

नेपाल राष्ट्र बैंक

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PAYMENT SYSTEMS OVERSIGHT REPORT

FY 2022/23



Nepal Rastra Bank
Payment Systems Department
Baluwatar, Kathmandu

Foreword

Dear Valued Readers,

The global digital payments industry has experienced a major shift in the aftermath of the COVID 19 pandemic. This growth is underpinned by a compound annual growth rate (CAGR) of 11 percent, made possible by the rapid technological innovations and the evolution of fintech, which have changed traditional banking models. While innovations and increased competition have successfully brought many unserved and underserved population within the net of formal financial services, they have also posed new challenges and threats in the payments landscape. These challenges necessitate an increased focus on cybersecurity, data privacy, consumer protection, and digital financial literacy.


Nepal Rastra Bank (NRB) plays a pivotal role in defining appropriate regulatory framework and infrastructures to balance risk and innovation. Furthermore, Banks and Financial Institutions (BFIs) and other payment service-related institutions must equally intensify their efforts to manage emerging risks and enhance consumer awareness. One of the key objectives of NRB, as stipulated in the NRB Act, 2002, is to establish a secure, healthy, and efficient payment system. In this regard, NRB focuses

on establishing and improving payment infrastructures, formulating and implementing legal/regulatory frameworks, encouraging innovation, and raising awareness about digital payments.

Furthermore, payment system oversight is a critical function of NRB, aimed at promoting safety and efficiency by monitoring both existing and planned payment systems. Though active oversight, NRB mitigates the risk of economic shocks resulting in from the failure of individual payment system participants to settle their payment obligations.

In this context, this report aims at disseminating information relating to the payment system activities in Nepal. This report serves as a valuable resource for all stakeholders to gain a comprehensive understanding of Nepal's payment system and the overseeing role played by NRB.

This report has been possible with the continuous efforts of colleagues at Payment System Department. Credit goes to Director Laxmi Prasad Prasai, Deputy Director Prakash Rai, Assistant Director Rajesh Paneru and Assistant Director Sabin Shrestha for their invaluable contributions in preparing this report. With this, I am pleased to present the fourth edition of the oversight



report, “Payment System Oversight Report,
2022/23”.

Thank you,

Dr. Gunakar Batta

Executive Director

Payment Systems Department

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Table of Contents

1. Background.....	1
2. Nepal's Payment System.....	4
3. NRB as a Regulator and Supervisor of the Payment Systems.....	7
4. Legal and Regulatory Provisions.....	8
4.1 Nepal Rastra Bank Act, 2002.....	8
4.2 Payment and Settlement Act, 2019.....	8
4.3 Payment and Settlement Bylaw (First Amendment, 2023), 2020.....	9
4.4 Payment Systems Inspection and Supervision Bylaw, 2021.....	10
4.5 Licensing Policy for Payment Related Institutions, 2023.....	10
4.6 Payment Systems-related Unified Directives, 2023.....	10
4.7 Nepal QR Standardization Framework and Guidelines, 2021.....	11
4.8 Payment Systems Oversight Manual, 2021.....	11
5. Key Developments and Activities.....	12
5.1 Amendment of Unified Directives.....	12
5.2 Notices and Circulars.....	12
5.3 Licensing.....	13
5.4 Large Value Payment Systems.....	14
5.5 Retail Payment Systems (RPS).....	17
5.6 National Payment Switch (NPS).....	18
6. Access on Payment Instruments.....	18
6.1 Cards.....	19
6.2 Cheque Clearing.....	22
6.3 Automated Clearing House.....	24
6.4 Instant Payment.....	24
6.4.1 connectIPS.....	25
6.4.2 QR Code-based Payment.....	25
6.4.3 Mobile and Internet Banking.....	26
6.4.4 Mobile Wallet.....	28
7. Usage of Payment Systems.....	28
8. Payment Systems Oversight.....	30
8.1 Payment System Oversight Framework in Nepal.....	30

8.1.1 Reporting Arrangement	32
9. Oversight Activities in 2022/23	33
9.1 Inspection/Supervision.....	33
9.1.1 On-site Inspection	33
9.2 Off-site Supervision	35
9.2.1 Actions Taken for the Non-compliance	36
9.2.2 Policy Facilitation	37
Reference	38
Annexure.....	40
Annex 1: Licensed Institutions (PSOs and PSPs)* (As of Mid-July 2023).....	40
Annex 2: Commercial Banks Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023).....	41
Annex 3: Development Banks Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023).....	42
Annex 4: Finance Companies Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023).....	43
Annex 5: Microfinance Financial Institutions as Payment Service Providers (PSPs) as of Mid-July 2023	43
Annex 6: Usage of Payment Systems	45
Annex 7: Number of Payment Instruments Issued by BFIs	46
Annex 8: Number of ATM Terminals and Customers of Mobile and Internet Banking.....	47

List of Tables

Table 1: Pillars of National Payment Systems Development Strategy, 2014.....	6
Table 2: Institutions Licensed to Operate as PSO/PSP (Mid-July, 2023)	7
Table 3: Overview of Payment Systems Related Unified Directives	11
Table 4: Public Notices Issued by NRB, 2022/23	13
Table 5: Circulars Issued by PSD in 2022/23	13
Table 6: PSP Licenses Issued by PSD in FY 2022/23	13
Table 7: RTGS System in Nepal.....	15
Table 8: Volume and Value of Transactions Processed through RTGS System.....	16
Table 9: Total ILF and OLF Availed by RTGS Participants.....	16
Table 10: Access on Payment Systems.....	18
Table 11: Number of Cards.....	19
Table 12: Product-wise Transaction Number/Count through ECC System	23
Table 13: Number of Cheques Presented and Cleared (NCHL-ECC).....	23
Table 14: Transaction Number/Count through IPS	24
Table 15: Number/Count of Transactions through connectIPS	25
Table 16: Number of Customers using Mobile and Internet Banking	26
Table 17: Payment System Oversight Framework in Nepal.....	30
Table 18: Regulatory Reporting by Licensed Institutions	32
Table 19: On-site Inspection in FY 2022/23.....	34
Table 20: Off-site Supervision in FY 2022/23	35


List of Figures

Figure 1: Actual and Projected Cashless Transactions in Global Space	2
Figure 2: Growth Trends of Value and Volume of Cashless Payments	2
Figure 3: Number of Debit Cards	20
Figure 4: Number of Credit Cards	21
Figure 5: Number of Prepaid Cards	22
Figure 6: QR Code-based Payments in Nepal	26
Figure 7: Mobile Banking Customers in Nepal	27
Figure 8: Internet Banking Users in Nepal	28

Acronyms and Abbreviations

ACH	Automated Clearance House
A.D.	Anno Domini
AEs	Advanced Economies
AI	Artificial Intelligence
API	Application Programming Interface
ATM	Automated Teller Machine
BFI	Banks and Financial Institutions
BNPL	Buy-Now-Pay-Later
B.S.	Bikram Sambat
CAGR	Compound Annual Growth Rate
CBDC	Central Bank Digital Currency
CDD	Customer Due Diligence
CEO	Chief Executive Officer
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems
CRG	Cyber Resilience Guidelines
DLT	Distributed Ledger Technology
ECC	Electronic Cheque Clearing
EMDEs	Emerging and Developing Economies
EUR	European Euro
FY	Fiscal Year
GB	GigaByte
GBP	UK Pound Sterling
GDP	Gross Domestic Product
GL	General Ledger
GoN	Government of Nepal
IBFT	Interbank Fund Transfer
ID	Identity

