# TC NOTES

PRACTICAL **LEADERSHIP**
AND **GUIDANCE** FROM
**TORONTO CENTRE**

# SUPERVISING FINTECH

## ESSAY WINNERS 2023

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TORONTO CENTRE
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# SUPERVISING FINTECH

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# Preface

In the summer of 2023, Toronto Centre accepted submissions for an essay contest in which participants were asked to describe how different types of fintech entities could be supervised.

The competition received many high-quality entries from our international network. We are pleased to announce the winner of this contest to be **Grani Ayuningtyas Harmani** and **Elleriz Aisha Khasandy** of the OJK (Indonesia), and to publish their submission as a Toronto Centre Note.

Reflecting the high standards of the entries, we have also included in this Note two Annexes, based on submissions from **Flavio Almeida Paolinelli de Castro** of Banco Central do Brasil and **Abhiyan Upadhyay** of Nepal Rastra Bank.

Toronto Centre congratulates these outstanding writers on their accomplished works and commends all those who submitted an essay.

# Introduction[1]

In this era of new technologies, the internet and mobile phone applications influence many aspects of human life.

Around 40 per cent of the world's population have an internet connection today, compared to less than 1 percent in 1995.[2] The internet has numerous benefits for people, such as collecting information, connecting to others around the globe, and making money transfers more accessible. In addition, the internet strongly influences economic growth. Data from McKinsey Global Institute (2011) showed that the internet had accounted for 10 per cent of GDP growth over the previous 15 years in the mature countries studied.

Internet development has encouraged the emergence of technology in the financial sector, including fintech. Fintech stands for financial technology, defined by the International Organization of Securities Commissions (IOSCO) as various innovative business models and emerging technologies that can potentially transform the financial services industry.

IOSCO (2017) maps the fintech landscape across eight categories: payments; insurance; planning; lending and crowdfunding; blockchain; trading and investments; data and analytics; and security. Fintech aims to provide customers with ease of use, high transaction speed, and a wide choice of service providers. Fintech offers further improvements to solve the problems and obstacles faced by consumers of financial services.

Indonesia is the world's largest archipelago country, with about 17,000 islands and a population of some 270 million people, the fourth most populous on earth. Young generations dominate the demographic composition. It is therefore not surprising that Indonesia ranked fourth among countries with the most internet users, based on Statista data as of January 2023. The Internet Service Providers Association in Indonesia (APJII) stated that the number of internet users in Indonesia reached 78 per cent of the total population in 2023.

Inevitably, the internet influences Indonesia's fintech market. BCG (2023) shows that the number of fintech companies in Indonesia has grown significantly over the last ten years, from 51 in 2011 to 334 in 2022. Payment services dominated the fintech market in the early growth phase. More recently, the fintech industry has adopted technological developments and extended into lending, crowdfunding, insurance and many more areas.

# Regulation of fintech in Indonesia

In Indonesia, the regulation and supervision of the fintech sector is conducted by two authorities, the Financial Services Authority (OJK) and the Central Bank of Indonesia (Bank Indonesia). Bank Indonesia regulates and supervises fintech players related to payment systems. OJK regulates and supervises fintech players related to lending, crowdfunding, and digital financial innovation.

Before 2023, the rules regarding fintech were set by each regulator. In January 2023, the House

[1] This Note was written by Grani Ayuningtyas Harmani and Elleriz Aisha Khasandy of the OJK (Indonesia), with Annexes based on essays submitted by Flavio Almeida Paolinelli de Castro of Banco Central do Brasil and Abhiyan Upadhyay of Nepal Rastra Bank. Please address any questions about this Note to publications@torontocentre.org.
[2] Internet Live Stats website.

of Representatives enacted legislation that revised 17 laws in the financial sector, including revisions to take fintech developments into account.[3] This provides a solid legal basis for the use of fintech in financial services. This Note focuses on fintech-regulated entities under OJK regulation and supervision.

