

Financial Technologies and Regulation: A Progress Report*

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Abstract

This document offers a comprehensive review of financial technology (FinTech) and regulatory developments in CEMLA member countries over the past five years. Drawing on a survey of 19 regulators from 16 nations, the findings reveal FinTech’s significant impact on innovation, the transformation of the financial system, and the promotion of financial inclusion. While FinTech’s role in driving innovation has decreased, there is a growing recognition of its contribution to competition and market expansion.

Regulatory approaches have shifted towards functional regulation, embracing principles such as proportionality and flexibility. Case studies from Spain’s regulatory sandbox and Costa Rica’s innovation hub shed light on innovation facilitation. The study emphasizes the ongoing need for adaptive and balanced regulation in the dynamic FinTech landscape.

1 Introduction

The introduction of technological innovation into financial markets is marked by constant evolution [13]. Over the past five years, various financial innovations such as FinTech and BigTech firms, Blockchain, Virtual Assets, and significant advancements in Artificial Intelligence¹ (AI) have demonstrated remarkable dynamism. Concurrently, financial regulators have diligently worked to foster the sound development of financial markets, particularly in response to the integration of financial innovation.

This article offers a progress report on financial technologies and regulation in countries that are members of the Center for Latin American Monetary Studies (CEMLA). Five years ago, CEMLA’s FinTech Forum took stock of the regional situation in a publication titled “Key Aspects of Financial Technologies and Regulation” [2]. Through surveys targeting both regulators and market participants, including incumbent financial institutions and new entrants, valuable data was gathered to understand the landscape and formulate policy recommendations.

During the first semester of 2023, the Forum updated these surveys, collecting responses from 19 regulators representing 16 countries to compile this progress report. This data enables us to visualize progress, identify new risks, challenges, and opportunities, and derive policy implications.

In the following sections, we provide a summary of key findings from the new survey and compare the current situation with the previous one. We also assess, in Section 2, whether countries have followed some of the policy recommendations proposed five years ago and evaluate their performance. Section 3 outlines progress in FinTech regulation, using recent changes in Chile as an illustrative example. Section 4 evaluates experiences with innovation enablers, such as regulatory sandboxes.

*The views and opinions in this paper are those of the authors and do not necessarily represent those of the institutions to which they are affiliated.

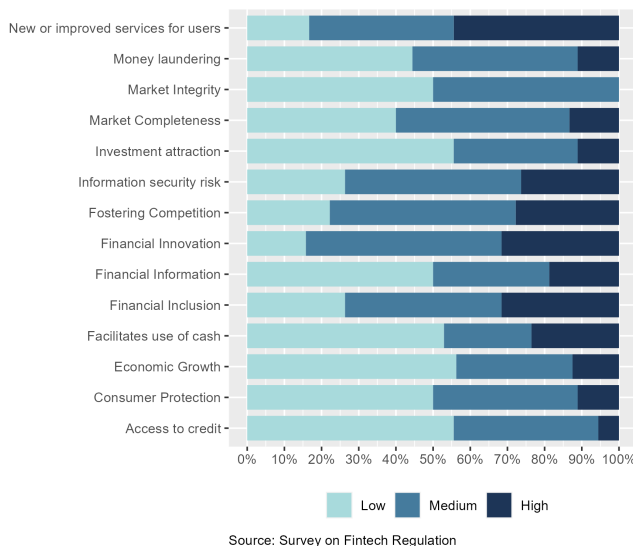
¹<https://www.neurond.com/blog/ai-in-fintech>

Overall, FinTech’s most significant impact has been in promoting financial inclusion and fostering innovation. This has spurred traditional institutions to modernize and explore new markets, reducing the perception that FinTech companies exclusively drive financial innovation. Meanwhile, the belief that FinTech firms encourage competition and enhance markets by offering new or improved services to end-users has increased. Regarding regulation, there has been a significant increase in the adoption of a functional approach and incorporation of recommendations such as proportionality of regulatory requirements to risk, technological neutrality, and flexibility into the regulatory framework across various jurisdictions. For instance, the case of Chile, as described in Section 3, illustrates how most of these principles now guide the new FinTech legislation.

2 General progress during the last five years

This section outlines the primary insights gathered from CEMLA’s FinTech Forum survey conducted in the first half of 2023, which involved responses from 19 regulators representing 16 countries. Regulators largely agree that FinTech companies exert a favorable influence on innovation, the modernization of the financial sector, and the competitive landscape. By introducing new business models and enhancing products and services for underserved segments, FinTech plays a significant role in promoting financial inclusion (see Figure 1).

Figure 1: Impact of FinTech on selected aspects (2018-2023)



Furthermore, FinTech’s behavior prompts traditional institutions to modernize and explore new markets. Consequently, while there is still a perception that FinTech firms contribute positively to financial innovation, the percentage of respondents who view their impact as highly positive has decreased from 60% five years ago to approximately 30% today. This shift can also be observed in Figure 2, which illustrates that both new entrant FinTech companies and established financial institutions are actively engaged in financial innovation. However, this does not imply that FinTech companies play no role in advancing the development of the financial system. On the contrary, there has been a notable increase in the proportion of highly positive responses to the question regarding FinTech firms fostering competition, rising from 18% to 30% over the last five years. During this period, we have witnessed a significant surge in positive responses indicating that FinTech companies contribute to market completion by offering new and improved services to end-users.

In terms of market share, the current landscape resembles that of five years ago. The majority of regulators maintain the belief that the market is predominantly controlled by traditional financial institutions, with some degree of influence from FinTech companies (please refer to Figure A.1. in the Appendix A). Likewise, when it comes to the penetration of FinTech across various financial sectors, the situation mirrors that of the previous report. Notably, only the payments market continues to exhibit a substantial presence of FinTech firms (see Figure 3).

Figure 2: Involvement of institutions in financial innovation

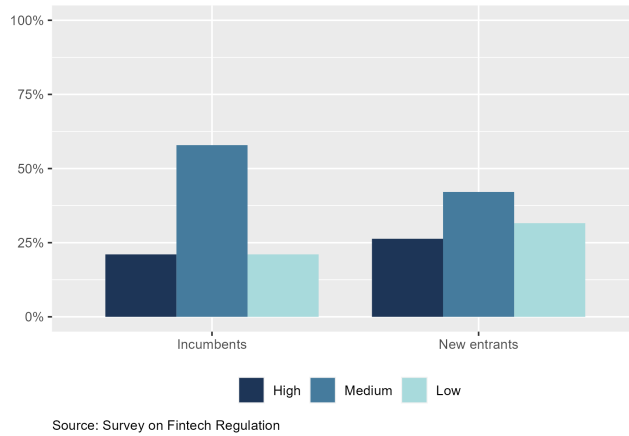
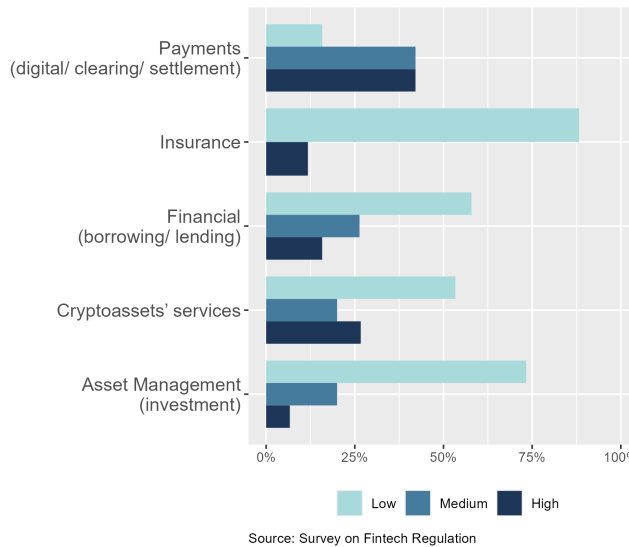


Figure 3: Participation of FinTech firms in selected sectors



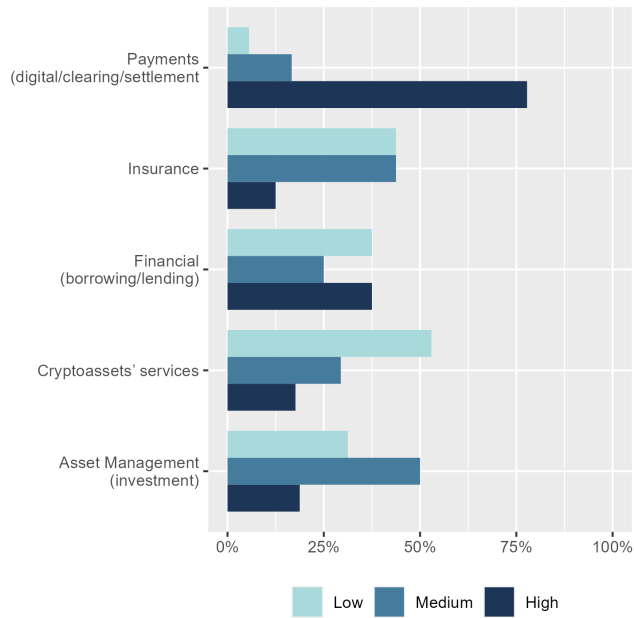
Nevertheless, there is a significant shift to note: services linked to cryptoassets now rank as the second most impacted by FinTech companies. Additionally, these services are widely perceived as being inadequately regulated. Furthermore, regulations pertaining to cryptoassets services do not appear to be, in general, a top priority (refer to Figure 4). Nevertheless, three out of the sixteen jurisdictions surveyed assign a high priority to the topic.

Regarding systemic risk, over 60% of regulators asserted that neither FinTechs have reached a significant size nor have BigTechs become substantial players in the financial provider landscape. However, nearly 80% of them expressed at least a mild agreement that sector-specific risks have escalated in the past five years (refer to Figure 5).

This correlates with the key aspects rated as of high importance for regulators (refer to Figure 6). Among these aspects, regulators have emphasized that their institutions should adopt an approach to FinTech that is flexible enough to promote innovation while simultaneously upholding rigorous standards and principles to safeguard both the financial system and consumers.

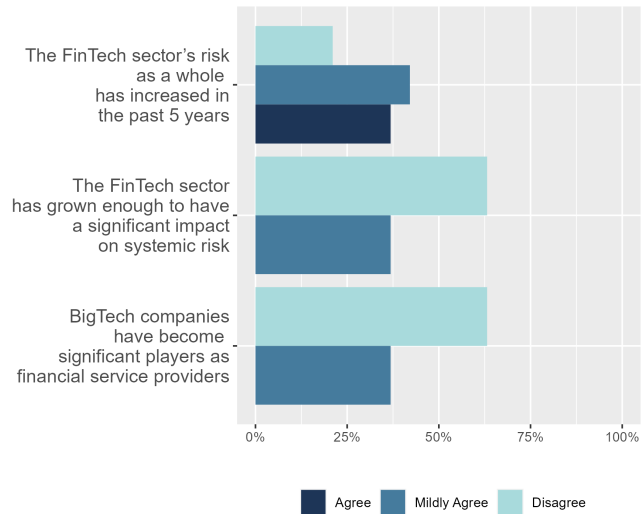
Jurisdictions either employ regulations specific to particular sectors or regulations aimed at governing the functions of institutions' products and services. Self-regulation is confined to specific domains. In comparison to five years ago, the proportion of functional regulation, a recommendation contained in our previous report, has seen a substantial increase (refer to Figure 7).