ILF	Intraday Liquidity Facility
IOSCO	International Organization of Securities Commission
IOT	Internet-of-Things
IPS	Interbank Payment System
JPY	Japanese Yen
KYC	Know-Your-Customer
LIs	Licensed Institutions
LOI	Letter of Intent
Ltd.	Limited
ML	Machine Learning
NCHL	Nepal Clearing House Limited
NEPS	Nepal Electronic Payment System
NFC	Near-field Communication
No.	Number
NPR	Nepal's Rupee
NPS	National Payment Switch
NPSDS	Nepal Payment System Development Strategy
NRB	Nepal Rastra Bank
OLF	Overnight Liquidity Facility
PEP	Politically Exposed Person
PFMI	Principles of Financial Market Infrastructure
POS	Point of Sale
POT	Point of Transaction
PSD	Payment Systems Department
PSOs	Payment System Operators
PSPs	Payment Service Providers
P2P	Peer-to-Peer
Pvt.	Private
QR	Quick Response
RPS	Retail Payment Systems
RTGS	Real Time Gross Settlement



SCT	Smart Choice Technologies
SIPS	Systemically Important Payment System
SIS	Supervisory Information System
SME	Small and Medium Enterprises
USD	U.S. Dollar
4G/LTE	Long Term Evolution

1. Background

Payment and settlement systems play a vital role in the financial sector and the economic activities. They contribute to financial stability and economic growth by reducing systemic and settlement risks, ensuring proper liquidity management, and facilitating the efficient transmission of monetary policy¹. Furthermore, the ongoing digital transformation in the financial sector has the potential to greatly enhance financial inclusion, particularly in emerging markets and developing economies (EMDEs), by overcoming geographical barriers and addressing information gaps in payments, credit, and other products².

The global digital payments industry has experienced a significant growth, attributed to factors such as the COVID 19 pandemic, increased focus on digitalization by Banks and Financial Institutions (BFIs), technological advancements and innovations supported by regulatory changes³. Technologies like distributed ledger technology (DLT), cloud services, application programming interface (API), data analytics and machine learning (ML), artificial intelligence (AI), Internet-of-Things (IOT)/smart devices are reshaping the banking landscape⁴.

Customers have widely embraced digital payment modes, leading to a substantial increase in both physical and e-commerce transactions. PwC (2022) reports that the global digital payments market, currently at USD 5,872 billion, is growing at an 11% compound annual growth rate (CAGR), and is projected to reach USD 9,073 billion by the end of 2025. Furthermore, global cashless payment volumes are expected to rise by more than 80 percent from 2020 to 2025, from around 1 trillion transactions to nearly 1.9 trillion, and to almost triple by 2030 (Figure 1, Trend Line)⁵. The Asia-Pacific region is leading this growth, with cashless transaction volume expected to increase by 109 percent from 2020 to 2025 along with an expectation of 76% growth during 2025 and 2030. Other regions, including Africa, Europe, and Latin America, are also witnessing substantial growth, though the US and Canada are expected to have a mild growth.

¹ See. The World Bank Group (2020)

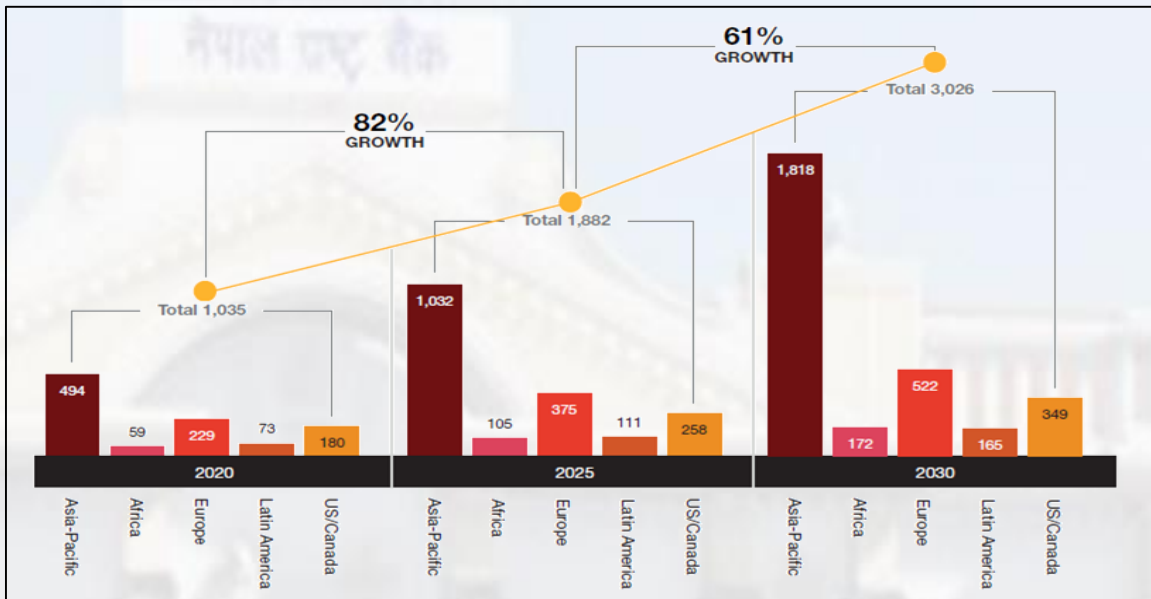
² See. Feyen, Natarajan, & Saal (2023)

³ See. PwC (2022)

⁴ See. Infosys (2019)

⁵ See. <https://www.businesswire.com/news/home/20220218005233/en/Global-Digital-Payment-Market-is-Expected-to-Grow-at-a-CAGR-of-over-20.5-During-2022-2030---Re-searchAndMarkets.com>