OJK issued its first rules on fintech in 2016, governing Information Technology-Based Lending Services or Peer-to-Peer (P2P) Lending Platforms.[4] This regulation supports the growth of IT-based lending as a new financing alternative. It imposes an obligation on providers to register with and obtain a license from OJK; sets limits on share ownership, interest rates, and minimum capital and maximum loan amounts; and rules on the governance of fintech companies and money laundering. As of March 2023, 102 fintech lending companies were licensed by OJK.

The second set of OJK rules were issued in 2018, governing Digital Financial Innovation. This includes the use of a supervisory 'sandbox' to support the development of responsible digital financial innovation.[5] The sandbox provides a safe place to test a digital financial product or service. This is intended to check that an innovation is integrated into existing financial services and provides sufficient customer protection, and to enable the supervisor to observe the risks and benefits of the innovation. As of June 2023, 106 digital financial innovations were registered with OJK, categorized into 15 clusters: aggregator, financial planner, e-KYC, innovation credit scoring, insuretech, online distress solution, regtech PEP (Politically Exposed Person), insurance hub, financing agent, property investment management, wealthtech, funding agent, transaction authentication, tax and accounting, and regtech e-sign.

The third set of rules was issued in 2018, relating to Securities Offerings through Information Technology-based Crowdfunding Services to accommodate the capital need of small and medium enterprises (SMEs).[6] The regulation focuses primarily on the operator, the crowdfunding services, the issuer, and the investors. As of 2022, OJK had licensed 14 crowdfunding providers.

# Supervision of fintech by OJK

In conducting the supervision of fintech, OJK aims to balance regulatory compliance and the industry's development. OJK is committed to supporting the fintech industry to boost sustainable economic growth, while delivering strong consumer protection. OJK understands that strict rules could limit innovation and industry growth in a growing new-age industry. On the other hand, rules that are too lax could endanger consumer protection and allow weak corporate governance. In carrying out its supervision, OJK involves fintech associations, particularly in developing retail market conduct approaches for fintech players.

## Information technology-based lending services and P2P lending

The supervision of IT-based lending focuses on service providers. A service provider is an entity that provides, organizes, and operates a P2P platform. In its off-site supervision, OJK uses periodic reports submitted by service providers, such as monthly, annual, and/or incidental reports, and requires service providers to submit data transactions on funding to OJK's fintech lending data centre.

[3] Law No. 4 Year 2023 regarding Financial Sector Development and Reinforcement, known as the Omnibus Law in the Financial Sector.
[4] POJK Rule No. 77/POJK.01/2016, which was renewed in 2022 as POJK Rule No. 10/POJK.05/2022.
[5] POJK Rule No. 13/POJK/02/2018.
[6] POJK Rule No. 37/POJK.04/2018.

In its on-site supervision, OJK conducts direct examinations, both routine and irregular. In addition, OJK conducts integrated supervision on service providers who are part of wider financial groups.

Furthermore, retail market conduct is regulated and supervised in part through fintech associations. Service providers should be registered as members of a fintech association and comply with the issued code of conduct relevant to the fintech lending activity.

### Digital financial innovation

OJK takes a risk-based and retail market conduct approach to monitor digital financial innovation. Two types of entity are monitored - digital financial innovation and service providers. Digital financial innovation is a reformulation of business process activities, business models, and financial instruments that add value to the financial services sector by engaging the digital ecosystem. A service provider is an entity that runs digital financial innovation.

OJK uses several methods to monitor service providers, including on-site monitoring and monitoring of self-assessment reporting by the service provider (service providers submit monthly risk self-assessments to OJK). OJK's focus is on:

- a balanced approach between regulation/supervision and supporting innovation;
- collaborating with other authorities and institutions when supervising, regulating and setting standards for digital financial services;
- emphasizing governance and reliable risk management in harnessing technology and the digital ecosystem; and
- examining the application of Know Your Customer procedures and risk management.

### Securities crowdfunding

For securities crowdfunding, OJK oversees service providers and issuers. A *service provider* is the party who organizes the equity crowdfunding service. An *issuer* is the party who offers shares through the service provider's platform.

