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**25th Financial Sector Meeting: Innovation, Transformation and Reputation**  
Deloitte, Sociedad de Tasación and ABC

Luis M. Linde  
Governor

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Let me begin by thanking the organisers – Deloitte, Sociedad de Tasación and ABC – for their invitation to me to participate in this session of the 25th Financial Sector Meeting, which on this occasion turns on three ideas: innovation, transformation and reputation.

In my opinion, these three concepts accurately encapsulate the main challenges currently faced by the financial sector. The new technologies are enabling financial institutions to transform their systems and their business models, but this transformation should not lead us to forget that the keystone of any market, and all the more so financial markets, is customer confidence.

The financial sector is faced with a singularly complex setting and this conference provides an opportunity to confer with institutions' key decision-makers on the different ways in which changes are being addressed at this time of transformation, which will be crucial for the future of the industry.

The new technologies, which have already significantly impacted various sectors, now have the potential also to substantially change the way in which financial services will be provided in the not-too-distant future. I would thus like to take this opportunity to offer my view on the opportunities and risks these new technologies pose. In this connection, I shall first briefly review the **innovations I consider most significant** and, secondly, I shall address the **challenges posed by the new scenario for the authorities**, and in particular for a central bank.

### **Financial market innovations**

Any list of ongoing financial innovations inevitably highlights the weight of technology. The significance of the technological component in this new phase is such that it has ultimately lent its name to the process of change: *Fintech*. What is involved, however, is a broad and diffuse concept, which encompasses not only new highly technological firms, but any financial institution that is innovating through the application of new technologies. Occasionally, it is also used to describe new business models and even to refer to the basic technologies enabling the various innovations.

The confusion surrounding the *Fintech* concept is illustrative of the confusion deep-change processes can cause. In these circumstances, it is easy to be swept away by excessive enthusiasm or by unwarranted pessimism, two options with little value added. It is undoubtedly much more useful to focus on separating those innovations with the potential to improve efficiency in the provision of financial services, cutting costs and increasing security, and those seeking to adapt to the changes occurring in demand, from those spurious novelties that provide no significant improvements and which should be blocked as soon as possible. In other words, what is truly important should be separated from what is simply showy.

In this respect, **cryptoassets** or **cryptotokens** are one of the most striking developments in this area, going by the extensive media coverage some of them – such as the bitcoin – are receiving. But this does not mean that they are the most important or even the most promising innovation. Indeed, in my view, their current use poses more risks than benefits: they have a low level of acceptance as a means of payment, they are subject to extreme

volatility, they have numerous operating vulnerabilities and they have been related to fraudulent or illicit activities in many cases.

I shall not, however, give an exhaustive list of the risks of crypto assets, since the position of the Banco de España in this connection is well-known. But I will draw attention to how important it is to disassociate cryptoassets or tokens from their underlying **distributed ledger technology**.

Distributed ledger technology offers interesting possibilities insofar as it allows, in short, a ledger book to be shared securely among various agents. Although this technology is not yet sufficiently mature, it has the potential to generate efficiency gains and cost cuts in activities that require continuous reconciliations among various agents, either because such activities are relatively non-standardised, involve a high number of intermediaries or require complex processes. Areas such as securities trading and post-trading, international settlements, collateral management, trade finance and the management of digital identities might benefit from the use of this technology once it ultimately matures.

Also, the programming of smart contracts on a distributed network might add further gains in efficiency, by providing for the automation of processes. This is so, especially, in the case of complex contracts that give rise to multiple transactions distributed over time or conditional upon one another.

Other innovations receiving less media attention than cryptotokens nevertheless appear to be more mature and are, in practice, exerting a notable impact on the way in which financial institutions in general, and banks in particular, provide their services. I am referring specifically to big data, artificial intelligence and what is known as cloud computing.

**Big data** offer clear potential for enhancing and personalising the supply of financial services. True, financial institutions have for some time been using massive data processing techniques to enhance knowledge of their customers and to personalise their services. However, these possibilities have now been boosted thanks to the growing volume of information that is available in digital formats, cheaper storage costs and the increase in computing power.

The moves in big data are in fact boosting the development of other technologies that go beyond mere data processing. This is the case of **artificial intelligence and automatic learning**. They have numerous applications in the financial sector and are directed not only at end-products and customer relations, but are also transforming other financial services-provision facets, including banks' in-house operations in areas such as risk management or regulatory compliance.

The use of virtual agents or virtual recognition is already contributing to enhancing users' relationship with financial services-providers. But artificial intelligence and automatic learning can also be applied to tasks such as automatic information reconciliation, fraud detection, risk mitigation and regulatory compliance.

The final innovation I should like to mention in this brief review is **cloud computing**. In an environment in which data are configured as a strategic asset, this technique enables new

solutions to be offered with greater speed, cost efficiencies to be attained and business process adaptation to become more nimble. That said, this must all be done while maintaining an appropriate level of security, especially as far as critical areas are concerned.

A little historical perspective suffices to see the improvements that new technologies can bring to users. Credit and debit cards, ATMs and on-line banking are obvious examples of past innovations that have changed our day-to-day for the better. The success of these changes, however, has been closely bound up with the appropriate treatment of risks and the vulnerabilities that inevitably accompany these processes. The move to a more digital economy is accompanied by greater cyber threats, and new measures safeguarding processes, assets and customer data must be developed.

Along with paying particular attention to the management of these threats, it will also be essential to respond to the challenges stemming from the concentration of operational risk among a small number of critical service-providers, or those arising from customer protection. Financial services-providers must also meet the challenge of understanding in their full dimension the functioning and results of increasingly automated and autonomous algorithms and procedures.

### **Organisational changes to address the challenge of financial innovation**

The role of regulators and supervisors is to contribute to harnessing in full the benefits of innovation while maintaining risks within reasonable and socially acceptable limits. As you can imagine, this is no easy task and requires the authorities themselves to undertake internal transformation processes so as to be able to appropriately meet these challenges.

As a result of this need, the Banco de España has in recent years assigned growing resources to monitoring and analysing financial innovation.

The first step was the creation, in February 2017, of an internal group with representatives from different business areas within our central bank to gain a cross-departmental view of the phenomenon and to promote coordination among these different areas.

One year on, we have deemed it necessary to take a further step, assigning specific resources to the analysis of financial innovation. To do this, a new Associate Directorate General was created last March.

This new area pursues three major aims: (i) to understand the dimension of the changes taking place, (ii) to analyse the consequences of the new developments, and (iii) to provide for coordination and contact with the market and the other authorities involved, including those from other jurisdictions since, in short, financial technological innovation is a global phenomenon. The ultimate aim is to develop an overview of the main features and challenges facing financial services-providers.

By way of conclusion, let me stress that, if duly harnessed and managed, the new technologies and the growing digitalisation of the financial sector may offer major opportunities for increasing efficiency and improving financial services as a whole. They may also be useful in adapting services to the changes taking place in user demand.

As regulators and supervisors, we believe we must be an active part of this process, performing the role assigned to us by society by analysing the developments taking place in the market and promoting, within our remit, healthy, orderly and positive innovation in the financial sector.