Figure 4: Priorities regarding sectoral regulation



Source: Survey on Fintech Regulation

Figure 5: Progress of the FinTech sector during the last 5 years



Source: Survey on Fintech Regulation

Similarly, the most prevalent method for aligning existing regulations with FinTech is by using standards and parameters from international organizations such as the Bank for International Settlements [8, 9, 12] or regional committees as reference points [6, 7, 5, 10]. Testing environments like sandboxes have proven highly beneficial for regulators, as they enable direct collaboration with FinTech companies to foster innovation and diminish entry barriers (refer to Figure 8). In Section 3, we will delve into the FinTech reform in Chile, which serves as an example of a predominantly functional approach grounded in principles.

Concerning FinTech enablers, a majority of countries have established innovation hubs, whereas only a few have gained experience with regulatory sandboxes² (refer to Figure 9). In Section 4, we will explore Spain's experience

²Innovation hubs are platforms in which participants can engage with the respective authorities to discuss relative topics. In a

Figure 6: Importance of FinTech-related aspects for regulators

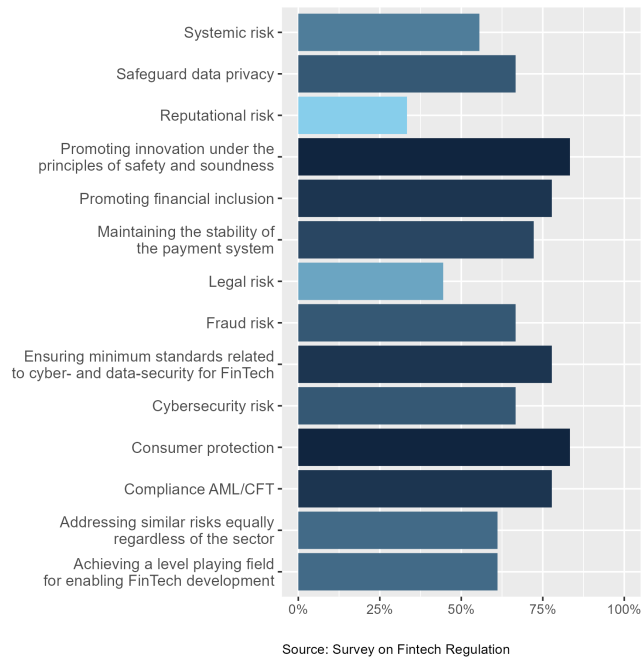
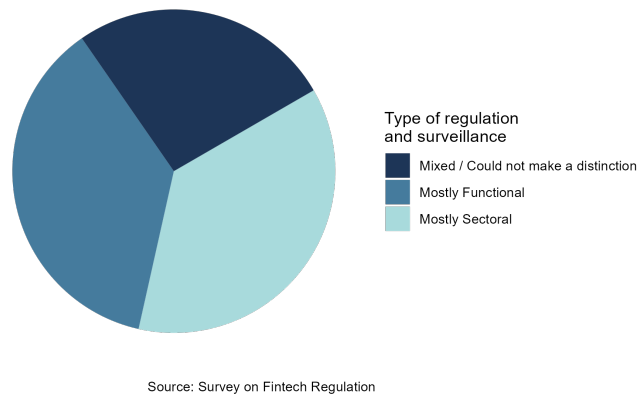


Figure 7: Relevance of regulation and surveillance types in regulators' jurisdictions

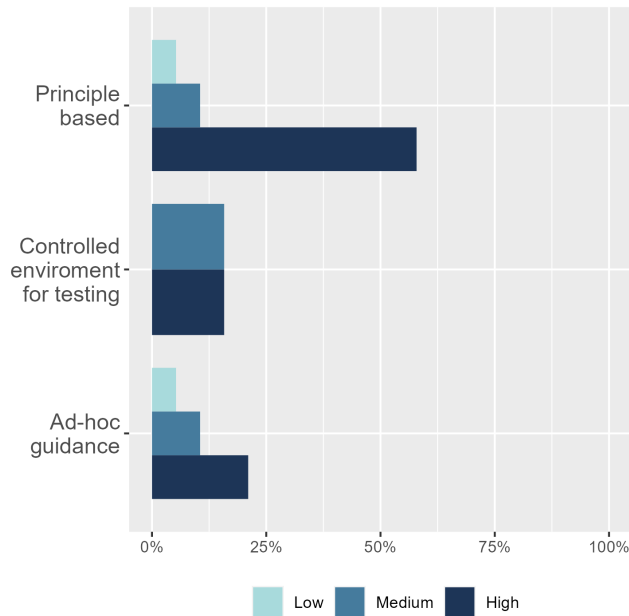


with its regulatory sandbox.

A common characteristic observed among regulators is their lack of expertise and resources in this particular field. As illustrated in Figure 10, over half of the regulators acknowledged the need for additional specialized staff and the tools required for their training in order to better address FinTech regulatory challenges. Additionally, there is a necessity to establish a consensus on how to address FinTech-related issues. In these regards, international cooperation would play a critical role.

sandbox, this is expanded into a practical environment.

Figure 8: Adaptation of existing domestic regulation to FinTech issues



Source: Survey on Fintech Regulation

3 Regulatory Progress: The FinTech Law in Chile

As in many other jurisdictions, Chile has witnessed the growing relevance of the FinTech industry year after year. While traditional promises related to efficiency, competition, and financial inclusion are beginning to materialize, the associated risks to financial stability are on the rise. Given that the existing regulatory framework may not be well-suited for these new business models, and in order to harness the benefits of FinTech while mitigating its risks, a draft bill on FinTech was submitted to Congress in September 2021.

The discussion of the FinTech Law in Congress proceeded relatively smoothly and was approved in December 2022³. Prior engagements by the Ministry of Finance with stakeholders, including FinTech and traditional financial services providers, as well as other financial regulators, undoubtedly contributed to this positive outcome. Additionally, by that time, FinTech was no longer an unfamiliar subject. In fact, the Central Bank of Chile (CBC) had included a special chapter on FinTech in one of its Financial Stability Reports in 2018, and the Financial Market Commission (CMF) issued a whitepaper outlining general principles for the regulation of crowdfunding and related services in 2019.

The approval of the Law marks a significant milestone, but it is by no means the end of the process. By July 2024, the CMF must issue or adapt nearly 70 new regulations, which include both new regulatory frameworks and harmonization with the existing ones. To achieve this, the CMF has convened consultative forums with the FinTech industry and key stakeholders during this year, and in the coming months, draft regulations will be published for public consultation.

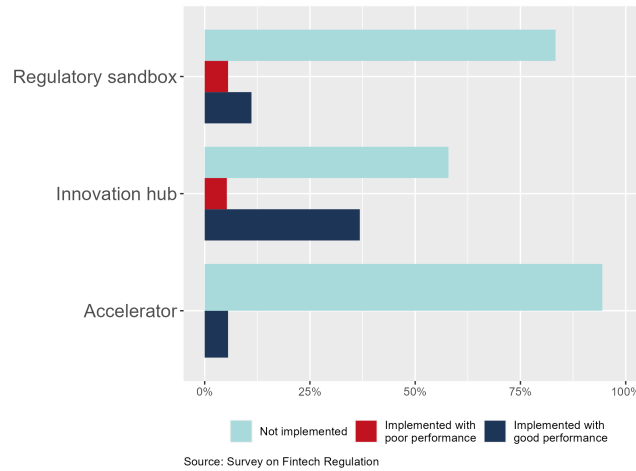
The objectives of the FinTech Law are to strengthen the development of the FinTech sector with adequate protection for individuals and investors, promote financial inclusion, preserve market stability and integrity, protect personal data, and foster competition in financial markets. To accomplish these goals, the Law incorporates five embedded principles: proportionality, technological neutrality, integrality, flexibility, and modularity⁴.

To comprehend the scope of the Chilean FinTech Law, a critical element is the definition of “financial instrument”. Entities engaging in activities covered by the Law will be subject to its provisions depending on whether the underlying asset of a given transaction falls within that definition or not. For instance, financial instruments, for the purposes of this Law, encompass securities other than those registered in the Securities Registry, derivatives, contracts for difference, commercial invoices, and virtual financial assets or cryptoassets. Publicly offered securities

³<https://www.cmfchile.cl/portal/principal/613/w3-article-60379.html>

⁴<https://www.bcn.cl/leychile/navegar?idNorma=1187323>

Figure 9: FinTech enablers



such as stocks or bonds, as well as local or foreign currency, are not considered as financial instruments.

The services or activities encompassed by the FinTech Law include crowdfunding platforms, alternative transaction systems, investment and loan advisory services, custody of financial instruments, order routing, intermediation of financial instruments, and a regulatory framework for open finance.

Certain FinTech services, such as crowdfunding, cryptoasset exchange, and payment initiators, have been available in Chile for years. Furthermore, some entities providing these services also operate in other Latin American countries. Bringing these activities within the regulatory framework should benefit consumers, who will have access to innovative services and companies in a safer manner. Increased consumer confidence and regulatory certainty should also enable FinTech companies to grow and gain more cost-effective access to financing while reducing compliance costs. Lastly, from the perspective of financial authorities, the Law will provide valuable information for identifying companies, properly assessing their risks to financial stability, and taking appropriate action.

The benefits of the FinTech Law are not to be taken for granted, as its full implementation is crucial and far from straightforward. While some risks associated with FinTech may not differ significantly from traditional financial risks, and thus familiar financial regulation principles can be applied, certain aspects such as data protection, standards for APIs or custody of cryptoassets, to name a few, pose uncharted challenges.

As explained, the bulk of the responsibility for implementing the FinTech Law lies with the CMF. However, the CBC plays a role in regulating FinTech activities related to payments, which is consistent with the overall financial regulatory framework. Specifically, the CBC will have the authority to regulate the issuance of stablecoins by entities established in the country and to establish prudential rules for payment initiators, particularly if they are involved in the settlement of instructions and inter-account payments.

4 Enabler’s progress

In this section we describe the progress with two enabler’s experiences: The sandbox in Spain and the innovation hub in Costa Rica.

