Dossier's Presentation:
The Challenges of Financial Regulation and Supervision in the Face of Polycrisis
Presentación del Dossier:
Los desafíos de la regulación y supervisión financiera ante la policrisis

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The financial system[1] performs a central economic and societal role by allocating capital to the productive sector and enabling individuals and firms to manage their financial resources. It does so by providing a wide range of financial products and services, including (i) credit products that finance the acquisition and production of goods and services; (ii) payment services allowing the circulation of funds across the economy; and (iii) investment products tailored to diverse risk profiles. As a result, the financial system is often regarded as the backbone of any economy and is therefore subject to extensive regulation and rigorous public oversight. Key policy objectives include preserving financial stability and soundness, protecting investors and consumers, and promoting competition and innovation. Several jurisdictions around the world have developed distinct regulatory mechanisms and toolkits to achieve these goals.

However, an era of overlapping economic, political, social, and environmental risks and challenges -often described as "polycrisis"- demands a renewed scrutiny of these frameworks. This situation is compounded by the emergence of new technologies digitalizing finance and the surge of nonbank intermediaries. Therefore, it is crucial to design updated regulatory responses and supervisory strategies capable of addressing both immediate and long-term risks (e.g., contagion risks between financial system actors due to the emergence of new actors and the digitalization of finance), while fully harnessing the benefits brought by the emergence of technological innovation.

The financial reforms after the 2008 crisis, most prominently the Basel III Accords, focused on improving bank solvency, reducing systemic risk, and promoting financial stability. These measures introduced stricter capital requirements, leverage limits, liquidity requirements, and capital buffers. Nevertheless, economic, social, and political conditions have considerably changed since then. The global financial system is expected –and required– to adapt accordingly. Its response must not only entail risk contention, but also value maximization for financial consumers, thus improving both the system's capacity to withstand shocks as well as its competitiveness. It is not simply about the scope of the regulation, but how efficiently - i.e., *smartly*- it is designed and applied.

[1] For the purposes of this paper, the composition of the financial system includes financial authorities (supervisors and regulators) and market participants that provide financial services in any way, either directly or indirectly.

Accordingly, this Dossier examines structural transformations permanently reshaping[2] the architecture of the financial system, both from an institutional and a market viewpoint. These *structural changes* include the surge of new market participants ―Fintech, Private Credit, Big Tech and Nonbank financial intermediaries (NBFIs)― and the application of technologies for the provision of financial firms and products ―AI, cloud storage, quantum computer, blockchain, tokenization―. While the above can benefit consumers and make financial firms more efficient, they also become a new source of risk that poses challenges to financial institutions, regulators and supervisors (the latter being in serious need of assistance to develop tools that allow them to understand new business models and their intrinsic risk in a highly interconnected system). As such, *interconnection* becomes a key factor for the rapid transmission of shocks within increasingly complex financial ecosystems.

The aim of this Dossier is *not* to discourage innovation, but to recognize that innovation and risk constitute *two sides of the same coin*: opportunities and benefits in the financial system always come with their own challenges. Therefore, a balanced approach aimed at finding the *sweet spot* of the regulation, - *i.e.*, promoting technological advancement while ensuring the fulfilment of regulatory objectives such as financial stability and consumer protection - is essential. The academic articles herein explore this balance throughout the following key thematic areas:

1) Digitalization of finance and operational resilience. The introduction of technology in finance and banking is so broad and deep that any regulatory framework looking to conceptualize it might fall short due to the rapid development of the market. Still, one might apply *functional criteria* to understand its application at the firm and market level. In the *firm level*, financial entities apply technology for their back-office and front-office processes, which translate to how they operate in a daily basis as well as how their products are designed and delivered (either by being self-generated or by relying on a third party). At the *market level*, new[3] financial institutions provide the same financial services as traditional ones, even developing novel products not found in traditional banking (*i.e.*, payment methods, credit products, etc). On the other hand, third-party providers deliver technological services to financial firms, including Artificial Intelligence (AI), cloud computing, and KYC process. While these providers do not carry financial risk directly, they do create significant operational vulnerabilities. These could act as catalysts for other types of risks (*e.g.*, when payment platforms fail, exercising liquidity pressures to consumers).

