the BCBS published a document of good practices for banks and banking supervisors in relation to technological/financial innovation.

Without detailing each and every recommendation in this report, I would like to highlight two central features. First, and once more, the importance of international supervisory cooperation and with other authorities (e.g. data protection, competition, prevention of money laundering, etc.). Second, the need for institutions themselves to have governance structures and risk-management processes in step with the new risks arising from innovation.

In this respect, and in line with the conclusions of the BCBS December 2018 report relating to cyber-resilience practices, I would stress the following. Although the use of third-party resources may contribute to improving banks' resilience levels, supervisors should ensure that banks have appropriate risk management practices and processes for whatsoever activity that is outsourced or supported by third parties. And this should logically include services provided by fintech firms. We must therefore ensure that we apply to outsourced activities quality controls that are strict as those applied to the services banks themselves undertake to provide.

The BCBS document also underscores the fact that some of the technological developments fintech firms and banks are rolling out could likewise be applied to supervisory practices. The efficiency and effectiveness of such practices would be duly enhanced, which merits their being explored (what is known as "supotech").

Lastly, from the standpoint of payment systems management, we should assess the advisability of adapting access rules to these systems. In that way they would allow for the participation of a greater number of counterparties and set in place a favourable environment in which to continue innovating. However, such a decision should be informed by overarching rules that prevent the propagation of risks with consequences that might be systemic.

In short, the growing incorporation of new technological developments into financial services could give rise to major benefits in terms of financial inclusion, diversification of funding sources and increased efficiency. But we must also acknowledge the existence of new risks, which should be tackled by strengthening cooperation among all national and international regulatory and supervisory authorities.

Thank you.