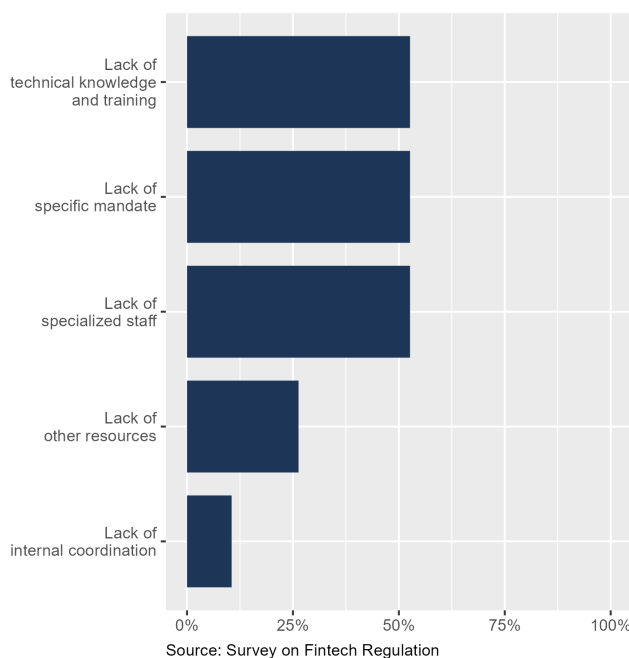
4.1 The sandbox in Spain

In November 2020, Law 7/2020⁵ was enacted to catalyze the digital transformation of Spain’s financial sector, introducing the Spanish regulatory sandbox. This law has two primary objectives: first, to equip financial authorities with adequate tools for navigating the new digital landscape, and second, to foster innovation within Spain.

According to the law, calls for applications, termed cohorts, are to be issued semi-annually. Any promoter or group of promoters, regardless of their location, can request access to the sandbox electronically from the General Secretariat of the Treasury and International Financing (hereinafter referred to as the “Treasury”). Promoters do

⁵ Available at https://www.boe.es/diario_boe/txt.php?id=BOE-A-2020-14205.

Figure 10: Internal barriers experienced by regulators' institutions



not need to possess a banking license, payment institution license, or any other authorization to participate, as they are not considered to engage in professional activities during the testing phase.

The Treasury assigns applications to the sector-specific financial supervisory authorities: the Bank of Spain, the National Securities Market Commission, or the Directorate-General of Insurance and Pension Funds, depending on the nature of the project. When necessary, a project may be assigned to multiple authorities.

Applications are evaluated based on the criteria outlined in Article 5 of the law⁶, and projects with a favorable preliminary assessment initiate a process between the evaluating authorities and the promoter. This process aims to establish a protocol containing the rules and conditions of the tests, which are governed by the provisions of Law 7/2020 and the protocol itself. Projects should be innovative for the financial sector and technology-based, without being limited to specific technologies or use cases. The tests are not subject to specific legislation applicable to the regular provision of financial services. However, they must comply with current data protection, user protection, anti-money laundering, and counter-terrorism financing regulations, with necessary precautions in place to ensure they do not impact financial stability, market integrity, participants, or third parties.

Once the protocol is signed, the tests commence as agreed upon. When real participants are involved in the project, the promoter must establish a guarantee regime to protect them and provide a model of a unique informative document approved by the supervisory authority, which participants will sign to express their voluntary participation in the tests.

Regarding the exit regime, in cases where authorization is required for the exercise of an activity, the law allows for the possibility of reducing the processing times if the knowledge gained during the tests allows for a simplified analysis of compliance with the requirements for such authorization.

The first cohort was published on December 15, 2020, and as of now, six cohorts have been announced. During the first five cohorts, a total of 103 applications were received, of which 37 were accepted. Final reports drawing conclusions on completed tests have been published for 14 projects so far. Further details can be found on the Treasury and supervisory authorities' websites⁷.

⁶The requirements for access stipulate that the project must introduce technological innovation applicable in the financial system and be sufficiently advanced for testing. Additionally, innovative projects must provide added value in at least one of the following aspects: a) facilitating regulatory compliance; b) benefiting financial services users or enhancing client protection; c) increasing the efficiency of entities or markets; or d) providing mechanisms for regulatory improvement or enhanced financial supervision practices. Furthermore, supervisory authorities will consider the project's impact on the Spanish financial system.

⁷Additional information and resources related to the regulatory sandbox and the status of projects under various financial supervisory

Regarding the lessons learned during this time, three key points stand out: (a) the importance of clarifying the process and access requirements that promoters need to fulfill, especially the need for the project to be sufficiently advanced for testing, (b) the difficulty in obtaining adequate financial guarantees to cover participants during the tests⁸, and (c) the significance of not underestimating the time and effort required by both promoters and supervisory authorities.

Overall, the accumulated experience shows that the sandbox has brought significant benefits⁹. On one hand, it has allowed supervisory authorities to gain a deeper understanding of innovative financial solutions, and on the other hand, it has made it easier for promoters to engage with one or more authorities simultaneously, thereby encouraging proposals to align with the current regulatory frameworks and supervisory expectations.

4.2 The Innovation Hub in Costa Rica

With the aim of harmonizing efforts to establish a shared FinTech agenda among the four Superintendencies, the National Council for the Supervision of the Financial System, and the Central Bank of Costa Rica, the FinTech Working Group was established in 2019. This group embarked on an exploration of FinTech concepts, engaged in dialogues with national and international stakeholders, and actively participated in various working groups, workshops, and studies related to the subject matter. As a result of these efforts, a comprehensive roadmap was developed¹⁰. This roadmap encompassed the creation of an innovation hub, referred to in Spanish as the “Centro de Innovación Financiera” (CIF), and included considerations for legal and regulatory reforms concerning FinTech. The objective was to address the challenges that the FinTech phenomenon could pose to the regulatory system and financial supervision. This approach was based on modern principles that prioritize activities and proportionality.

The CIF was officially launched in April 2022 under the guidance of the Inter-American Development Bank as part of the FinTechLAC initiative. The legal and regulatory reforms are currently under analysis, focusing on assessing the approach, necessity, and opportunities for making necessary regulatory adjustments.

The Centro de Innovación Financiera serves as a platform for dialogue and consultation between individuals or entities interested in developing technological innovations in financial products or services and the regulatory and supervisory bodies of the Costa Rican financial system. Comprising a group of experts from various disciplines, its primary purpose is to provide clarity and guidance to financial innovators as they navigate the process of developing and integrating their initiatives within the framework of financial regulation.

The central objective is to facilitate dialogue and information exchange between financial regulatory and supervisory entities and innovators involved in technological advancements within the financial sector. This ensures that these innovations align with the regulatory framework of the financial sector while also identifying potential areas for improvement and regulatory changes related to financial innovation, all aimed at benefiting the people of Costa Rica.

From its inception, the CIF has been actively engaging with innovators, conducting meetings, and establishing connections with key stakeholders. The core responsibility of the center is to attend to the inquiries posed by innovators. Typically, this involves virtual meetings to understand the project or initiative and provide the necessary advice and guidance. Importantly, all information and guidance provided by the CIF to innovators are non-binding. In cases where proposed activities or projects are subject to existing regulations, the CIF guides innovators to the relevant regulatory authorities.

Several key aspects and challenges were addressed during the creation of the CIF, including:

- Establishment of a high-level mandate and defined functions;
- Definition of a governance structure and the assembly of a team consisting of full-time and part-time personnel;

authorities in Spain can be accessed through the following links: Tesoro: <https://www.tesoro.es/sandbox/solicitudes-para-el-espacio-controlado-de-pruebas>; Banco de España: <https://www.bde.es/wbe/es/entidades-profesionales/operativa-gestiones/facilitadores-innovacion/espacio-controlado-pruebas-sandbox.html>; Comisión Nacional del Mercado de Valores: <https://www.cnmv.es/portal/FinTech/Innovacion.aspx>; Dirección General de Seguros y Fondos de Pensiones: <https://dgsfp.mineco.gob.es/es/Sandbox/Paginas/Estado-de-los-proyectos.aspx>.

⁸Part of this difficulty arises from the lack of specific insurance products that cover potential losses that participants may incur during the tests.

⁹In January 2023, a public meeting was held with several promoters who had completed their participation in the Sandbox. The conclusions are available at https://www.bde.es/f/webeventos/Eventos/Acta_Sandbox_Malaga_2023.pdf.

¹⁰Grupo FinTech of BCCR, CONASSIF & Superintendencias in Costa Rica, “Informe del Grupo FinTech: Estado de situación de la industria FinTech en Costa Rica, acciones y recomendaciones”, modified in October 2020, <https://www.cif.cr/wp-content/uploads/2022/04/Informe-Grupo-FINTECH-Segunda-Parte-v2.1.pdf>

- Launch of a website <https://www.cif.cr/> and the establishment of an email address: info@cif.cr;
- Collaboration and cooperation from related entities.

According to the Annual Report of the Central Bank of Costa Rica¹¹, during the initial months of CIF’s operation, several benefits were observed in alignment with the originally defined objectives. These benefits included:

- Compilation of data related to the business models and operations of FinTech initiatives in the country;
- Provision of guidance to financial innovators regarding registration processes and an understanding of the existing regulatory framework;
- Identification of needs and priorities for the creation of new regulations and opportunities for enhancing existing regulations;
- Promotion of a unified vision and criteria among supervisory and regulatory entities on FinTech matters;
- Research and stay up to date on financial and technological innovations carried out internationally, to identify risks and opportunities;
- Promotion of cooperation with national and international organizations engaged in these topics.

Ultimately, the CIF can be regarded as a facilitator of innovation and an evolving initiative that will adapt and evolve as it strives to achieve its objectives. It should also be understood as one of the tools available to regulators for learning and responding to the digital revolution.

5 Concluding Remarks

The paper provides a comprehensive overview of recent advancements in financial technology (FinTech) and regulatory frameworks across member countries of the Center for Latin American Monetary Studies (CEMLA). Conducted in the first half of 2023, the study collected responses from 19 regulators representing 16 nations, offering a holistic assessment of the FinTech landscape’s progress over the past five years.

Key findings from the survey reveal significant contributions by FinTech companies to innovation, modernization, and financial inclusion. However, there has been a shift in perception regarding their role, with a diminishing view of their sole responsibility for driving innovation. Instead, there’s a growing acknowledgment of their role in fostering competition and broadening market offerings.

Regulatory approaches have evolved toward functional regulation, embracing principles such as proportionality, technological neutrality, and flexibility. The enactment of Chile’s FinTech Law serves as a case in point, highlighting ongoing efforts to strike a balance between innovation and regulation.

Additionally, the article underscores the experiences of two notable enablers: the regulatory sandbox in Spain and the innovation hub in Costa Rica. These initiatives offer valuable insights into nurturing innovation and aligning projects with regulatory frameworks, potentially prompting a review or issuance of laws, regulations, and supervisory practices.

In essence, the study emphasizes the dynamic nature of FinTech and underscores the critical role of regulatory adaptation. As the financial sector’s digital revolution continues to reshape markets, regulators must remain informed, flexible, and responsive to safeguard financial stability while promoting innovation.