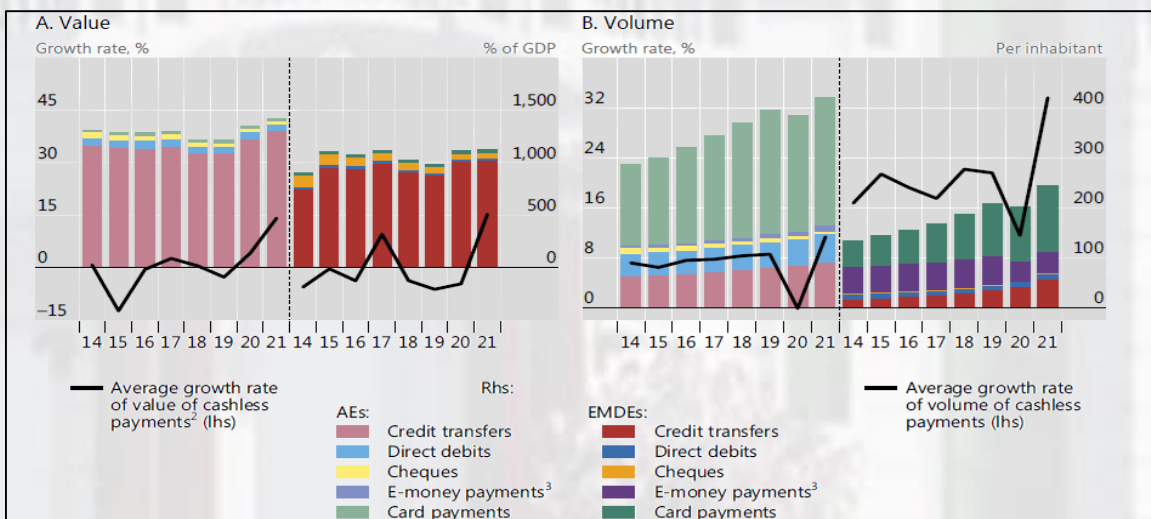
Figure 1: Actual and Projected Cashless Transactions in Global Space⁶



Source: PwC (2021)

In 2020, the CPMI Red Book Statistics indicated a significant adoption of digital credit transfers and contactless card payments. The trend has continued in 2021 as suggested by the CPMI Red Book Statistics, 2021⁷. Figure 2, First Panel shows that the total value of cashless payments has increased by 14 percent and 15 percent in advanced economies (AEs) and EMDEs respectively.

Figure 2: Growth Trends of Value and Volume of Cashless Payments



Source: CPMI (2023)

⁶ The total cashless transactions for 2025 and 2030 are projections made by PwC (2021).

⁷ See: CPMI (2023). The statistics was collected in the second half of 2022 for the 27 member jurisdictions of the Bank for International Settlements' Committee on Payments Market Infrastructures (CPMI).

The growth in the value of cashless payments as a percentage of GDP has mainly been driven by credit transfers. The volume of cashless payments has also increased sharply in 2021, driven mainly by card payments (Figure 2, Second Panel). The use of cheques has continued to decline globally, as they are replaced mainly by credit transfers (CPMI, 2023). CPMI suggests that this shift is not solely due to an increased usage but also because consumers and businesses that temporarily transitioned to card payments in 2020 have continued with this behavior in 2021. This indicates a behavioral shift from traditional payment methods to digital payments.

PwC (2021) urges that the remarkable uptrends in the payments industry, particularly in the Asian markets, are driven mainly by new business models and innovation. In addition to digital payments, digital lending is gaining traction, with fintech's applications offering credit through digital channels and employing data-driven underwriting and risk management. In 2020, global digital credit flow reached nearly USD 800 billion, with Big Tech lending platforms accounting for 70 percent of this volume⁸. Various digital lending products, including buy-now-pay-later (BNPL) solutions, peer-to-peer (P2P) lending, SME financing, receivables financing, stand-alone microloans, mobile network credit to mobile money agents and merchants are increasingly becoming popular in the digital banking landscape.

The upsurge in the global payments industry has been made possible by several factors, including open data frameworks, data privacy and consumer protection regulations, legal and regulatory frameworks, technical infrastructures for asset registries and invoices, and other related services⁶. Smartphones have played a pivotal role in enhancing the payment experience and enabling real-time payments. Other financial infrastructures, such as Digital ID for real-time data exchange without compromising safety; sound credit information systems (automated registries and credit bureaus), secured-asset infrastructures for assets-based lending have also promoted the digital banking ecosystem. Many countries are exploring the implementation of Central Bank Digital Currencies (CBDCs) to promote innovation in payment products, including cross-border applications. CBDCs are expected to foster cashless payment innovations, ensuring transparency, speed, seamlessness, and cost-effectiveness in payment services.

However, the increased adoption of digital payments has given rise to concern about data privacy and cybersecurity. PwC (2022) highlights that data privacy and cybersecurity will be

⁸ See. (Feyen, Natarajan, & Saal, Fintech and the Future of Finance: Market and Policy Implications, 2023)

the top concerns for regulators over the next five years, followed by digital identity and authentication, as well as cryptocurrencies and CBDCs. To establish a robust payments ecosystem, it is imperative to strengthen the infrastructure supporting digital payments. Regulatory authorities are making substantial investment to ensure a secure and efficient environment, with a specific focus on addressing issues related to algorithm biases, digital exclusion, digital privacy, and consumer protection. The Know-Your-Customer (KYC) systems also need to be robust and regular consumer disclosures and education are essential to promote economic well-being through the digital ecosystem.

In this context, the role of Central Banks is pivotal in maintaining a balance between innovation and risk within the payment system. They oversee payment systems, ensuring safety and efficiency, and work on strengthening the financial and technical aspects of the system. The international central banking community emphasizes the need for proper oversight to ensure the smooth functioning of payment systems. The oversight function, therefore, is central to developing and strengthening the financial and technical integrity of the payment system, its robustness against shocks, and its overall efficiency through rules and standards, monitoring, and enforcement⁹. Oversight activities further help central banks bring developmental initiatives, policies, directives, guidelines, and circulars to support payment system modernization endeavors. Payment system oversight reports are used to communicate these efforts to relevant stakeholders.

The “**Payment System Oversight Report, 2022/23**” provides information on the development of Nepal's payment systems and to elucidate oversight activities conducted by the Payment Systems Department (PSD) to ensure an efficient, safe, and healthy payment system in Nepal.

2. Nepal's Payment System

Over the past decade, Nepal has witnessed a surge in digital adoption. The 4G/LTE services now cover 739 of 753 local levels across 77 districts in Nepal¹⁰. The smartphone penetration rate stands at 72.94%, and 38% households have access to the internet services¹¹. The cost of connectivity has also dropped significantly from USD 2.25/GB in 2019 to USD 0.46/GB in 2023¹². Thus, as digital technologies become accessible and affordable, the digital divide,

⁹ See. CPMI (2021)

¹⁰ See. NTA (2023)

¹¹ See Nepal Census, 2021, available at https://censusnepal.cbs.gov.np/results/files/result-folder/National%20Report_English.pdf

¹² See. <https://www.cable.co.uk/mobiles/worldwide-data-pricing/>

especially the rural and gender divide, is gradually narrowing. The opportunities still exist for digital innovators as 50 percent adults from rural area and 40 percent adults from urban area still lack an account at a financial institution¹³.

Nepal has experienced many innovations, especially in digital payments industry, after the COVID-19 pandemic. New payment instruments have evolved in the payment system, changing how people transact and bank. Such instruments are Quick Response (QR) codes, *connectIPS* (Instant Payment System), Cardless Withdrawal, Smart Point-of-Sale (POS), Contactless Cards based on Near-Field Communication (NFC) technology, Virtual Cards, Digital Lending. Nepal has further operationalized the Retail Payment Switch (RPS) for settling retail payment transactions within the nation, and the development of the National Payment Switch (NPS) is under progress. Physical banking has transformed into phygital banking and the nation has gradually been marching towards a fully digital banking landscape.