For a service provider, OJK conducts comprehensive analysis before granting the license. It also conducts routine examinations (such as periodic financial reports), non-routine examinations (for example, enquiries related to certain activities), and on-site examinations. A crowdfunding applicant should present its business model, processes and systems to OJK to provide information on the securities transaction process of the issuer, the registration process of the investor, and the process of handling complaints from either issuers or investors. OJK can visit the equity crowdfunding office to check the reliability of crowdfunding system information. Indonesia Stock Exchange assists the OJK with this process.

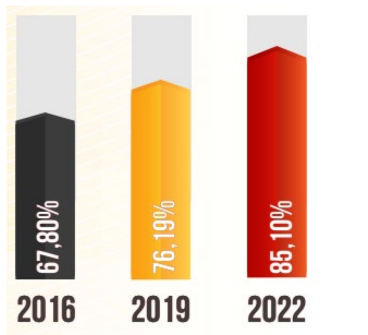
For an issuer, OJK examines its standard operational procedures to check that the issuer meets the requirements. The issuer must submit annual reports and the realization report of raised funds, publishing these on the service provider's website.

## Implications of fintech for financial inclusion

OJK defines financial inclusion as improving men and women's welfare through their access to various types of financial institution, products, and services, based on the needs and capabilities of individuals.

The financial inclusion index has been increasing in Indonesia, reaching 85 per cent in 2022 (see Chart 1). However, the financial literacy index was only 50 per cent in 2022. Fintech developments provide an alternative for people to access financial services in tech-based forms that are more diverse and accessible to various groups. Fintech offers a range of services that meet the needs and abilities of society, such as financing, payments, savings, and insurance. Fintech can therefore boost financial inclusion.[7] Fintech supervision must also be aware of challenges of inclusion for certain groups such as women, the elderly, and the less financially literate.

### Chart 1: Financial Inclusion in Indonesia, 2013 - 2019




*Source: OJK*

Fintech can also contribute to financing for small and medium-sized enterprises (SMEs). SMEs are pivotal in driving economic growth in Indonesia, but this critical role is not supported by easy access to funding. The contribution of SMEs to GDP Indonesia was 61 per cent in 2021, according to data from the Ministry of Cooperatives, Small, and Medium Enterprises. However, 74 per cent of Indonesia's SMEs did not have access to credit from conventional lending providers in 2018.[8]

Considering the structure of Indonesia's territory - an archipelago country with a large population and various economic conditions - the fintech industry could help to broaden financial access for society in the remote areas of Indonesia with the support of the technology infrastructure. Fintech services are an alternative solution for SMEs to obtain access to funding.

Regarding securities crowdfunding, the number of issuers grew significantly from 2018 to 2022, as shown in Table 1. In addition, securities crowdfunding services are not only enjoyed by issuers in big provinces such as DKI Jakarta and Bali, but also in other provinces (see Table 2).

[7] See also Toronto Centre (2019).
[8] PWC (2019).

**Table 1: Securities Crowdfunding Data 2018 – 2022**:

| Periode<br>*Period* | Jumlah Penerbit<br>*Issuer Number* | Jumlah Pemodal<br>*Investor Number* | Total Dana yang Tersalurkan (Rp)<br>*Distributed Fund* |
|---|---|---|---|
| 2018 | 15 | 1.490 | 6.661.443.800 |
| 2019 | 34 | 3.620 | 53.843.860.000 |
| 2020 | 78 | 46.430 | 126.761.182.800 |
| 2021 | 69 | 42.806 | 229.052.895.650 |
| 2022 | 143 | 43.432 | 317.786.600.000 |
| **Total** | **339** | **137.778** | **734.105.982.250** |