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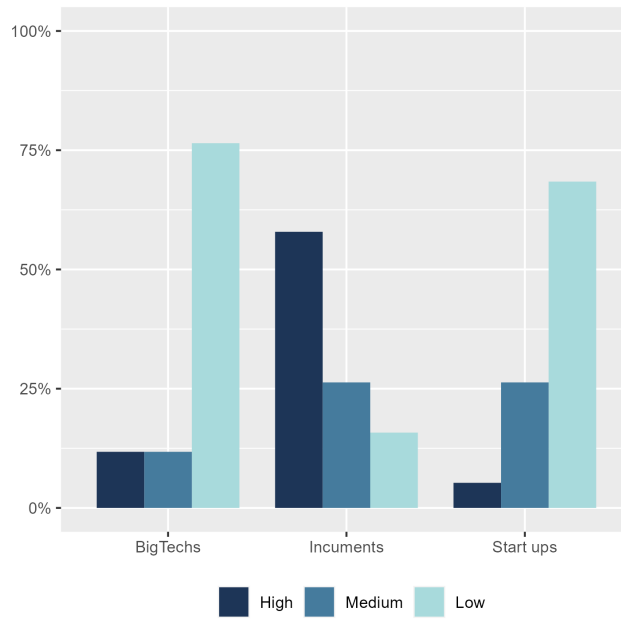
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¹¹Central Bank of Costa Rica, “2022 Annual Memory”, modified in 2023, https://www.bccr.fi.cr/publicaciones/DocMemoriaAnual/Memoria_Anual_2022.pdf

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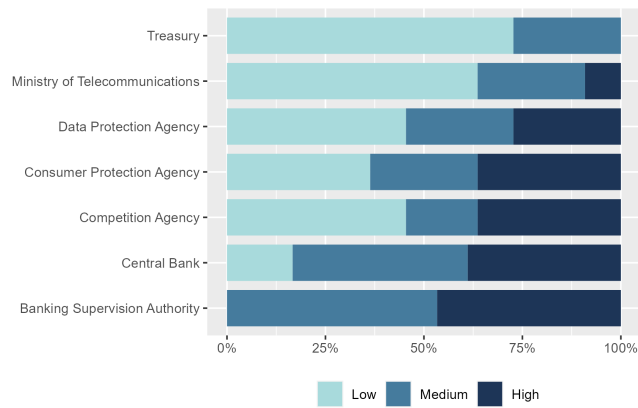
A Appendix A: Extra Figures

Figure A.1: Market share of FinTech providers in regulators jurisdictions



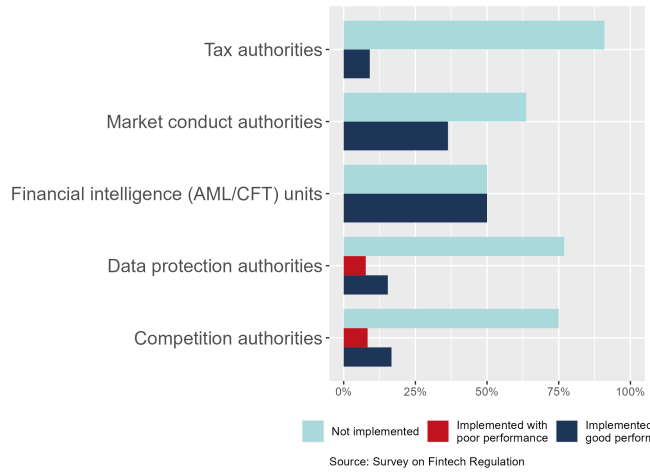
Source: Survey on Fintech Regulation

Figure A.2: Involvement in the oversight of FinTech from selected authorities (2018-2023)



Source: Survey on Fintech Regulation

Figure A.3: Inter-agency committees implemented by regulators institutions



B Appendix B: Questionnaire

- Why have FinTech developments been important in your jurisdiction?
- Please select the impact of FinTech in the past 5 years on the following aspects:

Access to credit	Low ()	Medium ()	High ()
Consumer Protection	Low ()	Medium ()	High ()
Economic Growth	Low ()	Medium ()	High ()
Facilitates use of cash	Low ()	Medium ()	High ()
Financial Inclusion	Low ()	Medium ()	High ()
Financial Information	Low ()	Medium ()	High ()
Financial Innovation	Low ()	Medium ()	High ()
Fostering Competition	Low ()	Medium ()	High ()
Information security risk	Low ()	Medium ()	High ()
Investment attraction	Low ()	Medium ()	High ()
Market Completeness	Low ()	Medium ()	High ()
Market Integrity	Low ()	Medium ()	High ()
Money laundering	Low ()	Medium ()	High ()
New or improved services for users	Low ()	Medium ()	High ()
Other (specify)			

- Regarding Financial Innovation, please rate the involvement in this subject from these institutions.

New Entrants	Low ()	Medium ()	High ()
Incumbents	Low ()	Medium ()	High ()

- Please rate the adequacy of the following statements:

The FinTech sector's risk as a whole has increased in the past 5 years	Disagree ()	Mildly agree ()	Agree ()
BigTech companies have become significant players as financial service providers	Disagree ()	Mildly agree ()	Agree ()
The FinTech sector has grown enough to have a significant impact on systemic risk	Disagree ()	Mildly agree ()	Agree ()

5. Please indicate the market share of the following FinTech providers in you jurisdiction:

BigTechs	Low ()	Medium ()	High ()
Incumbent Institutions	Low ()	Medium ()	High ()
Start-ups	Low ()	Medium ()	High ()
Other (specify)			

6. Please indicate the market share of FinTech providers in the following sectors:

Financial (borrowing/lending)	Low ()	Medium ()	High ()
Asset Management (investment)	Low ()	Medium ()	High ()
Payments (digital/clearing/settlement)	Low ()	Medium ()	High ()
Cryptoassets' services	Low ()	Medium ()	High ()
Other (specify)			

7. How important are the following FinTech related aspects for your Institution?

Achieving a level playing field for enabling FinTech development	Low ()	Medium ()	High ()
Promoting innovation under the principles of safety and soundness	Low ()	Medium ()	High ()
Addressing similar risks equally regardless of the sector	Low ()	Medium ()	High ()
Ensuring minimum standards related to cyber- and data-security for FinTech	Low ()	Medium ()	High ()
Promoting financial inclusion	Low ()	Medium ()	High ()
Compliance AML/CFT	Low ()	Medium ()	High ()
Fraud risk	Low ()	Medium ()	High ()
Maintaining the stability of the payment system	Low ()	Medium ()	High ()
Cybersecurity risk	Low ()	Medium ()	High ()
Safeguard data privacy	Low ()	Medium ()	High ()
Legal risk	Low ()	Medium ()	High ()
Reputational risk	Low ()	Medium ()	High ()
Systemic risk	Low ()	Medium ()	High ()
Consumer protection	Low ()	Medium ()	High ()
Other (specify)			

8. Please select the level of involvement in the oversight of FinTech from the following authorities in your jurisdiction, in the last 5 years.

Central Bank	Low ()	Medium ()	High ()
Treasury	Low ()	Medium ()	High ()
Banking Supervision Authority	Low ()	Medium ()	High ()
Competition Agency	Low ()	Medium ()	High ()
Consumer Protection Agency	Low ()	Medium ()	High ()
Ministry of Telecommunications	Low ()	Medium ()	High ()
Data Protection Agency	Low ()	Medium ()	High ()
Other (specify)			

9. Please indicate the relevance of the following types of regulation and surveillance in the financial sector in your jurisdiction (select the answer that best reflects the situation in your country).

a) Sectoral

- b) Functional
- c) Self-regulation
- d) Other (specify)

10. For each of the following efforts to adapt your domestic regulation to address FinTech issues, please indicate the level of importance and provide an explanation that supports your answer:

- a) Ad-hoc guidance / interpretations
- b) Principle based regulation
- c) Controlled environment for testing

11. Please indicate if your institution has experienced the following internal barriers regarding its mandates in the FinTech sector in the last 5 years

- Lack of internal coordination ()
- Lack of specialized staff ()
- Lack of technical knowledge and training ()
- Lack of other resources ()
- Lack of specific mandate ()

When it corresponds, indicate how they were/are being dealt with.

12. Please indicate what is your evaluation about the effectiveness of the following international coordination policies regarding FinTech your organization has been involved with, in the last 5 years.

Regulatory Framework	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Cybersecurity	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Supervision	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Cross-border activities	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Other (specify)			

13. Please select which of the following approaches/tools your institution has implemented and how effective they were.

Innovation hub	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Regulatory sandbox	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Accelerator	Not implemented ()	Implemented with () poor performance ()	Implemented with () good performance ()
Other (specify)			

14. Please select which of the following inter-agency committees to coordinate regulatory/supervisory FinTech issues your institutions participate on, and how effective they have been.

Market conduct authorities	Not implemented ()	Implemented with poor performance ()	Implemented with good performance ()
Data protection authorities	Not implemented ()	Implemented with poor performance ()	Implemented with good performance ()
Competition authorities	Not implemented ()	Implemented with poor performance ()	Implemented with good performance ()
Financial intelligence (AML/CFT) units	Not implemented ()	Implemented with poor performance ()	Implemented with good performance ()
Tax authorities	Not implemented ()	Implemented with poor performance ()	Implemented with good performance ()
Other (specify)			

15. How do you consider the current regulatory framework in your jurisdiction for the following services?

Financial (borrowing/lending)	Too rigid ()	Too narrow ()	Too ambiguous ()	Appropriate ()	There is no regulation ()
Asset Management (investment)	Too rigid ()	Too narrow ()	Too ambiguous ()	Appropriate ()	There is no regulation ()
Payments (digital/clearing/settlement)	Too rigid ()	Too narrow ()	Too ambiguous ()	Appropriate ()	There is no regulation ()
Cryptoassets' services	Too rigid ()	Too narrow ()	Too ambiguous ()	Appropriate ()	There is no regulation ()
Other (specify)					

16. What are the current priorities in terms of FinTech regulation in your jurisdiction?

Financial (borrowing/lending)	Low ()	Medium ()	High ()
Insurance	Low ()	Medium ()	High ()
Asset Management (investment)	Low ()	Medium ()	High ()
Payments (digital/clearing/settlement)	Low ()	Medium ()	High ()
Cryptoassets' services	Low ()	Medium ()	High ()
Other (specify)			

17. Please describe the main regulatory developments towards FinTech activities in your jurisdiction since the last edition of the survey (2018). If possible, mention the next steps that will be taken.