NRB has setup Central Bank Digital Currency (CBDC) unit within Payment Systems Department (PSD). With CBDC in place, payment-related innovations are further expected to flourish in Nepal. Nepal is planning to facilitate cross border payments through the adoption of newly designed payment system instruments.

As digitalization starts penetrating the grassroots, cybersecurity and digital financial literacy become equally important. In this regard, NRB has issued Cyber Resilience Guidelines (CRG), 2023 targeting all licensed institutions (LIs) undertaking payment-related transactions. The CRG is a supplemental guideline to the Principles of Financial Market Infrastructures (PFMI) regarding cyber resilience and is intended to increase the degree of cyber maturity of LIs by enhancing the capacity to carry out critical activities and recover from cyberattacks. NRB has further institutionalized Financial Inclusion and Consumer Protection Division under the Office of the Governor to systematically carry out financial literacy and consumer protection related activities. Furthermore, Financial Literacy Framework, 2022 and Financial Literacy Guidelines, 2023 have been issued for the BFIs. The division is undertaking digital financial literacy programmes by using the social media platform of NRB. Digital financial literacy campaigns will be undertaken through other mediums too in the days to come.

¹³ See. Nepal Financial Inclusion Report 2023, available at <https://www.ifc.org/content/dam/ifc/doc/2023-delta/2023-nepal-financial-inclusion-report.pdf>

Many of these changes in the digital banking landscape are the direct outcomes of the Digital Nepal Framework, 2019 and the Retail Payments Strategy, 2019. In fact, the traces of payment systems development can be found way back in the National Payment Systems Development Strategy (NPSDS), 2014, a major push in modernizing the payment systems. The NPSDS, 2014 was formulated to further develop a secure, healthy, and efficient payment system as mentioned in the NRB Act, 2002¹⁴. The strategy has highlighted the following nine pillars for the development of payment systems in Nepal:

Table 1: Pillars of National Payment Systems Development Strategy, 2014

Pillar 1	Legal Framework
Pillar 2	Large Value Payment System
Pillar 3	Retail Payment System
Pillar 4	Government Payments
Pillar 5	Security Depository, Clearing, and Settlement Mechanisms
Pillar 6	Interbank Money Market
Pillar 7	International Remittances
Pillar 8	Oversight of the National Payment System
Pillar 9	Co-operative Framework of the Payment Systems

The strategic direction of NPSDS led to the establishment of PSD, a significant milestone for payment system modernization in Nepal. Furthermore, Licensing Policy for Payment Related Institutions, 2023; Payment and Settlement Act, 2019; and Payment and Settlement Bylaw (First Amendment, 2023), 2020 have brought other breakthroughs in the era of digital payments. NRB has further issued NepalQR Standardization Framework and Guidelines, 2021; and Digital Lending Guidelines, 2022 to modernize and systematize the payment systems. These legal frameworks are helping to expand and improve the digital modes of payment in Nepal.

37 institutions are licensed as payment institutions as of Mid-July 2023. Among them, 27 are PSPs, and 10 are Payment System Operators (PSOs). In addition, all 20 commercial banks, 16 development banks, 15 finance companies, and 7 microfinance financial institutions have

¹⁴ Sec. NRB (2014)

obtained the license to operate as PSP from NRB. The detailed list of licensed institutions is presented in Annex.

Table 2: Institutions Licensed to Operate as PSO/PSP (Mid-July, 2023)

Category	Count
Payment Service Provider (PSP)	27
Payment System Operator (PSO)	10
Commercial Banks as PSP	20
Development Banks as PSP	16
Finance Companies as PSP	15
Microfinance Financial Institutions as PSP	7

NRB has further been encouraging digital payments instead of cash transactions to ensure transparency and smooth functioning of payment systems. As part of this initiative, Retail Payment Switch has been launched in November, 2021. PSD has also revised the transaction limits for different payment instruments. Further, the circular on interoperability has been issued to ensure smooth, efficient, and seamless operations of payment instruments such as QR Codes, e-wallets issued and managed by different PSPs/ PSOs.

Box 1: Understanding PSO and PSP

Payment Service Provider (PSP): PSP is the institution that provides payment-related services to beneficiaries. It also refers to the institution that makes the payment for goods, services, assets, or other liabilities between the institution and beneficiaries, transfers money within the country and abroad, or conducts payment transactions electronically.

Payment System Operator (PSO): PSO is the institution that performs payment-related operations, management, and clearing. It also refers to the institution that operates clearing house, electronic cards, and other electronic (online) payment networks.

3. NRB as a Regulator and Supervisor of the Payment Systems

As the Central Bank of Nepal, NRB has been entrusted with the responsibility to regulate and supervise/oversee payment-related institutions, activities, and mechanisms. There are adequate legal provisions that authorize NRB to perform such responsibility. NRB Act, 2002 has made NRB an autonomous institution empowered to regulate and supervise/oversee Nepal's payment and settlement systems. To carry its responsibility of maintaining a secure, healthy, and

efficient payment system, NRB periodically issues policies, directives, guidelines, circulars, and notices to licensed institutions considering the domestic situation and international best practices.

PSD is the dedicated department for payment systems, and it regulates and supervises/oversees the payment-related institutions based on the existing legal framework, directives, oversight framework, major international guiding principles such as PFMI and other prevalent guiding documents.

4. Legal and Regulatory Provisions

NRB has developed legal and regulatory provisions consisting of acts, bylaws, policies, guidelines, and manuals to monitor and regulate the licensed institutions. The global payments community has opined that adherence to the PFMI, especially by the Systemically Important Payment Systems (SIPS), makes the payment system secure and resilient. NRB has also suggested the licensed PSOs and PSPs to adhere to the PFMI issued by the Committee on Payment and Settlement System (CPSS) and the International Organization of Securities Commissions (IOSCO).

The legal framework for payment activities bears relevant implications for the oversight objectives by affecting the payment system's efficiency, reliability, safety, and stability. As the legal provisions impact the payment market participants, NRB usually undertakes policy dialogues and collects stakeholders' opinions before implementing new or amending existing arrangements. The current legal and regulatory provisions related to the payment system are as below:

4.1 Nepal Rastra Bank Act, 2002

As per the NRB Act, 2002, one of the major objectives of NRB is to develop a secure, healthy, and efficient system of payment in Nepal. The act also gives NRB the power to regulate, inspect, and supervise payment, clearing, and settlement arrangements.

4.2 Payment and Settlement Act, 2019

The Payment and Settlement Act, 2019 provides the legal basis for the development, expansion, promotion, monitoring, and regulation of the payments, settlement, and clearing systems in Nepal. The key components of the Act are as follows:

- *National Payment Board*: The Act has made the provision of the National Payment Board. The main functions of the Board are to maintain financial sector stability by

making the payment systems secured, managed, and capable; to minimize the risk inherent in the payment system; to enhance trust in the payment system; and to prepare policy provisions regarding modernization of payment systems. PSD is responsible to provide secretariat service to the Board.