*Source: OJK Capital Market Fact Book 2022*

**Table 2: Demographics of Securities Crowdfunding based on Province, 2018 – 2022**

| No. | Provinsi<br>*Province* | Jumlah Penerbit<br>*Issuer Number* | Jumlah Pemodal<br>*Investor Number* | Total Dana yang Tersalurkan (Rp)<br>*Distributed Fund (IDR)* |
|---|---|---|---|---|
| 1 | Bali | 10 | 4.696 | 21.229.850.000 |
| 2 | Banten | 28 | 8.343 | 75.430.780.000 |
| 3 | DKI Jakarta | 108 | 42.388 | 296.023.212.850 |
| 4 | Jambi | 1 | 559 | 1.100.000.000 |
| 5 | Jawa Barat | 84 | 33.994 | 174.078.294.800 |
| 6 | Jawa Tengah | 23 | 14.879 | 35.781.097.800 |
| 7 | Jawa Timur | 22 | 7.152 | 27.386.100.000 |
| 8 | Kalimantan Barat | 1 | 284 | 1.052.800.000 |
| 9 | Kalimantan Selatan | 2 | 673 | 2.548.750.000 |
| 10 | Lampung | 12 | 534 | 5.419.740.000 |
| 11 | Maluku | 1 | 1.337 | 6.355.000.000 |
| 12 | Nusa Tenggara Barat | 3 | 356 | 3.143.000.000 |
| 13 | Nusa Tenggara Timur | 1 | 295 | 6.000.000.000 |
| 14 | Riau | 8 | 1.494 | 12.711.596.000 |
| 15 | Sumatera Barat | 1 | 122 | 253.000.000 |
| 16 | Sumatera Selatan | 5 | 1.940 | 6.710.650.000 |
| 17 | Sumatera Utara | 5 | 3.641 | 15.521.000.000 |
| 18 | Yogyakarta | 24 | 15.091 | 43.361.110.800 |
| **Total** | | **339** | **137.778** | **734.105.982.250** |

*Source: OJK Capital Market Fact Book 2022*

# Annex 1: Supervision of fintech in Brazil

Brazil has witnessed the rapid emergence of fintech-based entities. This growth has reshaped the financial landscape in Brazil, prompting supervisory authorities to adapt their supervisory frameworks to accommodate these innovative entities.

This Annex explores how different types of fintech entities are supervised in Brazil, focusing on the main types of regulated entities and the Central Bank of Brazil's approach to incorporating fintech supervision into its frameworks.

## Financial regulation and supervision in Brazil

In Brazil, the financial system is regulated and supervised by various entities, including:

- Central Bank of Brazil (BCB) – banks and financial stability
- Securities and Exchange Commission (CVM) – securities market
- Superintendence of Private Insurance (SUSEP) – private insurance
- National Superintendence of Complementary Pension (PREVIC) – company pension funds for employees.

Together, the BCB, CVM, SUSEP and PREVIC play fundamental roles in regulating and supervising financial and capital markets in Brazil. They all aim to promote stability, transparency, and the protection of investors and consumers.

## Fintech in Brazil

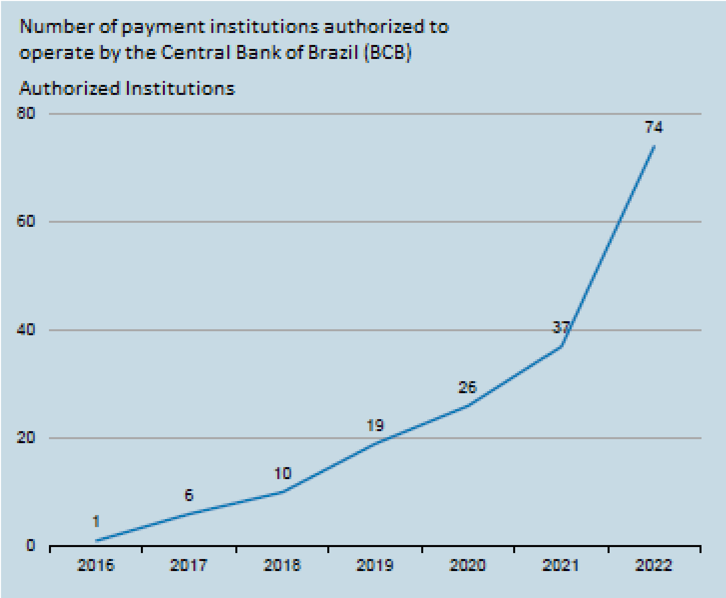
Brazil has solidified its position as one of the major fintech ecosystems worldwide, according to the Findexable (2021). In 2020 and 2021, the country achieved the first position in Latin America and climbed five places in the global ranking, reaching 14th place.