18. Please indicate if your institution has developed studies in the last 5 years about:

- Fintech impact in financial inclusion
- Fintech transmission channels (credit, loans)
- Fintech supervision schemes
- Evaluation of fintech activity
- Other (specify)

19. On a scale of 1 to 5, assess the effectiveness of mechanisms for collecting information on fintech activity in your jurisdiction (1 being non-existent, 5 being very efficient):

1 () 2 () 3 () 4 () 5 ()

20. Please evaluate the periodicity of initiatives to reform the following legal frameworks in your jurisdiction (1 being never and 5 being very frequently):

Digital Identity	1 ()	2 ()	3 ()	4 ()	5 ()
Know your customer	1 ()	2 ()	3 ()	4 ()	5 ()
Know your data	1 ()	2 ()	3 ()	4 ()	5 ()
Anti-money laundering	1 ()	2 ()	3 ()	4 ()	5 ()
Financial consumer rights	1 ()	2 ()	3 ()	4 ()	5 ()
Financial consumer protection	1 ()	2 ()	3 ()	4 ()	5 ()
Digital rights	1 ()	2 ()	3 ()	4 ()	5 ()
Anti-competitive laws	1 ()	2 ()	3 ()	4 ()	5 ()
Monopolistic practices	1 ()	2 ()	3 ()	4 ()	5 ()
Abusive practices	1 ()	2 ()	3 ()	4 ()	5 ()
Digital signatures	1 ()	2 ()	3 ()	4 ()	5 ()

21. From the point of view of your institution, what actions should the public sector implement if it seeks to promote a digital financial system?

C Appendix C: Answers to Questionnaire

1. Why have FinTech developments been important in your jurisdiction?

- The Central Bank has embraced the development of FinTech as one of its strategic objectives as it has assessed the benefits to the jurisdiction as significantly important to the modernization of the payments system the improvement of financial inclusion and the advancing of a digitized economy. FinTech payment solutions offer speed and flexibility by the use of technological advances however consideration must be given to promoting the safety and soundness of the financial system by ensuring that the appropriate laws regulations and supervisory framework are robust and adequately mitigate inherent risks that may arise with FinTech solutions. In addition the use of FinTech solutions elevates consumer protection issues and this requires the public to be educated about engaging in these solutions. As such a Fintech Policy was developed in 2019 and is currently being implemented. The key tenets of the Central Bank’s Fintech policy take all these matters into consideration and are in keeping with the IMF/World Bank’s Bali Fintech agenda. “The Bank’s policy stance is to be open (given the promised benefits of Fintech) but cautious (given the potential risks they pose).”
- Fintech developments are important since they offer their users access to a set of financial products and services in a fast agile and simple way focusing on a good customer experience and digitizing payment processes. Likewise these companies promote financial inclusion by making their services available to people who are excluded from the traditional financial system.
- The development in FinTech is important because it allows the use of new technologies to facilitate payments in the financial system for instance the emergence and development of payment gateways that supported integration between bussines and finance entities to facilitate electronic payments.
- The most important fintech developments have been hand in hand with electronic money issuing institutions. They have brought good dynamism to the payments sector and have played an important role in terms of financial inclusion.Likewise the B2B fintech sector continues to develop at a good pace and supports the innovation processes of financial institutions.
- ”FinTech developments in the country have been instrumental for the following reasons:1. Financial inclusion by helping sections of the population who are unbanked and underbanked to gain access to online payments and other essential financial services. 2. Increasing the efficiency of payment system operations.3. Increasing data available on fintech activities to support amendment and development of regulation and policy.4. Promote competition while protecting consumers5. Mitigating risks associated with digital financial services.6. Encourage innovation in financial products and services by local Fintech Companies.”

- Because they contribute to greater financial inclusion of the population and offer more financial services at competitive and adequate costs for the consumer.
- In our jurisdiction there have been advances in financial technology both by traditional banks and payment services providers as well as by new players. In this sense the access channels to financial services have been modernized with important advances in digital banking giving way to the operation of the first totally digital neo-bank in the country likewise payment services have advanced with the introduction of new non-traditional providers in the form of FinTech companies. As of today the regulatory framework allows these companies to manage fully electronic payment credentials through innovative access mechanisms. Another type of provider corresponds to payment processors that through agreements with third parties using technological solutions can provide payment gateway services for e-commerce payment links and even initiation of payments via QR code. Beyond the payment vertical in the Fintech field there are other technology-based services that have had significant growth in our jurisdiction. Within this we can mention digital onboarding solutions due diligence insurtech factoring digital lending among others.
- Currently the Fintech industry has not yet developed considerably and they are not yet reached by the regulations of the Central Bank.
- The entry of Fintech into the National Financial System (SFN) brought a positive contribution to the economy particularly in previously unserved segments in their needs by offering credit payment mechanisms and financial services in the case of small and medium-sized companies. Credit FinTechs payment institutions and digital banks are increasing competition in the system by expanding products and services supply due to the use of more advanced and specialized technological resources. Additionally they are stimulating traditional institutions to improve their operating processes and establish themselves in new business niches and market segments. It is also expected that eventual partnerships and sharing of both activities and costs with traditional institutions will bring gains to society.
- Fintech developments have been important because they have introduced innovation in the way financial services are provided and this has allowed improving levels of financial inclusion as well as the use of products.
- Fintech has helped FIs offer better accesible and more convenient products to the customers. Increase financial inclusion. It has also help implement more robust cybersecurity measures.
- Although the developments are still limited, they are important especially focused on the financial inclusion aspects. More specifically to enable an increasing number of citizens to have a means of digital payment. Currently the country has a large cash culture and a lot of citizens do not have a bank account.
- Provide technological development tools to the supervised financial system
- There have appeared a number of firms in the last years. Most of them are currently out of the supervisory perimeter. The Fintech Law was enacted (january 23) then with the objective of bringing those institutions inside the perimeter in order to reduce conduct and prudential risks.
- It has been important because they have come to offer services and products that traditional entities did not provide or did so inefficiently in some cases. They have come to increase competition in the financial system.

2. Please select the impact of FinTech in the past 5 years on the following aspects:

Access to credit	Consumer Protection	Economic Growth	Facilitates use of cash	Financial Inclusion	Financial Information	Financial Innovation	Fostering Competition	Information security risk	Investment attraction	Market Completeness	Market Integrity	Money laundering	New or improved services for users	Other
Low	Low	Low	Medium	Low	Low	Low	Low	Medium	Low	Medium	Medium	Low	Low	
Low	Medium	Low	Medium	Medium	Low	Medium	Medium	High	Medium	Medium	Medium	High	Medium	1
Low	High	Low	Low	High	Low	Medium	Medium	Low	Low	Low	Low	Low	Medium	
Medium	High	Medium	Low	High	Medium	High	High	High	Medium	Medium	Medium	Low	High	
Low	High	Low	Low	Medium	High	Medium	Medium	High	Low	Low	Low	Medium	High	
Low	Medium	Low	High	High	Low	High	High	Low	High	High	Medium	Medium	High	
High	Medium	High	Low	Low	High	Low	Low	High	Medium	Medium	Medium	High	High	
Medium	Medium	Medium	High	Low	Low	Medium	High	High	Low	Low	Low	Low	Low	
Low	Low	Low	Medium	Medium	Medium	Medium	Medium	Medium	Low	Low	Low	Low	Medium	
Low	Medium	Medium	High	High	Medium	High	High	Medium	Medium	High	Medium	Medium	High	
Low	Low	Low	High	Low	Low	Medium	Medium	Low	Low	Low	Low	Medium	Medium	2

This table was made using the survey answers. Each row represents a respondent.

1. Low cost in P2P transfers (medium).
2. In the previous answer, the impact was assumed from a positive point of view.

3. Regarding Financial Innovation, please rate the involvement in this subject from these institutions.

New Entrants	Incumbents
Medium	low
Medium	Medium
Medium	Medium
High	Medium
low	High
Medium	Medium
High	High
low	Low
High	Medium
low	low
Medium	High
Medium	Medium
low	Medium
High	Medium
low	Medium

This table was made using the survey answers. Each row represents a respondent.

4. Please rate the adequacy of the following statements:

The FinTech sector’s risk as a whole has increased in the past 5 years	BigTech companies have become significant players as financial service providers	The FinTech sector has grown enough to have a significant impact on systemic risk
Mildly agree	Disagree	Disagree
Mildly agree	Mildly agree	Disagree
Mildly agree	Disagree	Disagree
Mildly agree	Disagree	Disagree
Mildly agree	Disagree	Mildly agree
Agree	Mildly agree	Mildly agree
Mildly agree	Disagree	Disagree
Disagree	Disagree	Disagree
Agree	Mildly agree	Mildly agree
Disagree	Disagree	Mildly agree
Agree	Mildly agree	Disagree
Disagree	Disagree	Disagree
Agree	Disagree	Disagree
Agree	Mildly agree	Disagree
Mildly agree	Disagree	Disagree

This table was made using the survey answers. Each row represents a respondent.

5. Please indicate the market share of the following FinTech providers in you jurisdiction:

BigTechs	Incumbent Institutions	Start-ups	Other
	High	Low	1
Medium	Medium	Low	
Low	Medium	Low	
Low	High	Low	
Low	High	Low	
Low	High	Low	
Low	High	Low	
Low	Low	Low	
High	Medium	High	
High	Low	Medium	
Low	High	Medium	
Low	Medium	Low	
	High	Low	
Medium	High	Low	
Low	High	Medium	2

This table was made using the survey answers. Each row represents a respondent.

1. One incumbent institution has the highest market share in the EMI market.
2. In the country, about 55 companies have been identified, but with a relatively small size. This according to a non official source.

6. Please indicate the market share of FinTech providers in the following sectors:

Financial (borrowing/lending)	Insurance	Asset Management (investment)	Payments (digital/clearing/settlement)	Cryptoassets' services	Other
Low		Low			
Low	Low	Low	High	Low	
Low			Medium		
Medium	Low	Low	Medium	High	
High	Low		High	Low	
Medium	Low	Low	Low	Low	
Medium	Low	Low	High		
Low	Low	Low	Medium	Low	
High	High	High	High	Medium	
Low	High	Medium	Low	High	
Medium	Low	Low	High	Medium	
Low	Low	Low	Medium	Low	
Low	Low		Medium		
Low	Low	Medium	Medium	High	1

This table was made using the survey answers. Each row represents a respondent.

1. In the country the most important are payment Fintechs, then financial software providers and loan Fintechs.

7. How important are the following FinTech related aspects for your Institution?

Achieving a level playing field for enabling FinTech development	High	High	Low	High	High	High	High	Low	High	High	Medium	High
Promoting innovation under the principles of safety and soundness	High	High	High	High	High	High	High	Medium	High	High	High	High
Addressing similar risks equally regardless of the sector	Medium	High	High	High	High	High	High	Medium	High	High	High	High
Ensuring minimum standards related to cyber- and data-security for FinTech	High	High	High	High	High	High	High	Low	High	High	High	High
Promoting financial inclusion	High	High	High	High	High	High	High	Medium	High	High	High	High
Maintaining the stability of the payment system	High	High	High	High	High	High	High	Medium	High	High	High	High
Compliance AML/CFT	High	High	High	High	High	High	High	Low	High	High	Medium	High
Fraud risk	High	High	High	High	High	High	High	Low	High	High	Medium	High
Cybersecurity risk	High	High	High	High	High	High	High	Low	High	High	High	High
Safeguard data privacy	High	High	High	High	High	High	High	Low	High	High	High	High
Legal risk	High	High	High	High	High	High	High	Low	High	High	High	High
Reputational risk	Medium	High	High	High	High	High	High	Low	High	High	Medium	High
Systemic risk	High	High	High	High	High	High	High	Low	High	High	Low	High
Consumer protection	High	High	High	High	High	High	High	Low	High	High	High	High
Other												2

This table was made using the survey answers. Each column represents a respondent.