Case studies demonstrate these dynamics. For instance, J.P. Morgan Chase has been successfully using AI and machine learning to detect fraud and create other kinds of data driven value for their clients and customers through a platform called *OmniAI* (JP Morgan, 2020), a tool useful for both back and front office services. Likewise, Coinbase has partnered with JP Morgan to allow the conversion and acquisition of digital assets through a full bank account integration with the crypto market (CoinBase, 2025). At the *market level*, Fintech entities and tech providers like Revolut and NuBank provide banking services without any physical presence, concentrating their customer operation almost entirely in mobile applications.

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[2] Despite geopolitical tensions and macroeconomic instability -inflation and tariffs- which affect the financial system, those are external and cyclical events that require a different analysis. However, it is recognized that both cyclical and structural changes interact with each other.

[3] Despite having a strong presence in the financial market, we called them "new" since relative to the incumbents, the "new" entered the market in recent years. Despite most of them ―the new ones― providing financial services, the technology on which they rely and even the business model itself can be different from the traditional actors, therefore both regulation and supervision need to adapt to these new actors and products.

Yet, these advances raise difficult questions regarding operational resilience. For instance, the failure of payment systems may trigger liquidity pressures and erode consumer trust. Thus, regulators face the challenge of creating legal frameworks at firm and system levels.

2) The structural change in the provision of financing. Financing has traditionally been provided by banks. However, the landscape looks completely different with the surge of Non-Banking Financial Institutions (NBFIs). According to the Financial Stability Board (FSB) "*Global Report on Non-Banking Financial Intermediaries*" it was estimated that around half of the world's financial assets ― around 49.1%― are intermediated by non-bank entities (FSB, 2024, p.7). While this diversification strengthens economic resilience, it also introduces systemic vulnerabilities, as shown in the Archegos crisis (2021), the "Dash for Cash" crisis (2020), and the UK Gilt crisis (2022), also known as the "UK's Liability-Driven Investment (LDI) Crisis". These new actors can transmit their risks to other financial entities and the system at large through market and/or credit risk, especially considering that banks and NBFIs are heavily interconnected.

Challenges can be better understood when identified and quantified. For that purpose, the Global Financial Stability Report of the International Monetary Fund is a key instrument that provides an assessment of the global financial system and points to certain issues that could pose a risk to financial stability. Their latest report of October 2025, titled "*Shifting Ground beneath the Calm*", mentions some of challenges the financial system faces, specifically the rise of both NBFIs and stablecoins, all of this among trade tensions and geopolitical uncertainties[4].

The Report found that as "NBFIs increase their share and importance in the global financial system, they are becoming increasingly reliant on banks for funding" (IMF, 2025, p. 23), which is a consequence of banks' lending more to different types of NBFIS like investment funds, private equity firms ―for leveraged operations― and some securitization vehicles. This exposure, according to the IMF, has been measured to be approximately, in Europe and United States, about 9% of banks' loan portfolio that is directed to NBFIs which amounts to $4.5 trillion dollars, this also exerts pressure on capital requirements because the exposure ―which is accounted in assets for banks in the balance sheet― needs to be compensated with capital. The Report found that in the case of an adverse development of these institutions such as failing collateral, that could affect capital ratios (IMF, 2025, p. 23) especially considering that NBFIs commitments put a lot of pressure on banks, especially liquidity demands.

Collaboration between banks and NBFIs is useful for the credit market as their interconnectedness can deliver more capacity to lend to the real economy. However, it heightens the existence of a new level of systemic risk. From a market perspective, "banks are increasingly lending to private credit funds because these loans often deliver higher returns on equity than traditional commercial and industrial lending, thanks to the lower capital requirements allowed by their collateral structure" (IMF, 2025, p. 23). Due to the increasing collaboration between these actors, implementation of international prudential standards becomes essential to strengthen the financial sector safety nets and NBFI oversight (IMF, 2025, p. 11).