- *Licensing responsibility:* NRB is responsible for issuing, revoking, or refusing a license to an entity intending to work as a PSP or a PSO.
- *Oversight and Inspection:* NRB is empowered to supervise and inspect the licensed institutions on a regular basis.
- *Dispute Settlement Committee:* In the event of any dispute arising between the institutions about any work performed under this Act, the dispute settlement process is handled by the Dispute Resolution Committee.
- *Power to give direction:* NRB has the power to give directions to licensed institutions regarding the implementation of the provisions of this Act.
- *Power to frame bylaw:* NRB, as per this Act, has the power to frame bylaw for the implementation of the Act.
- *RTGS:* High value and critical payments (prescribed by NRB from time to time) and settlement of transactions are to be performed through RTGS on a gross or net basis.
- *Punishment, Fines, and Penalties:* The Act has specified punishment, fines, and penalties for violation of or non-adherence to any of the provisions of the Act or Bylaw.

4.3 Payment and Settlement Bylaw (First Amendment, 2023), 2020

Payment and Settlement Bylaw (First Amendment, 2023), 2020 empowers NRB with the authority to regulate, supervise, inspect, and oversee payment services provided by payment-related institutions (PSOs and PSPs). The bylaw covers the following major provisions:

- Qualification of the expert member of the National Payment Board
- Functions, duties, and power of PSD
- Provisions of Letter of Intent (LOI) to establish a company related to payments and settlement
- Required documents and details for the renewal of the license
- Qualification of the board members and executive chief of PSPs/PSOs

- Liabilities of licensed institutions
- Provisions regarding consumer protection
- Provisions regarding the addition and cancellation of payment instruments
- Securities of payment and settlement system
- Voluntary liquidation of the licensed institution
- Provisions related to Merger and Acquisition for PSOs/PSPs.

4.4 Payment Systems Inspection and Supervision Bylaw, 2021

Payment Systems Inspection and Supervision Bylaw, 2021 provides a clear roadmap for the inspection and supervision of PSPs and PSOs. The major components of the Bylaw are as follows:

- Functions of the Oversight Unit
- Objectives of inspection and supervision
- Process of inspection and supervision
- Code of conduct, duty, responsibility, and security of supervisor
- Format of the inspection report
- Direction regarding the merger or acquisition of needed institution.

4.5 Licensing Policy for Payment Related Institutions, 2023

The scope of licensing policy covers all BFIs, PSPs, and PSOs operating payment-related functions and their related instruments and transactions. This policy specifies the major requirements to obtain the license, functional areas for providing the license, provisions related to service charge and deposit, provisions related to paid-up capital, provisions related to license renewal, rules and standards to operate as a PSO/PSP.

4.6 Payment Systems-related Unified Directives, 2023

NRB issues payment systems-related unified directives annually. Altogether, 16 directives related to payment systems/services have been issued by NRB as of Mid-July 2023. A brief overview of payment systems-related unified directives is presented in Table 3.

Table 3: Overview of Payment Systems Related Unified Directives

Directive No.	Provisions Related to
1	Electronic Payment Cards
2	Financial Service Operation in Domestic Currency through Telecommunication Networks
3	Operation and Security Measures in Electronic Payment System
4	E-money(Wallet) Settlement
5	Fees and Transaction Limit for Electronic Transactions
6	Approval of Annual Financial Report before Publishing
7	Operation of RTGS System
8	Branchless Banking (BLB) and Authorized Agents
9	Electronic Cheque Clearing (ECC)
10	Statistical Description
11	Corporate Governance
12	Risk Management
13	Customer Protection
14	Prevention of Financial Investment in Money Laundering and Terrorist Activities
15	Interoperability and Access of Payment System
16	Miscellaneous

4.7 Nepal QR Standardization Framework and Guidelines, 2021

NepalQR Standardization Framework and Guidelines, 2021 determines standards to bring uniformity in the QR design issued by different institutions and provide equal opportunities to all the players in the payment space.

4.8 Payment Systems Oversight Manual, 2021

The Payment Systems Oversight Manual, 2021 is intended to serve as a guide in implementing the oversight function of payment and settlement systems. This document recognizes the Off-site Supervision and On-site Inspection as the oversight tools and the key components of the oversight function.

4.9 Principles of Financial Market Infrastructures

In April 2012, the CPSS and IOSCO published the report entitled “Principles of Financial Market Infrastructures”, which has established new international standards for payment systems that are systemically important¹⁵, central securities depositories, securities settlement systems, central counterparties, and trade repositories. In addition to the core principles for SIPS, the CPSS-IOSCO task force has also identified four central bank responsibilities in applying the core principles, in effect laying out the main features of central banks’ oversight of the payment system.

NRB has planned to designate the payment systems of Nepal as systemically important and specify Disclosure Framework for SIPS to disclose their adherence to the PFMI to relevant stakeholders.

5. Key Developments and Activities

NRB has issued directives, circulars, and notices to the licensed institutions as part of its regulatory and supervisory functions. New licenses have been issued to additional BFIs for payment service provision in FY 2022/23. The key developments and activities undertaken by NRB in FY 2022/23 are as below:

5.1 Amendment of Unified Directives

NRB continuously updates the existing directives to further ensure the safety and efficiency of the payment systems to address the pertinent payment related issues and to incorporate the policy changes. The amended unified directive related to payment systems/services was published on Mid-November 2023.

5.2 Notices and Circulars

NRB periodically issues public notices related to payment systems to the stakeholders and the general public. Some of the notices issued in FY 2022/23 are presented in Table 4.

¹⁵ Systemically important payment systems (SIPS) handle large transaction volumes in relation to the size of their participants, which consequently raise systemic risks. (World Bank Group (2020) and CPSS-IOSCO (2012))

Table 4: Public Notices Issued by NRB, 2022/23

Date (A.D.)	Public Notice Regarding
30 Nov, 2022	Adoption of precautions while making transaction through branchless banking service.
13 Dec, 2022	Not to be involved in unlawful activities like online betting and similar through electronic payment (online banking, mobile banking and digital wallet).
15 Jun, 2023	Adoption of precautions while using electronic payment instruments

NRB has also issued circulars to amend the existing provisions of payment systems-related unified directives and to incorporate new arrangements in the existing legal provisions. The overview of the circulars issued in FY 2022/23 is presented in Table 5.

Table 5: Circulars Issued by PSD in 2022/23

Date (A.D.)	Circulars
15 Feb, 2023	Issuance of overnight liquidity facility at policy rate to licensed banks and financial institutions onboarded in the RTGS system.
27 Mar, 2023	Adoption of simplified KYC process while onboarding agents having annual transaction up to Rs. 0.1 million.
9 Jul, 2023	Not to represent or assume as official simultaneously in payment systems related institutions by directors/officials of licensed BFIs, moneychangers, remittance companies, PSPs and PSOs.

5.3 Licensing

During FY 2022/23, NRB has issued licenses to the institutions listed in Table 6 to operate as PSP.