1. Financial inclusion related to fintech is of moderate importance as significant improvements have already been achieved in this regard. Systemic risk related to fintech is of moderate importance since its scale is relatively low. Nevertheless it should be monitored.
2. All these elements are relevant to the Central Bank and the country's regulatory and supervisory bodies.

8. Please select the level of involvement in the oversight of FinTech from the following authorities in your jurisdiction, in the last 5 years.

Central Bank	Treasury	Banking Supervision Authority	Competition Agency	Consumer Protection Agency	Ministry of Telecommunications	Data Protection Agency	Other
Medium							
High		High					
Medium		Medium					
High			Low			High	
High		High					
Medium	Low	Medium	Low	Low	Low	Low	1
High		High		Medium	Low	Low	
Medium	Low	Medium					
High	Low	High	High	High	Medium	Medium	
Low	Low	High	High	High	High	High	
Low	Low	High	High	High	Medium	Low	
Medium	Low	Medium	Low	Low	Low	Low	
Low	Low	Medium	Low	Low	Low		
Medium	Low	Medium	Low	Low	Low	Low	2

This table was made using the survey answers. Each row represents a respondent.

1. The Superintendence of the Stock Market of the country is in charge of regulating and supervising financial crowdfunding (lendind and investment crowdfunding).
2. Outside the Central Bank and the Financial Superintendencies, we know of no efforts in involving other entities in the Fintech issue.

9. Please indicate the relevance of the following types of regulation and surveillance in the financial sector in your jurisdiction (select the answer that best reflects the situation in your country).

a) Sectoral

- High
- The most relevant approach is sectoral regulation for both the Financial and Payments Systems.
- Extremely relevant
- High
- The Central Bank regulates the entire financial sector and the operation of all payment systems approved by it. These regulations are dedicated to each sector and contemplate operational surveillance security good practices with international standards and compliance with ML/FT. There are financial institutions (cooperatives) that are not reached by the supervision or surveillance of the Central Bank and these are supervised by the National Institute of Cooperativism are not under the focus of the Central Bank.
- Relevant.
- The regulation and surveillance in the financial sector in the country is very important it´s a very detailed regulation and supervision the financial activity is exercised through licenses granted by the authorities it is very regulated developed and has been kept updated in the face of new fintech developments
- Relevant
- Currently supervision and regulation is divided or grouped according to sectors such as financial intermediation pension and insurance securities market.

b) Functional

- functional is selected
- relevant
- High
- The regulations and aspects of surveillance of payment systems infrastructure contemplate functional and operational aspects. In the case of companies that provide electronic money we regulate in such a way to ensure user protection and allow people to access these non -banking financial services. The objective of the Central Bank to regulate the operation of this sector is the mandate to provide a safe and efficient payment system.

- Regulation and supervision is exercised through types of entities so that they can offer services determined by law
- The SBS regulates activities rather than specific types of business models meaning we focus on what the fintech does and not what the fintech is. In that sense a start-up and an incumbent financial institution are subject to the same regulation if they carry out the same activity.
- I think functional regulation based on the type and functionality of the proposed fintech products.
- Currently supervision and regulation is divided or grouped according to sectors such as financial intermediation securities market pensions and insurance.

c) Self-regulation

- Relevant in a few industries
- High through corporate governance.
- There is only one model of self-regulation in the capital market which in any case is complemented by regulation of the sector. In the financial sector there is no model of self-regulation
- In general Fintech services are not regulated. Despite this there are some privacy data regulation that applies as well as some specific regulation to certain services- Payment acquirers and issuers of electronic money (equivalent) for example.
- Low relevance.

d) Other (specify)

- There is a blend of sectoral and functional type of regulation and surveillance. Entities are regulated based on a particular sector but the principle of same activity/same regulation is used.
- In the country the Superintendency of Banking Insurance and Pension Fund and the Superintendency of Securities Market are in charge of regulating and supervising the various segments of the financial system in addition to the Central Bank which oversees the payment system.
- Supervision and regulation is currently divided or grouped according to sectors such as financial intermediation, pension and insurance securities market. For each of these sectors or functions there is a specialized superintendence. The 4 superintendencies are under a board of directors called the National Council of Supervision of the Financial System. We are not clear on the classification between sectoral and functional

10. For each of the following efforts to adapt your domestic regulation to address FinTech issues, please indicate the level of importance and provide an explanation that supports your answer:

a) Ad-hoc guidance / interpretations

- (Important) In 2019 with the objective of contributing to financial inclusion through the adoption and use of financial technology the Central Bank (CB) together with the National Commission of Banks and Insurance (CNBS) created the Financial Innovation Table as an environment for public-private collaboration to promote innovation and healthy competition in the provision of financial products and services through the use of technology and digitization.
- Important due to the need to identify learn and understand new schemes and actors of the sector that participate for the definition of clear rules.
- In the Payment System regulation there were no significant steps in this direction.
- Medium (Participant Agreement/MOU for use of CBDC prior to Amendment to Central Bank Law)
- Regarding the orientation and guidance in the interpretation of domestic regulation the Central Bank as regulator and the different superintendencies of the financial system have made great efforts to provide the necessary consultation mechanisms to support Fintech companies. In this regard an inter-institutional Financial Innovation Hub was jointly created through which support services are provided to new initiatives in the fintech field.
- Low
- at the moment only an innovation hub has been launched. we are in the process of defining principle based guidance for payment systems and fintech payment methods

- Middle – There is already a innovation hub to know about the FinTech activities and take conversations with the participants.
- This approach has not been used.

b) Principle based regulation

- Medium – The Central Bank implements a blend of principles-based regulation and where necessary prescriptive-based regulation is implemented.
- (Important) In 2022 the Directory of the CB approved the Regulation for Payment and Transfer Services Using Electronic Money which came to reform the Regulation approved in 2016; With the approval of that Regulation the regulatory barriers for the institutions that provide payment services using electronic money were eliminated especially in relation to the social capital of the entities. Additionally the Directory of the CB approved the Regulations for Services Offered by Electronic Payment Service Provider Entities which authorizes the CB to keep and manage a registry of national and foreign entities that provide electronic payment and transfer services. in the national territory.
- Important because it allows to follow standards and parameters used internationally and to have an adequate ordering for the financial system but not always applicable to new actors and schemes.
- In the Payment System regulation there were no significant steps in this direction.
- High (Principles for Financial Market Infrastructures adopted in January 2020 and Payments Legislation is being amended for Payment Service Providers this includes Fintech companies providing payment services).
- The regulation of financial crowdfunding was carried out taking into account the Guiding Principles for Fintech regulation in the Pacific Alliance (Flexibility investor protection technological neutrality integrity financial stability risk-based proportionality prevention of asset laundering and financing of the terrorism as well as coordination and cooperation between regulators).
- From the Monetary and Financial Authority modifications have been introduced to the regulatory framework to adapt it so that fintech companies can participate in the provision of payment services as well as the integration of fintech company solutions in the operation of financial institutions. Other regulators are evaluating the impact of other fintech verticals to adapt their regulatory frameworks.
- The regulations are adapted and drafted in accordance with the best practices and international standards of organizations such as the Bank of International Settlements and other specialized multilateral organizations. Compliance with the principles established in these standards become the cornerstone of the regulations issued by the Central Bank of Paraguay.
- "LETTERS B AND C - HIGH INFORMATION FOR THE THREE LETTERS: The CMN and the Central Bank issued on 26 October 2020 Resolutions No. 4865 and No. 29 which created a regulatory sandbox in the financial and payment services market. Businesses that are admitted to participate in the sandbox will receive a temporary authorisation to test innovative projects in the financial or payment services market (including foreign exchange transactions) within a specific regulatory environment. The regulatory sandbox aims to: Stimulate innovation and business models diversity, Increasing efficiency, Reduce costs, Enhance regulation and oversight processes in the financial market."
- Our regulation is based on a "technology neutral" principal. We do not regulate or recommend the use of specific technology but rather we give broader prudential requirements.
- Low - There is already financial regulation that is applicable to different activities regardless of the use or not of technology
- This is the approach that has been used the most.

c) Controlled environment for testing

- (Medium) The EMI Order 2020 allows for the provisional registration of E-Money Issuers. Provisional registration allows for the Bank to vary or waive one or more of the requirements and impose such other terms and conditions as it considers appropriate. The Central Bank has provisionally registered 3 EMIs which allows the companies to enlist new customers in a controlled environment monitored by the Central Bank
- High (Implementation of Fintech Regulatory Sandbox)

- Regarding controlled environment for testing the SBS has implemented a regulatory sandbox.

11. Please indicate if your institution has experienced the following internal barriers regarding its mandates in the FinTech sector in the last 5 years

internal coordination	specialized staff	Lack of technical knowledge and training	other resources	specific mandate	Notes
	✓	✓	✓		1
	✓	✓		✓	2
				✓	3
			✓	✓	4
					5
	✓	✓	✓		6
	✓	✓		✓	7
					8
✓	✓	✓		✓	9
	✓	✓			10
				✓	
				✓	11
				✓	12

This table was made using the survey answers. Each row represents a respondent.

When it corresponds, indicate how they were/are being dealt with.

1. Staff members of the department possess the requisite supervisory and regulatory experience and other technical staff particularly from a risk management perspective are drawn from different departments to contribute to work associated with onboarding FinTech's. These staff members participate in training and technical assistance offered by International Organisations such as IMF BIS CEMLA and UNCDF.
2. Lack of specialized staff: In 2021 the Central Bank (CB) in order to have timely information on financial regulation and innovation modified the organizational structure of the Payment System Department creating the Financial Innovation Section. Lack of technical knowledge and training: Staff continue to be trained on issues related to the FinTech ecosystem with the help of some international organizations. Lack of specific mandate: The National Congress of the Republic through Decree No.83-2021 of September 2021 published in the Official Gazette on October 28 2021 granted the Central Bank (CB) the power to authorize or register in the Special Registry that this Institution will keep for this purpose legal persons who wish to provide payment and transfer services to natural and legal persons residing in the country the foregoing in accordance with the regulations issued by the CB. However it is considered advisable to issue a Fintech Law.
3. Law No. 393 on Financial Services (Article 19) establishes that financial activities and the provision of financial services will be carried out only by entities authorized by the Financial System Supervision Authority - ASFI. Therefore the provision of this type of service is indirect and progressive.
4. The fintech business models are being addressed taking into account the activity they carry out and the financial function they fulfill. In many cases fintech businesses could be subsumed under figures already established in our regulation (such is the case of e-money institutions or some credit institutions). In some particular cases such as P2P loan and crowdfunding platforms it was necessary to develop new regulations introducing new regulated figures. Finally in cases such as activities linked to virtual assets we found the need to expand our legal mandate in order to incorporate them.
5. The budget restrictions that the SMV has have an impact on its ability to hire and train specialized personnel in matters related to fintech and innovation.
6. Currently Fintech are not part of the supervision or regulation of the Central Bank.
7. The Central Bank hasn't experienced none of those internal barriers.