3) *Use of Artificial Intelligence*. From either a micro or a macroprudential approach, the use of this technology, as with any other in the financial system, creates both efficiencies and risks. The FSB observed this in its Financial Stability Implications of Artificial Intelligence Report, which highlighted threats to financial stability due to (i) the use of AI by financial entities without adequate risk management and controls, (ii) inadequate monitoring

[4] These are cyclical changes that, despite not being expressly analysed in this Dossier, are considered herein generally, as market risks.

by financial authorities, and (iii) the novel use of AI by malicious actors (FSB, 2025, p. 13). The report identifies 4 key AI-related vulnerabilities that pose systemic risks:

1) Interaction of AI-related third-party dependencies and market concentration among technology and AI service providers could increase domestic and international interconnections, as major service providers are only located in a few jurisdictions, exposing entities to losses arising from operational failures.
2) Extensive use of AI models with similar behaviour or training could increase correlations in financial markets, amplify market stress and increase asset price vulnerabilities[5].
3) Increase of cyber vulnerabilities due to AI potential to improve threat actors' capabilities.
4) Limited understanding of certain AI models could increase model risk for financial institutions that don't have a robust AI governance in place.

These vulnerabilities crucially highlight *third-party risk management* for critical services and AI providers. The FSB Report found that the "systemic relevance of third-party dependencies and service provider concentration will depend on technological penetration and the criticality and substitutability of AI services" (FSB, 2025, p. 19). Similarly, the report warns that "if AI emerges as a critical service in financial markets, the interaction of third-party dependencies and service provider concentration may reduce Financial Institutions ability to mitigate losses arising from operational impartments, including cyber events" (FSB, 2025, p. 19). For those purposes, the FSB developed a "*Toolkit for financial authorities and institutions for third party risk management"*, in this toolkit the FSB defines a critical service as a "service provided to a financial institution whose failure or disruption could significantly impair a financial institution's viability, critical operations, or its ability to meet key legal and regulatory obligations." (FSB, 2023, p. 6).

Another point of discussion pertains to the use of AI for the design and execution of public policies for the financial system, especially in matters of prudential[6] regulation. Traditionally, a financial supervisor or regulator has two main regulatory tools. On the one hand, micro[7]prudential regulation, which deals with day-to-day matters such as risk management, consumer protection, fraud prevention and Anti Money Laundering (AML). On the other hand, macroprudential regulation focuses on the stability and soundness of the system. Thus, while micro regulation looks at the tree ―institution― macro looks at the forest―the system. Despite that, both regulations are complementary, as they help each other to achieve the same goal.

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[5] Regarding asset prices vulnerabilities, the October 2025 Global Financial Stability report from IMF clearly mentions that valuation of risk assets appears stretched, especially as the global economy slows and concentration risks in certain segments have reached historic highs, additionally it is important to consider that asset prices can abruptly correct following booms in the technology sector. It is important to consider that a sudden fall in asset prices erodes capital, tends to trigger margin calls and forces deleveraging and even puts pressure on liquidity, even affecting collateral quality. The recent connection between banks and NBFI can make that a shock in asset prices in one sector can be transmitted rapidly.

[6] Prudential rules serve to control agency costs generated between financial firms and customers. These rules work to prevent financial entities to take increased risk in a way that benefits the firm but harms the customers mainly depositors and investors. (Armour, et. al, 2016 p. 47.).

[7] Firm level or micro prudential are concerned with the protection of financial consumers, one of the more traditional tools is capital adequacy requirements, and certainly new tool introduced by the Basel III Accords like the Liquidity Coverage Ratio and the Net Stable Funding Ratio. Despite these requirements are in style micro prudential, in that they operate to reduce risk ―liquidity or credit risk― they provide benefits for macroprudential benefits by reducing risks of contagion and loss of capacity in the financial sector (Armour, et. al, 2016, p. 468).