Table 6: PSP Licenses Issued by PSD in FY 2022/23

Licensed Date (B.S.)	Institution's Name	Address	Institution Type
2079/05/09	Shree Investment and Finance Company Ltd.	Dillibazar, Kathmandu	PSP
2079/05/09	Chhimek Laghubitta Bittiya Sansthan Ltd.	Baneswor, Kathmandu	PSP

Licensed Date (B.S.)	Institution's Name	Address	Institution Type
2079/05/21	Nirdhan Utthan Laghubitta Bittiya Sasthan Ltd.	Naxal, Kathmandu	PSP
2079/08/14	Mirmire Laghubitta Bittiya Sasthan Ltd.	Banepa, Kavrepalanchowk	PSP
2079/08/21	Sworojkar Laghubitta Bittiya Sasthan Ltd.	Banepa, Kavrepalanchowk	PSP
2079/08/21	Unnati Sahakarya Laghubitta Bittiya Sasthan Ltd.	Siddharthanagar, Rupandehi	PSP
2079/09/24	Swablamban Laghubitta Bittiya Sansthan Ltd.	Kamalpokhari, Kathmandu	PSP
2079/10/05	Corporate Development Bank Ltd.	Birgunj, Parsa	PSP
2080/01/11	Karnali Development Bank Ltd.	Nepalgunj, Banke	PSP
2080/03/05	Narayani Development Bank Ltd.	Rattnagar, Chitawan	PSP

5.4 Large Value Payment Systems

Based on the mandate given by the Payment and Settlement Act, 2019 and the Payment and Settlement Bylaw (First Amendment, 2023), 2020, NRB has been operating Real Time Gross Settlement (RTGS) system for large value and critical payments since September 12, 2019. The RTGS system is an electronic fund transfer system in which the transfer of funds between one bank/financial institution to another takes place in "real time" and on a "gross" (transaction by transaction) basis, without bundling or netting debit and credit transactions of a participant.

NRB has issued the RTGS System Rules, 2019 that incorporates the membership criteria, responsibilities of members, settlement rules, operating procedures of the RTGS system, provisions related to Intraday Liquidity Facility (ILF) and Overnight Liquidity Facility (OLF) among others. Similarly, NRB has also issued a separate directive (Directive No. 7 of Payment System Related Unified Directives, 2079) for the operations of the RTGS system. Further details about the RTGS system are presented in Table 7.

Table 7: RTGS System in Nepal

Particulars	Details		
RTGS Direct Participants	Participants		Count
	Commercial Banks		20
	Development Banks		11
	Finance Companies		12
	Nepal Infrastructure Bank (NIFRA)		1
	Total		44
	<i>(As of Mid-July 2023)</i>		
Allowed Currencies for Transaction Settlement	<ul style="list-style-type: none"> • Nepal's Rupees (NPR) • US Dollar (USD) • Euro (EUR) • Pound Sterling (GBP) • Japanese Yen (JPY) 		
Transaction Limits (for allowed currencies)	Currency	Mandatory Threshold	Minimum Limit
	NPR	NPR 2 Million or above	NPR 200,000
	USD	USD 20,000 or above	USD 2,000
	EUR	EUR 20,000 or above	EUR 2,000
	GBP	GBP 20,000 or above	GBP 2,000
	JPY	JPY 2 Million or above	JPY 200,000

RTGS system has replaced the manual process to clear large value and critical payments in NRB's General Ledger System with an automated and real-time payment process. Further, the RTGS system can enhance trust and confidence in the payment system as it significantly reduces the settlement risk in payment mechanism. It further helps to increase the velocity of money and boost economic activities. The usage of the RTGS system in Nepal is presented in Table 8.

Table 8: Volume and Value of Transactions Processed through RTGS System

Currency	2021/22		2022/23	
	No. of Transaction	Amount (in Million)	No. of Transaction	Amount (in Million)
NPR	733,795	41,561,971	794,427	34,135,418
USD	14,774	828	17,384	936
EUR	1,098	223	2,034	172
GBP	582	5	964	8
JPY	348	75,634	371	8,307

Note: Transaction amount (in Million) in respective currencies

Since the RTGS system is a domestic interbank settlement system, around 97 percent of the total transactions are based on Nepal's currency. Out of the allowed 4 foreign currencies, transactions in US Dollars are dominant in terms of frequency and value of transactions than in other currencies.

The RTGS system has also been used for liquidity management through the provisions of ILF and OLF. The ILF and OLF were started from 16 December, 2022. BFIs are charged interest on OLF at policy rate as per the Intraday Liquidity Procedure (Third Amendment, 2023), 2019. In 2022/23, the direct participants of the RTGS system have availed ILF of NPR. 3025 Billion, of which the total liquidity provided in the form of OLF has stood at NPR. 2379 Billion. The usage of ILF and OLF was the highest during mid- February, 2023 to mid-June, 2023 because of the liquidity crisis in the Nepal's financial market. BFIs have extensively relied on OLF to fulfill their settlement as well as CRR obligations during the said period.

Table 9: Total ILF and OLF Availed by RTGS Participants

Month	Amount (in NPR. Million)	
	ILF	OLF
16 Dec 2022-14 Jan 2023	35,035.00	12,808.13
15 Jan- 12 Feb 2023	70,871.20	51,783.88
13 Feb- 14 Mar2023	663,994.21	590,922.32
15 Mar- 13 Apr 2023	955,236.14	805,735.54
14 Apr- 14 May 2023	729,840.35	603,415.23
15 May- 15 Jun 2023	513,001.34	311,940.48
16Jun- 16 Jul 2023	56,910.00	2,174.84
Total	3,024,888.24	2,378,780.42

Source: RTGS Unit, PSD, NRB

5.5 Retail Payment Systems (RPS)

The Nepal's retail payment systems consist of cheque-clearing, electronic fund transfer, card payment systems, QR code-based payment, e-money, and remittances. These systems are characterized as low-value payment systems targeted at retail customers. These systems are mainly operated by Nepal Clearing House Limited (NCHL), which provides image-based cheque-clearing solution and electronic fund transfer facility to customers. Similarly, FonePay Payment Services Ltd., the licensed PSO, provides the platform for QR payments, interbank fund transfer (IBFT), and online payments to customers. Other major operators in the cards payment landscape are Smart Choice Technologies (SCT) Ltd. and Nepal Electronic Payment Systems (NEPS) Ltd. The internationally recognized institutions like Visa Worldwide Pvt. Ltd., Union Pay International Company Ltd., and Master Card Asia/Pacific Pvt. Ltd. are also operating as PSOs in the Nepal's payment industry. The e-money and remittance service providers further complement the retail payment infrastructure in Nepal. The major retail payment infrastructures, such as automated clearing house and the payment switches (like retail payment switch), are operated by the licensed PSOs. The scenario of retail payments has changed rapidly in recent years, especially after the COVID-19 pandemic. IPS, *connectIPS*, Mobile Banking, Internet Banking, e-Wallets, QR Code. are the major developments in the field of retail payments in Nepal. The use of instant payment systems like *connectIPS*, IBFT, and QR code has sky-rocketed after the COVID-19 pandemic. Such a surge in the use of digital financial services has paved the path to modern banking, wherein physical banking is gradually transforming into digital banking.