8. We seek technical and financial aid from international organizations p.e. the World Bank the IMF.
9. Joining international fintech working groups and courses. Setting up a fintech coordination point within the bank.
10. Fintech Law was recently enacted.
11. There has been coordination, however, on some issues there has been no consensus on how to address any issue.

12. Please indicate what is your evaluation about the effectiveness of the following international coordination policies regarding FinTech your organization has been involved with, in the last 5 years.

Regulatory Framework	Cybersecurity	Supervision	Cross-border activities	Other
Not implemented	Not implemented	Not implemented	Not implemented	1
Not implemented	Not implemented	Not implemented	Not implemented	
Implemented with poor performance	Not implemented	Implemented with poor performance		2
Not implemented	Implemented with good performance		Implemented with good performance	3
Implemented with good performance	Implemented with poor performance	Implemented with poor performance	Not implemented	
Not implemented	Not implemented	Not implemented	Not implemented	
Implemented with good performance	Implemented with good performance	Implemented with good performance	Implemented with good performance	
Implemented with good performance	Implemented with good performance	Implemented with good performance	Implemented with poor performance	
Implemented with good performance	Implemented with good performance	Implemented with good performance	Not implemented	
Not implemented	Not implemented	Not implemented	Not implemented	4
	Implemented with good performance			5
Not implemented	Not implemented	Not implemented	Not implemented	

This table was made using the survey answers. Each row represents a respondent.

1. The Central Bank is in the process of developing: 1) a comprehensive Payment Systems legislation; and 2) some policies procedures and processes.
2. The answers mainly reflect cross-border efforts in terms of prevention of money laundering and financing of terrorism and both in relation to the regulation of new technologies and their supervision.
3. Sandbox Framework is currently being used for oversight but regulations are still being developed. Regulatory framework implemented for remittance transactions. However policies and guidelines currently being developed for other types of cross border activities.
4. Regulatory framework and supervision are in the process of being implemented for the fintech payments service providers.
5. Recently (September 2022) a regional committee was created to deal with Fintech issues.

13. Please select which of the following approaches/tools your institution has implemented and how effective they were.

Innovation hub	Regulatory sandbox	Accelerator	Other
Implemented with good performance	Not implemented	Not implemented	1
Not implemented	Not implemented	Not implemented	2
Not implemented	Not implemented	Not implemented	3
Implemented with good performance	Not implemented	Not implemented	
Not implemented	Implemented with good performance	Not implemented	
Not implemented	Not implemented	Not implemented	
Implemented with good performance			
Not implemented	Not implemented	Not implemented	
Not implemented	Not implemented	Implemented with good performance	
Not implemented	Not implemented	Not implemented	
Not implemented	Implemented with poor performance	Not implemented	
Implemented with poor performance	Not implemented	Not implemented	
Implemented with good performance	Not implemented	Not implemented	
Not implemented	Not implemented	Not implemented	
Implemented with good performance	Not implemented	Not implemented	4

This table was made using the survey answers. Each row represents a respondent.

1. The Innovation Hub was launched in October 2020 and is currently being revamped for improved efficiency.
 2. Implementation of a Financial Innovation Table since 2019 which is a space for collaboration between public and private companies for the development of initiatives that promote the growth of the fintech ecosystem in the country. Implemented with good performance.
 3. Indirect and progressive regulations for Payment Gateways.
 4. Centro de Innovación Financiera (CIF) www.cif.cr.
14. Please select which of the following inter-agency committees to coordinate regulatory/supervisory FinTech issues your institutions participate on, and how effective they have been.

Market conduct authorities	Data protection authorities	Competition authorities	Financial intelligence (AML/CFT) units	Tax authorities	Other
Not implemented	Not implemented	Implemented with good performance	Not implemented	Not implemented	1
Implemented with good performance	Not implemented	Not implemented	Not implemented	Not implemented	2
Implemented with good performance	Implemented with good performance	Implemented with good performance	Implemented with good performance	Not implemented	3
Not implemented	Not implemented	Not implemented	Implemented with good performance	Not implemented	4
Implemented with good performance	Implemented with poor performance	Implemented with good performance	Not implemented	Not implemented	
Not implemented	Not implemented	Not implemented	Implemented with good performance	Implemented with good performance	
Implemented with good performance	Not implemented	Not implemented	Implemented with good performance	Not implemented	
Not implemented	Not implemented	Not implemented	Not implemented	Not implemented	
Not implemented	Not implemented	Not implemented	Not implemented	Not implemented	

This table was made using the survey answers. Each row represents a respondent.

1. Other regional regulators e.g. the Caribbean FinTech Working Group.
2. Within the framework of the Financial Innovation Table topics of interest are addressed including: data protection money laundering and others. Implemented with good performance.
3. Financial System Supervision Authority.
4. There is no participation on inter-agency committees in regard of finch regulation.

15. How do you consider the current regulatory framework in your jurisdiction for the following services?

Financing (borrowing/lending)	Insurance	Asset Management (investment)	Payments (digital/clearing /settlement)	Cryptoassets activities	Other
Appropriate	Appropriate		Too narrow	There is no regulation	1
There is no regulation	There is no regulation	There is no regulation	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	Too rigid	
Appropriate	Appropriate	Too ambiguous	Appropriate	There is no regulation	
Too narrow	Too ambiguous	There is no regulation	Too ambiguous	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	
There is no regulation	Appropriate	Appropriate	Appropriate	There is no regulation	
Appropriate	Appropriate	Appropriate	Appropriate	There is no regulation	

This table was made using the survey answers. Each row represents a respondent.

1. The regulatory framework for payments is principles-based and for some requirements it can be considered too ambiguous and may need to be enhanced with additional regulations and guidelines.

16. What are the current priorities in terms of FinTech regulation in your jurisdiction?

Financing (borrowing/lending)	Insurance	Asset Management (investment)	Payments (digital/clearing /settlement)	Cryptoassets activities
			High	Medium
Low	Low	Low	High	Low
Low	Low	Low	Medium	Medium
Low	Low	Low	High	High
High	High	High	High	Low
High	Medium	Medium	Medium	Medium
Low	Medium	Medium	High	
Medium	Medium	Medium	High	Low
High	High	High	High	High
High	Medium	Medium	High	Low
Medium	Medium	Low	High	Low
Medium	Low	Medium	High	Medium
High	Low	Medium	High	High
Low	Low	Low	High	Low

This table was made using the survey answers. Each row represents a respondent.

17. Please describe the main regulatory developments towards FinTech activities in your jurisdiction since the last edition of the survey (2018). If possible, mention the next steps that will be taken.

- An E-Money Issuer Order was issued in 2020. This prescribed the category of persons other than licensees which may issue electronic money subject to the approval of the Central Bank. A draft Policy Proposal Document (“PPD”) to inform the development of a comprehensive Payment System Bill was completed with the assistance of technical support from the IMF and circulated for stakeholder consultation in May 2021. The development of comprehensive payments legislation is currently underway with technical assistance from the IMF and is due to be completed in 2023.
- On September 202021 the National Congress issued Decree No.83-2021 published in the Official Gazette on October 282021 in order to regulate the organization operation and functioning of national and foreign legal entities that provide payment and transfer services as well as regulate these services. In 2022 the Directory of the CB through Agreement No.12-2022 approved the Regulations for Payment and Transfer Services Using Electronic Money the purpose of which is to regulate the organization operation and functioning that must be observed by legal entities that provide in the national territory payment services and transfers using electronic money. Similarly in 2022 the Directory of the CB through Agreement No.13-2022 approved the Regulations for Services Offered by Electronic Payment Service Provider Entities whose purpose is to regulate the organization operation and functioning of national legal entities and foreign companies that through technological platforms provide payment services and electronic transfers in the national territory as well as the creation and management of the registry of said legal persons to facilitate compliance with the policies of inclusion and financial stability and user protection aimed at provide the population with greater access to financial payment services.
- With the Regulation of Payment Services Electronic Payment Instruments Clearing and Settlement that is updated periodically regulatory frameworks are gradually being incorporated to actions and/or uses of new services this is how it is seen between 2021 and 2022 incorporating and detailing the payment gateways. In a first stage payment gateways were included as payment channels and in a recent update aspects of risk control and operations were established indirectly.
- - Crowdfunding platforms: Law 19.820 Promotion of entrepreneurship <https://www.impo.com.uy/bases/leyes/19820-2019/10CentralBankregulation:Empresasadministradorasdeplataformasdefinanciamientocolectivo> <https://www.bcu.gub.uy/Circulares/seggc2377.pdf>