This makes it all the more important to introduce appropriate regulation and supervision. The first steps towards fintech regulation in Brazil were initiated over ten years ago. As fintech startups gained prominence, policymakers and supervisory authorities recognized the potential benefits and risks associated with these new players in the financial sector.

Legislation enacted in October 2013 was intended to encourage financial innovation, foster financial inclusion, and establish a more favorable regulatory framework for fintech startups in the country.[9] Among its key provisions were (a) the introduction of specific categories of payment institutions, allowing non-financial institutions to participate in the market; and (b) various principles to guide the activities of payment institutions, with a particular emphasis on interoperability and financial inclusion.

Payment institutions (PIs) facilitate payment services, such as digital wallets and mobile payments through payment accounts.[10] PIs began receiving authorization to operate from the BCB in 2016. The number of authorized PIs has increased rapidly (see chart on the next page), together with strong growth in the volume and value of transactions.

[9] Law 12,865.
[10] See also Toronto Centre (2023) for discussion of the supervision of digital retail payment systems.




*Source: Central Bank of Brazil*

BCB has also introduced regulations covering direct credit companies (using electronic platforms to provide credit) and peer-to-peer loan companies. Other regulatory authorities in Brazil have also issued regulations to govern the different types of fintechs for which they are responsible, including CVM for crowdfunding platforms (where SMEs and startups raise funds from individual investors in exchange for equity or other securities).

BCB and other regulatory agencies have also established a series of initiatives aimed at fostering market development and competition. In particular, BCB launched the BC+ Agenda as part of its strategic planning in 2016. This evolved into Agenda BC#, which was reorganized into five dimensions: inclusion, competitiveness, transparency, education, and sustainability. In 2018, BCB launched the Financial and Technological Innovations Lab (Lift). This is a virtual environment that allows collaboration between academia, the market, technology enterprises and startups. It aims to develop technological innovation, share knowledge, and evaluate the results of projects.

BCB has also established sandboxes to foster innovation while maintaining supervisory oversight. This allows fintech entities to test their products and services in controlled environments, enabling supervisors to better understand emerging risks and regulatory gaps.

## Fintech supervision by the Central Bank of Brazil

BCB bases its supervisory approach to fintech entities on its more general risk-based approach to supervised firms. This includes a focus on the risks and controls of supervised firms, verification of relevant aspects of the financial statements, and compliance with laws and regulations. This approach incorporates a “twin peaks” model within BCB, segregating and independently organizing the prudential supervision and conduct supervision structure and procedures.[11]

The supervisory model includes three main activities:

[11] See the BCB Supervision Manual. Banco Central do Brasil (2023).

***Monitoring*** - collecting data and information from the supervised entities and other external sources. The data are processed to analyze both macroprudential aspects related to financial stability and microprudential aspects related to individual entities. The aim is to support decision-making processes and identify potential problems.

***Supervision*** – this is segmented into the prudential supervision of banks and banking conglomerates, credit unions and non-banking institutions, and conduct supervision. The focus in prudential supervision is on the solvency and liquidity of the entities, while conduct supervision assesses the entities' relationship with customers and addresses the prevention of money laundering and terrorist financing.

***Strategic management and specialized supervision*** – including strategic planning for supervisory actions, human resources development, technological and logistical resource provision, technical advisory studies, inspections, prudential supervision of Financial Market Infrastructures, and the management of settlement agreements with supervised firms.

BCB has also been investing in technological innovation to address the complexity of the market and the innovations introduced by fintechs. It has established partnerships with international organizations and universities to acquire knowledge about innovative technologies.

## Financial stability

The rapid growth of fintech applications has also raised concerns about the risks these fintechs could pose to financial stability.

To address these concerns, BCB introduced new prudential rules and a proportional supervision model for payment institutions. These institutions must now comply with prudential rules that are proportional to their size and complexity, similar to those already in place for traditional financial institutions. The new regulation maintains the ease of entry for new competitors in the payment segment, with the aim of increasing competition in the system, while also imposing greater demands on larger fintechs. It became effective in July 2023, and its implementation is being phased over two years.