NRB is also keen on promoting digital financial services to reduce the use of cash for transactions. To modernize the retail payment system in Nepal, NRB has formulated the Retail Payment Strategy, 2019 focusing on the following key pillars:

- (i) Strengthening the legal and regulatory framework,
- (ii) Deepening digital retail payment systems,
- (iii) Directing government and remittance payments to transaction accounts,
- (iv) Ensuring the settlement in central bank money,
- (v) Promoting financial awareness, literacy, and access,
- (vi) Promoting oversight, and
- (vii) Promoting cooperation between authorities.

5.6 National Payment Switch (NPS)

The mandate for a National Payment Switch has been obtained through the Payment and Settlement Act, 2019 and the Payment and Settlement Bylaw (First Amendment, 2023), 2020. The monetary policy of FY 2019/20 also announced the need for a NPS to ensure interoperability and settlement of all domestic transactions within the country. Based on these legal mandates, the NPS is currently being developed through NCHL. The RPS, a component of NPS went live in November 2021. All retail payment transactions originating from IPS, *connectIPS*, and ECC systems are currently settled through RPS in the books of the Central Bank (via the RTGS system). The strategic direction of NRB is to ensure the settlement of all electronic transactions of the country through RPS and NPS at large.

6. Access on Payment Instruments

The COVID-19 pandemic accelerated the digitalization of payments making non-cash payments the new normal, especially in city areas. This wave started from 2020 and continues till date. There has been a rapid surge in the use of digital payment instruments like Mobile Banking, Cards, QR code, *connectIPS*, e-Wallets, Internet Banking, POS machines. Audio QR Codes, Cardless withdrawal through ATMs, loyalty and redemptions are increasingly becoming popular in Nepal. Furthermore, the licensed institutions are constantly working to modernize existing instruments and innovate new payment instruments.

Table 10: Access on Payment Systems

Particulars	Number			
	Mid-August, 2020	Mid-July, 2021	Mid-July, 2022	Mid-July 2023
PSPs Agent	5,139	9,279	12,685	14,123
Wallet Users	6,274,129	8,885,914	13,675,993	18,941,793
<i>connectIPS</i> Users	162,117	534,615	896,341	1,108,436
ECC Members	65	60	59	53
IPS Members	85	103	111	115

There has been a rapid increase in the user base of e-Wallets and *connectIPS* post the COVID-19 pandemic. The number of wallet users increased from 6.27 million in Mid-August, 2020 to 18.94 million in Mid-July, 2023. Similarly, the number of *connectIPS* users increased from 0.16 million at Mid-August, 2020 to 1.10 million at Mid-July, 2023. The number of IPS

members is also increasing with 115 members as of Mid-July, 2023. Due to ongoing mergers and acquisition of BFIs, the number of ECC members has reduced from 65 at Mid-August, 2020 to 53 at Mid-July, 2023.

The licensed institutions have been offering various payment instruments to customers for fund transfer and regular payments. Over the years, the adoption of digital payment instruments has taken momentum. The evolution of faster payment systems has further familiarized users to digital banking rather than branch-based banking. The access report on different payment instruments in FY 2022/23 has been summarized below:

6.1 Cards

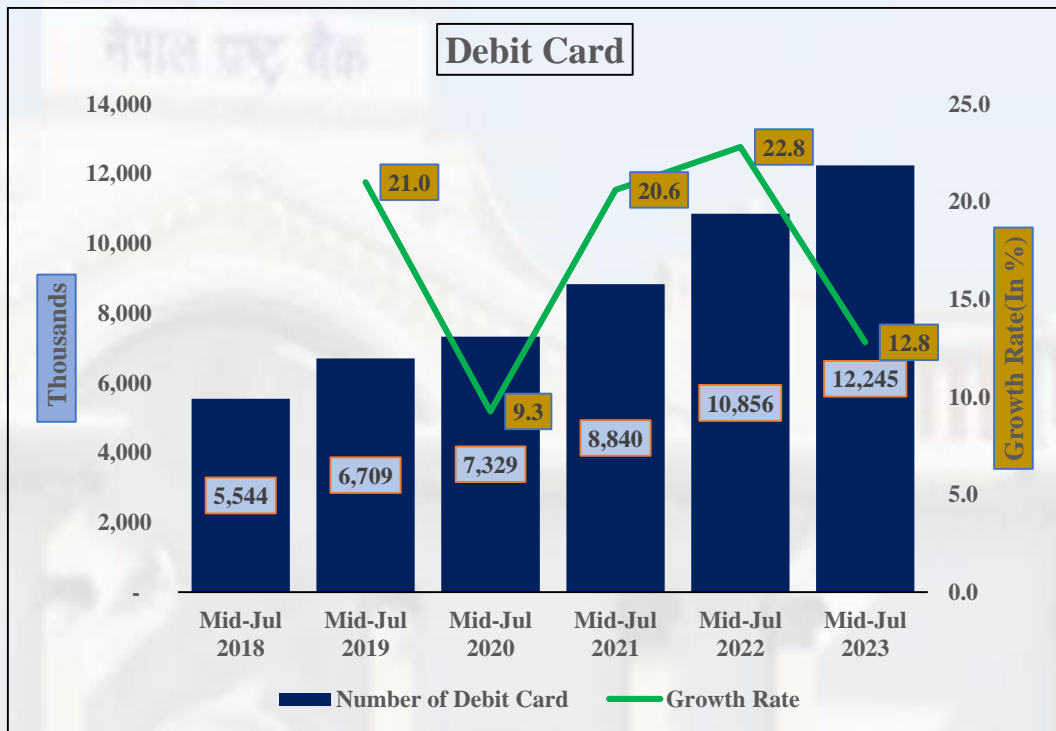
The number of debit and credit cards issued to customers has been increasing since Mid-July, 2018. However, the growth rate of debit cards was comparatively lower during the period of the COVID-19 pandemic (Mid-July, 2019 to Mid-July, 2020).

Table 11: Number of Cards

Time	Debit Card		Credit Card		Prepaid Card	
	Number (in '000)	Growth (%)	Number (in '000)	Growth (%)	Number (in '000)	Growth (%)
Mid-Jul, 2018	5,544	-	105	-	97	-
Mid-Jul, 2019	6,709	21.0	123	17.1	67	-30.9
Mid-Jul, 2020	7,329	9.2	160	30.1	64	-4.5
Mid-Jul, 2021	8,840	20.6	192	20.0	68*	6.3
Mid-Jul, 2022	10,856	22.8	239	24.5	109*	60.3
Mid-Jul, 2023	12,245	12.8	284	18.8	140*	28.4