It remains to be seen how helpful AI can be for both designs (particularly as macroprudential regulation has been conceived after stress events), considering the scarcity of data needed for the creation of these rules and AI's dependency on such data. For example, the *Liquidity Coverage Ratio* from Basel III was designed after the Great Financial Crisis from 2008, which means these tools are created with data that is recollected in the future or after a major event has occurred. (Danielsson, 2024). This is just one part that needs to be discussed for the design of a holistic operational framework that considers not only disruptive technologies such as AI, but also cloud services, quantum computing, among others. The regulatory response should consider both micro and macro implications. In the case of AI, regulators must first define the objectives of its use and, on that basis, determine the appropriate scope of regulation and supervision. This is particularly important given that AI systems rely on training algorithms whose functions and limitations must be understood in order to assess what the system is prioritizing (Danielsson, 2024).

In its brief "*Safeguarding operational resilience: the macroprudential perspective*", the *Financial Stability Institute* (FSI) argues that the increasing reliance of financial entities on technology poses a systemic risk to the operational resilience of institutions. Accordingly, the FSI mentions that "the interconnected use of technologies within the financial ecosystem can affect operational resilience at the system level. It is therefore not enough to assess and monitor the operational resilience of individual firms. Authorities need to also adopt a macroprudential perspective when addressing risks of operational disruptions in the provision of financial services" (FSI,2022, p. 6). Moreover, the FSI suggests that a macroprudential view of operational resilience involves "not only identifying financial operations/services that are critical at the system level, but also assessing, monitoring and testing system-wide operational resilience itself." (FSI, 2022, p. 9).

To achieve such a view, the critical operations/services regulation requires a macroprudential focus. In that regard, the FSB "*Recovery and resolution planning for systemically important financial institutions: guidance on identification of critical functions and critical shared services*" defines critical functions as "activities performed for third parties where failure would lead to the disruption of services that are vital for the functioning of the real economy and for financial stability due to the banking group's size or market share, external and internal interconnectedness, complexity and cross-border activities. Examples include payments, custody, certain lending and deposit-taking activities in the commercial or retail sector, clearing and settling, limited segments of wholesale markets, market making in certain securities and highly concentrated specialist lending sectors." (FSB, 2013, p. 7). Another source for a macro approach is the Supervisory Statement SS1/21 on Operational Resilience from the Bank of England (BoE) that defines important business services as those that "if disrupted, could pose a risk to a firm's safety and soundness or, if a firm meets the criteria set out in the Operational Resilience Parts, the financial stability of the UK". (Bank of England, 2022, p. 2)

In the Synapse crisis (2024), operational and settlement failures in the entity's systems caused the loss of financial users' resources, even questioning the application of deposit insurance. This case has sparked debates on the need to regulate the contracting of financial entities with technological providers and the applicable security standards.

The articles in this Dossier address all the aforementioned themes from complementary angles:

In their article "*Use of Artificial Intelligence in Risk Management of a Financial Institution*", Cristina Escobar Montalvo and Stephan Mora Valdez explore the transformative potential of Artificial Intelligence in the risk management practices of financial institutions. Through an examination of both the promises and perils of AI—ranging from enhanced

control and mitigation of exposures to concerns over personal data use and regulatory gaps—they highlight the dual nature of this technology. Their reflection underscores how AI could be applied as informatic system inside financial entities in order to perform risk management operations since this system is useful for detecting customer segments on a massive scale, reviewing millions of transactions with hidden connections, identifying procedural failures, and even public information that affects the functioning of institutions, since the processing of this information would be optimal and would be carried out efficiently and quickly by the system directly.