A specific methodology was also developed for the proportional supervision of payment institutions not subject to BCB´s authorization that are part of the Brazilian Payment System (SPB), exclusively because of their participation in the PIX payment system.[12] For payment institutions not subject to authorization by the BCB, but integrated into the SPB through their involvement in PIX, the proportional supervision follows a specific methodology that is applied to 53 unauthorized payment institutions.

Additionally, over the past few years, supervision procedures have been enhanced. On-site visits have also been conducted with all payment arrangement providers to promote alignment of concepts, data collection, and full compliance with the existing rules.

More recently, throughout 2022, significant progress has been made in automating the on-site supervision process for non-banking institutions. To create a comprehensive inspection roadmap, automatable questions were identified in the areas of internal control, integrated risk and capital management, treasury, and the economic and financial situation of credit fintechs.

[12] PIX is an instant payment system, launched by BCB in November 2020. PIX is a public, low-cost infrastructure accessible to all users of financial services. It allows individuals and businesses to make real-time electronic transactions, including transfers, payments, and purchases, 24/7, every day of the year.

## Financial inclusion

Fintech entities often leverage technology and innovative business models to reach underserved populations, thereby fostering financial inclusion. This phenomenon has been observed in many countries, including Brazil. The number of clients of fintechs has been steadily increasing each year.

The rise of different types of fintech-based entities in Brazil has significant implications for financial inclusion. Fintechs have grown so fast that some of them now have more customers than traditional banks. NUBank, a financial conglomerate led by a Payment Institution, now has more customers (80 million) than all but the largest three banks.

The percentage of adults with a relationship with a financial institution reached 96 per cent in 2020, up from 85 per cent in 2018. Between 2018 and 2020, the number of relationships with Payment Institutions grew by 180 per cent, indicating a trend of rapidly increasing access to fintechs in Brazil.[13] Furthermore, there has been an increase in the number of people using digital institutions as their primary financial service provider, rather than traditional ones.[14]

The introduction of the PIX instant payment system has changed the Brazilian financial landscape and has significantly benefited fintechs in the country. It has provided a faster, more affordable, and inclusive payment infrastructure that fosters innovation and competition among fintechs. With real-time payments and increased financial accessibility, fintechs have been able to expand their customer base and develop innovative solutions that cater to the diverse needs of Brazilians.

The mobility restrictions resulting from the COVID-19 pandemic were also relevant for accelerating the process of digitizing financial transactions in the country, not least because the financial support provided by the Brazilian government during the pandemic period was paid through direct deposits to the beneficiaries' accounts.

[13] Banco Central do Brasil (2021).
[14] ID Wall (2022).

# Annex 2: Supervision of fintech in Nepal

Nepal is a landlocked country that includes the Himalayas mountain region, the hills region that is covered mostly by forests, and the Terai plain that is prone to flooding. It is difficult to provide financial services to people in these vast, difficult, and remote regions, adding to the existing issues of financial literacy and low levels of financial inclusion.

Recently, fintech developments have begun to overcome geographical barriers, promote financial inclusion, and enhance financial literacy. However, challenges remain in consumer protection to enhance trust in digital financial services.

## Fintech in Nepal

As in many developing countries, fintech solutions in Nepal have contributed the most to retail payment systems through mobile money applications. Payment systems have grown rapidly in both the retail (see Table 1) and large value payment sectors.

**Table 1: Access to Payment Systems**

| Element of retail payment system | Number |
|---|---:|
| Payment System Operators (PSO) | 10 |
| Payment Service Providers (PSPs) | 27 |
| PSP Agents | 14,123 |
| Wallet Users | 18,941,793 |
| ATM Terminals | 4,855 |
| Debit Cards | 12,245,485 |
| Credit Cards | 283,772 |
| Mobile Banking Customers | 21,363,989 |
| Internet Banking Customers | 1,856,195 |
| ConnectIPS Users | 1,108,436 |

*Source: Nepal Rastra Bank (2023).*

The Distributed Ledger Technology (DLT), Cloud Computing, and Crowdfunding aspects of fintech applications are still in a nascent phase. The potential importance of these solutions is acknowledged, such as the use of DLT for collateral and security arrangements by keeping a record of immovable assets and of secured transactions. However, basic legal and infrastructure requirements are currently lacking. The use of Artificial Intelligence, Machine Learning, and Big Data has been promoted by the central bank, particularly for credit and insurance decisions and the identification of suspicious activities, but this use remains at an early stage of implementation.