- "Since 2018 the Central Bank has introduced two crucial developments: The Central Bank launched a Regulatory Sandbox in March 2020. The Central Bank launched a Central Bank Digital Currency (CBDC) which commenced its Phased National Rollout 1st January 2022."
- On January 222020 the Government approved the Emergency Decree No. 013-2020 that promotes the financing of SMEs Entrepreneurships and Startups which among others establishes in its Title IV the regulatory framework applicable to financial-return crowdfunding empowering the Superintendency of Securities Market (SMV) to adopt the secondary regulation. Within this framework the SMV in May 2021 approved the financial-return crowdfunding and their management companies regulations. To date exist two financial-return crowdfunding platform management companies authorized.
- In January 2021 a comprehensive modification of the Payment Systems Regulation was approved which enabled the participation of non-banking entities to manage a payment instrument in the form of an electronic payment account and other non-traditional providers as payment service providers. These cosidered as fintechs of the payment vertical. Similarly in February 2022 through an inter-institutional collaboration agreement the Financial Innovation Hub was put into operation in which the Superintendencies of the Securities Market Banks Insurance and Pensions as well as the Central Bank participate. In the future we aim to strengthen the operation of payment service providers as fintechs as well as encourage the adoption of mechanisms that allow improving financial services oriented towards protection and other benefits for users as well as greater financial inclusion.
- Currently Fintech are not part of the supervision or regulation of the Central Bank.
- We highlight the enactment of the new law on foreign exchange market and capital movements which consolidated in a single legal instrument the discipline of the entire foreign exchange and international capital markets (Law 14286/2021). The new law entered into force on 31 December 2022 and together with the accompanying by-laws creates a sound new regulatory framework that aims at modernizing the market simplifying procedures and streamlining operations in line with international best practices and FATF recommendations. The improvement of foreign exchange regulation considered the growing digitization of the financial system and new business models related to cross-border payments and transfers. New solutions offered both to customers who need to make payments abroad and to companies that sell abroad through the internet and the expansion of possibilities to carry out foreign exchange transactions by electronic means have the potential to increase competition simplify access and reduce costs of cross-border payments. The new regulation considers the significant development of payment institutions (IPs) and the popularization of payment accounts in reais usage by the public bringing such alternatives to carry out foreign exchange transactions. IPs authorized to operate by the CB may also be authorized to operate in the foreign exchange market - in January 2023 there were 74 of these institutions that were already authorized to operate part of them with relevant international operations and millions of customers in the country. This authorization will encourage the provision of services by electronic means to serve citizens and businesses particularly SMEs. Many of the FinTechs that offer digital accounts are IPs and will be able to offer foreign exchange services directly to their customers. Finally the regulation of cross-border payment or transfer services (services referred to in the foreign exchange regulations by the term eFX) was consolidated and modernized simplifying international transfers and payments related to international e-commerce and provision of services including those arising from distribution of content through digital platforms.
- Decree 1234 of 2020 enabled the regulatory Sanbox. Decree 1692 updated the digital payment system Decree 222 of 2020 enables digital agents and strengthens simplified savings products Decree 1297 of 2022 that develops Open Banking
- Updates in the e-money regulation credit and debit cards regulation. Issuance of the Cybersecurity regulation Sandbox regulation. In the following years we will be working on developing an Open Finance framework.
- Implementation of a fintech innovation hub developing a regulatory and supervision framework for payments developing a regulatory framework for crypto asset providers.
- "1. The implementation of an innovation hub. 2. The introduction of aspects related to cybersecurity and cloud computing services in the regulation for the management of technological risk The next step: We are working on the proyect of the bill for electronic money operating entities."

- the most important effort was the Fintech Bill. As the regulator we will have to issue near 70 regulations in the next years.
- In the case of the payment system in 2018 the figure of Payment Service Providers (fintech) was incorporated. Work is currently under way on a bill to regulate the activities of companies receiving and paying funds (wallets remittances etc.). Work is also under way on a bill on "collective financing".

18. Please indicate if your institution has developed studies in the last 5 years about:

a. Fintech impact in financial inclusion

- No
- In August 2022 the Central Bank announced the National Financial Inclusion Strategy 2022-2030 whose general objective is to promote financial inclusion in the country through the coordination of policy actions that lead to increased access and use of quality financial products and services to unbanked sectors of the country. To this end work was carried out by the regulatory and supervisory authorities gathering information and coordinating actions aimed at promoting a more inclusive financial system as has been the case of the Banking Subagents Regulations the Payment Systems Regulations the draft Law on Reciprocal Guarantee Societies Law No. 45-20 on Secured Transactions and more recently the Financial Innovation Hub among others. Through these studies the incidence of payment fintechs and other financial services has been assessed as an enabling channel and access to financial services.
- No
- YES
- We have issued a study name "FinTech Ecosystem: promoting innovation for sustainable and inclusive supervised systems" <https://www.sbs.gob.pe/Portals/0/Archivos/2023/FinTechEcosystem-2022-06-02.pdf>
- No study about the fintech impact. Currently busy with the final phase of a country wide financial inclusion survey for the demand side
- The white paper that originated the bill and later Law was developed by the CMF
- No

b. Fintech transmission channels (credit, loans)

- No
- No
- Yes
- No
- None
- No

c. Fintech supervision schemes

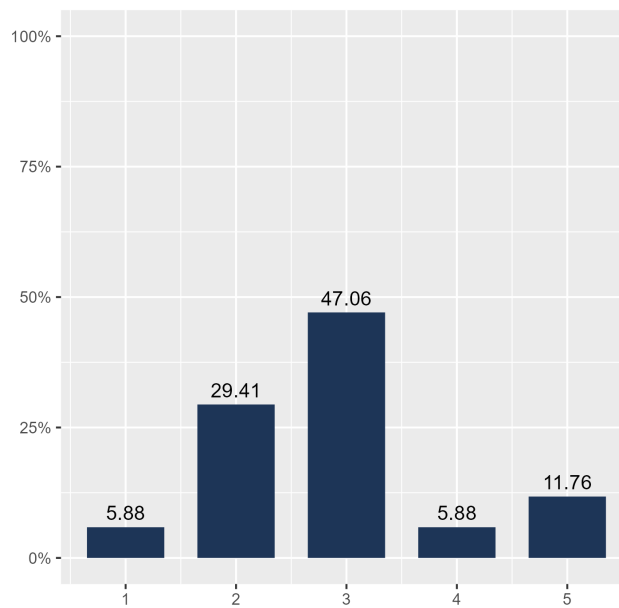
- Yes
- No
- No
- Yes
- No
- White paper for Fintech bill
- Some studies have been developed on this subject internally and as part of the CEMLA Fintech Forum.

d. Evaluation of fintech activity

- In the context of the FSAP (Financial Sector Assessment Program jointly performed by IMF and WB) there was a chapter dedicated to the evaluation of Fintech activity.
- No

- No
 - Yes
 - Yes related to the first section of this question
 - the peak was 2019 now it has been on a steady but lower pace
- e. Other (specify)
- No studies developed.
 - Currently this type of research has not been carried out.
 - In the process of designing the regulation the SMV has reviewed comparative legislation and advances in the matter at a global level.
 - We have made an extensive study on cryptoassets.

19. On a scale of 1 to 5, assess the effectiveness of mechanisms for collecting information on fintech activity in your jurisdiction (1 being non-existent, 5 being very efficient):



Source: Survey on Fintech Regulation

20. Please evaluate the periodicity of initiatives to reform the following legal frameworks in your jurisdiction (1 being never and 5 being very frequently):

Digital Identity	Know your customer	Know your data	Anti-money laundering	Financial consumer rights	Financial consumer protection	Digital rights	Anti-competitive laws	Monopolistic practices	Abusive practices	Digital signatures
	5		5	5	5				5	5
4	4	4	4	4	4	1	1	1	1	4
1	1	1	1	1	1	1	1	1	1	1
4	4		4	4	4					
2	2	2	3	4	4	2	2	2	3	2
3	4	4	5	5	5	4	3	3	4	4
1	3	3	3	3	3	2	2	2	2	3
2	1	2	3	3	3	3		2	3	2
2	3	3	3	3	3	2	4	3	3	3
2	3	2	4	4	4	1	3	4	4	2
2	1	1	4	1	1	2	1	1	1	2
1	2	2	4	4	4	3	3	2	4	4
2	3	2	3	2	2	2	2	2	2	3

This table was made using the survey answers. Each row represents a respondent.

21. From the point of view of your institution, what actions should the public sector implement if it seeks to promote a digital financial system?

- "With respect to question 20 above many of these initiatives are currently being developed. In terms of question 21 and promoting the access to financial services through digital channels i.e. the digital financial system the existing actions of the public sector align with the institution's view as follows:a) The establishment of a cyber-security response team (TTCSIRT) under the Ministry of National Security;b) The establishment of a ministry tasked with facilitating a new way to address the end-to-end consumption and delivery of goods and services to customers using appropriate digital technology i.e. the Ministry of Digital Transformation;c) The creation of a state agency to promote the adoption of digital financial services i.e. the Trinidad and Tobago International Financial Centre;d) The ongoing digitization of government identification records as a precursor to creating an official Government digital ID;e) The preparation by the Ministry of Finance to establish an omnibus electronic platform for collecting government revenue digitally in consultation with relevant experts and key stakeholders; f) Until the platform described at paragraph e) is launched the decision of some Government Ministries and statutory bodies to use existing payment infrastructure to collect revenue digitally; g) The consideration of appropriate ways in which digital financial services may be used to distribute social welfare payments without alienating vulnerable parts of the population; andh) The ongoing work by relevant public sector officials to draft the necessary legal infrastructure for Parliamentary sanction in order to facilitate the activities at paragraphs a) to g)."
- To move towards a digital financial system the public sector should promote the digital transformation of the economy for which it should seek to mitigate the risks that could derive from financial innovation strengthening legal certainty consumer protection in financial services and the regulation associated with money laundering and terrorist financing. Carry out reforms in the current legal framework that facilitate the development of the use of technologies in traditional activities.
- Currently the regulations is periodically updated according to the development accessibility and employment of the population. There is a need to propose a Fintech law that includes the most relevant types of companies to allow their operations since within the framework of Law N° 393 these companies must be constituted as financial services companies (which does not always apply) or technology providers.
- The central bank has among its purposes the regulation of the operation and supervision of the payment system and the financial system promoting its soundness solvency efficiency and development. Although the efficiency and development of the systems is considered in the BC's mandate this does not necessarily imply the promotion of a digital financial system. In fact the BC exercises its functions in regulated markets following the principles of technological neutrality and same risk-same regulation. From this perspective efforts have been made to level the playing field for new participants and establish an adequate regulatory framework so that innovation can develop while keeping risks under control.
- "From the Central Bank's perspective there are a few items that could encourage digitization within the financial system: Digitization of Government Payments, Reduction in the cost of Digital Payments, Strengthening of Financial Literacy Strategy that prioritizes Digital Banking and Payments, Strengthening of Programs aimed at sensitizing the population on Cyber Security and the responsible use of FinTech Tools, Prioritization of Cyber Security by entities."
- Provide adequate resources to regulators
- Despite the fact that important advances have been made in the digitization of financial services in order to achieve an even more interoperable ecosystem and to lead to open banking it will be necessary to strengthen the legal framework and the structure for national digital identity management. This would make room for account portability and banking services with verifiable user consent likewise the capabilities to introduce financial information aggregation services between different providers.
- The central bank implemented in 2022 an instant payment system with a 24/7 operating scheme. This year it is planned to incorporate new functionalities that will promote the adoption of these tools. Although significant progress has been made in terms of access to the banking system it is still not enough to achieve citizen access to financial services. The existence of telecommunications companies that provide electronic money services has contributed to bringing non-banking financial services closer

to people who do not participate in the system and this has also contributed significantly to the use of digital tools.

- It must promote a regulatory framework that contributes to the reduction of entry barriers with simplified authorization processes proportional prudential regulation and a reduction of information asymmetry.
- The development of the instant payment system
- Assess the trade-off between regulatory flexibilization and customer's benefits.
- Focus on the legislation framework. Develop a national digital identity which can be used via API's Focus on a national financial inclusion strategy
- "a. Digital Identity b. Digital Payments Schemes c. Education about the use of financial technologies d. Access to the low-cost Internet services e. Promote regulation about cybercrime."
- Firstly by ensuring the stability and integrity of registered/supervised firms. Secondly by reducing arbitrary barriers for new entrants. Lastly by engaging in financial education
- The first thing is to provide a legal framework for the orderly development of the fintech industry. Then cyber security issues must be promoted digital identity data protection among others.