Flávio Almeida Paolinelli de Castro in his article *"Regulating and Supervising Fintech in Brazil: Insights from the Central Bank Experience and Emerging Challenges"* examines the rapid expansion of Brazil's fintech sector and the adaptive responses required from regulators. Through an analysis of the Central Bank of Brazil's risk-based supervisory model—marked by Twin Peaks oversight, tailored regulation, and the adoption of SupTech—he highlights how innovation can be balanced with financial stability and consumer protection. His reflection reveals both the opportunities and persistent challenges posed by new fintech entities and business models, underscoring the importance of proportional, technology-driven regulation. Brazil's experience emerges as a global reference point, offering valuable lessons on how adaptive supervision can foster financial inclusion while safeguarding systemic resilience.

Tamara Maldonado Arízaga provides a unique analysis of the disruptive entry of AI into the financial sector and the regulatory challenges it poses in her article *"Artificial Intelligence in the Ecuadorian Financial System: A Regulation Still Pending"*. By examining international experiences—from the European Union, the United Kingdom, and the United States to multilateral bodies such as the IMF and BIS—she underscores the urgent need for Ecuador to establish a sector-specific, risk-based framework that ensures ethical and legal safeguards. Her reflection reveals that while Ecuador possesses constitutional and sectoral foundations that could be adapted, the absence of specialized regulation creates legal uncertainty and threatens consumer protection and market stability. The article thus calls for proactive state action to design a transversal regulatory regime, positioning AI governance not as a barrier to innovation but as the necessary condition for a secure, ethical, and sustainable transformation of the financial system

Highlighting the importance of operational considerations, Iván Rodrigo Ávalos Barreno in his article *"The Transactional Profile as an Element of Operational Risk. Does it Protect the Rights of the Financial User?"* examines the regulatory obligation imposed on financial institutions to verify electronic transactions against a predefined transactional profile. Through a critical analysis of unilateral blocking practices—where banks suspend transactions without consumer consent—he questions whether such mechanisms truly safeguard users or instead undermine their rights. His reflection reveals that the indeterminate nature of the transactional profile in current regulation generates legal uncertainty for both institutions and consumers, ultimately weakening protections. The article calls for clearer normative definitions and a balance between operational risk mitigation and the financial user's fundamental rights, highlighting the tension between precautionary control and consumer autonomy in the digital financial environment.

Due to the importance of financial safety nets, Galo Verdesoto offers a detailed examination of the evolution of Ecuador's deposit insurance framework, particularly in the context of dollarization, and contrasts it with the institutional and normative structures of Spain and the European Union in his article *"Regulation and Institutional Architecture of Deposit Insurance in Ecuador and Spain: A Comparative Legal Analysis"*. By engaging with the recommendations of the IMF's Financial Sector Assessment Program, he highlights the need for reforms that strengthen legal certainty, governance, and the technical management of

deposit insurance funds. His reflection reveals both the limitations imposed by Ecuador's dollarized economy—where the Central Bank cannot act as lender of last resort—and the broader imperative of safeguarding financial stability as a public good. The article underscores the importance of institutional design and responsible economic management, situating deposit insurance reform as a cornerstone for resilience in the face of systemic risk.

In his article *"Syndicated Loans in Ecuador: Treatment and Regulatory Challenges,"* Juan Francisco Simone analyses the complexities of syndicated loan agreements and the limitations of the current Ecuadorian regulatory framework. By examining the contractual sophistication inherent to these transactions and the conflicts arising from the application of consumer protection regimes and adhesion contract rules, he highlights the inadequacy of existing norms for large-scale corporate borrowers. His reflection reveals that the lack of differentiation between sophisticated financial actors and ordinary consumers generates legal uncertainty and restricts market development. The article calls for reforms that recognize the unique nature of syndicated loans, enabling greater contractual freedom and strengthening both legal certainty and the competitiveness of Ecuador's financial system in the regional context.

We believe that these academic articles contribute significantly to the understanding and managing of the various challenges the financial system currently faces at the local, regional, and global levels. As the first Dossier of Iuris Dictio to ever cover topics specific to the legal financial sector, we hope it becomes a useful tool to enrich the ongoing debate on all the issues discussed herein, offering insights for policymakers, practitioners, and academics navigating a rapidly changing landscape in Ecuador and beyond.

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