## Fintech regulation and supervision in Nepal

In Nepal, with different fintech applications at different stages of maturity, the regulatory and supervisory response has been mixed. Payment systems are the most regulated. Payment Service Providers and Payment System Operators need to adhere to regulations that outline the system, transaction limits, modality, interoperability, and adoption of resilience, among others.

Nepal Rastra Bank, the central bank of Nepal, was given the responsibility to maintain secure, healthy, and efficient payment systems in 2002. This role was institutionalized by the Payment and Settlement Bylaws in 2015; the Licensing Policy for Payment Related Institutions/Mechanism in 2016; and the Payment and Settlement Act in 2019. These provided a clearer legal basis for the facilitation, enabling, and regulation of digital payment systems and their providers. Private sector Payment Service Providers and Payment System Operators had previously been providing services in an unregulated environment.

For the other fintech applications mentioned earlier, Nepal has focused on understanding their importance and promoting their use in both public and private sector. It has also drafted legislation to encourage their use and to introduce the necessary consumer protection, privacy, and data protection requirements.

Overall, the supervisory response has concentrated on cyber security, outsourcing, operational resilience, and consumer protection. Supervisors have prioritized the identification, monitoring and managing of risks, with a reliance on the private sector's understanding of risk management practices. This includes viable and sustainable models to cater to the emerging risks and needs; governance and setting the tone at the top; development of the three lines of defence; and adherence to the detailed regulatory requirements.

The central bank conducts both off-site and on-site supervision of payment system-related institutions from both prudential and conduct perspectives, as well as financial stability.

The supervisory framework includes:

***Regulatory Perimeter*** - Nepal revisited its regulatory perimeter through new legislation that brought various payment system participants under regulation, initiated through registration, then capital requirements and the promotion of gradual and controlled expansion. This has been supported by prudential supervision that balances the expansion of payment systems with the application of commensurate risk mitigating measures.

***Governance and risk management*** - Nepal has been adopting a governance and risk management supervisory approach to allow a natural expansion of fintech solutions. This includes a focus on operational, compliance, consumer protection and disclosures to customers, anti-money laundering and terrorist financing, cyber security, outsourcing, data privacy and security/protection risks.

***Sandboxes*** - Fintech applications can be tested for innovative propositions with real customers in a controlled environment through regulatory sandboxes. This allows the private sector, customers, and supervisors to interact effectively for the desired result. However, the implementation of sandboxes requires greater understanding of the risks and benefits by supervisors.

***Innovation Hub*** - Innovation hubs use specialized teams or units that focus primarily or exclusively on the impact of fintech by monitoring trends and developments and providing support to firms (both regulated and unregulated).

Nepal conducted a feasibility study on sandboxes and innovation hubs in 2023. An agreement was reached between the central bank and the International Finance Cooperation in September 2023 to develop a Regulatory Sandbox/Innovation Center.

## Financial inclusion

Access to financial services has increased rapidly in Nepal, as a result of:

- Central bank encouragement to banks to open local branches, and the geographic

reach of more than 15,000 saving and credit cooperatives and more than 5,000 branches of microfinance institutions.
- High levels of mobile phone usage and reliable electricity supply and internet connectivity for retail payment systems and access to banking products and services.
- Putting in place enabling conditions for the development of fintech credit, such as strong legal rights and access to credit information.

International Finance Corporation (2023) reports that the use of formal financial services like bank accounts, savings, credit, payment, and insurance increased in Nepal from 61 per cent in 2014 to 90 per cent in 2022, driven in part by rapid increases in the use of mobile and internet banking, and debit and credit cards. The use of informal financial services has reduced significantly from 21 per cent to 4 per cent over the same period.

Looking forward, Nepal’s national digital ID could be an important enabler that could mitigate issues relating to the identification of customers and to expand fintech applications from payment services to more advanced services of credit and insurance. It could facilitate Customer Due Diligence checks, paperwork, and interoperability.

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