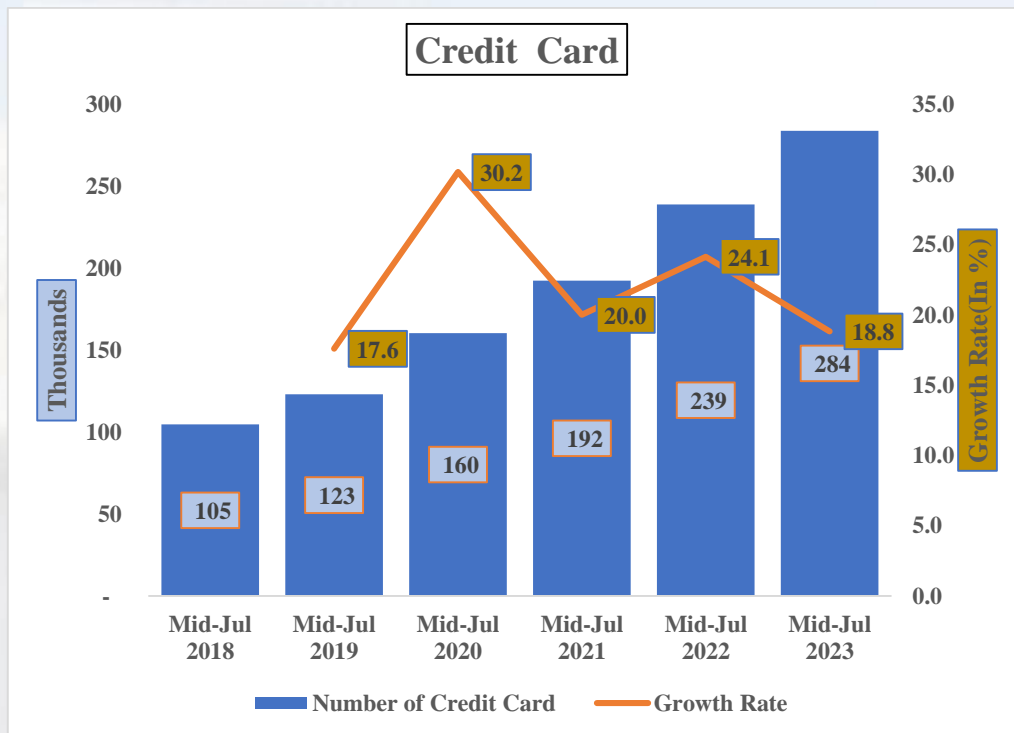
* Also includes card issued by PSPs

Figure 3: Number of Debit Cards



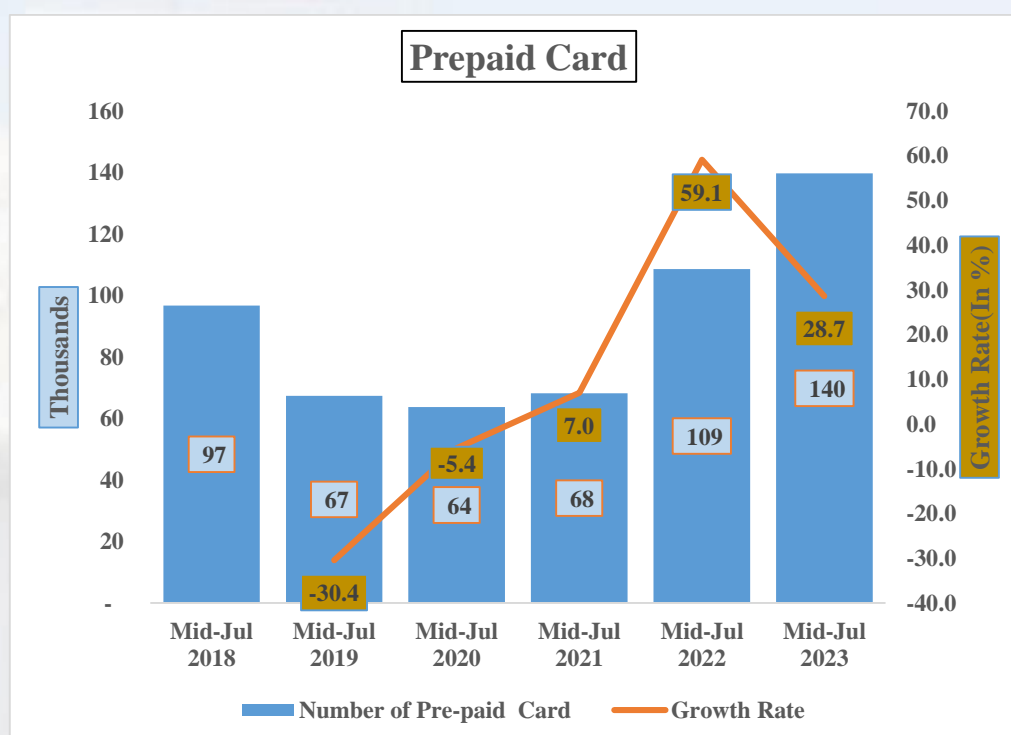
As seen in Figure 4, the number of issued debit cards has increased in each year since Mid-July, 2018. The growth rate, however, dipped in 2020, owing to temporary shutdowns and commuting restrictions due to COVID-19 pandemic. As such restrictions were gradually lifted up, the issuance of debit cards took pace again. However, there has been a decrease in the growth rate of debit cards at Mid-July, 2023 compared to Mid-July, 2022. This could be because the BFIs have actively endorsed peer-to-peer (P2P) payments. QR codes have blanketed the merchant payments, largely reducing the need for cash for making payments. Similarly, other payment instruments like *connectIPS*, *IBFT*, cardless withdrawals, payment gateway, . have also become popular. These payment innovations have somewhat reduced the need to have a physical card for making payments. Nevertheless, debit card is still one of the most preferred modes of payments; hence, issuance of the same is still increasing (although at a decreasing rate) in all years.

Figure 4: Number of Credit Cards



The number of issued credit cards is also on the rise, especially after the COVID 19 pandemic. Nepal has experienced the increased use of e-commerce sites, where credit cards are used as the major payment instrument. The growth rate of credit card at Mid-July, 2023 is less than that of Mid-July 2022. This could be because e-Wallets are directly integrated in e-commerce site like Daraz, eliminating the need to use debit or credit cards for online payments. Nonetheless, credit card provides an extensive credit cycle to customers; so, its issuance can be increased with right marketing schemes.

Figure 5: Number of Prepaid Cards



As shown in Figure 6, the use of prepaid cards has also dipped primarily due to domestic as well as international travel restrictions imposed by the government during the COVID-19 pandemic. As the restrictions were lifted and the pandemic subsided, growth rate of prepaid card issuance has peaked in mid-July, 2022. However, in the recent year (mid-July, 2023), a sudden decrease in the growth rate of issued prepaid card is seen due to rapid growth in other modes of faster payments.

The recent trend in the issuance of debit, credit, and prepaid cards show an increase but at a decreasing rate. This may be because of other payment innovations, especially QR codes, faster payment systems (like *connectIPS* and *IBFT*), digital loan.

6.2 Cheque Clearing

Electronic Cheque Clearing (ECC) system allows the BFIs to accept and present interbank cheques for clearing and settlement. NCHL has been operating the ECC system, which offers high-value, express, and regular cheque clearing options to customers. BFIs use the ECC portal to scan the cheques and present them for clearing and settlement. The product-wise transaction number/count of the ECC system is presented in Table 12.

Table 12: Product-wise Transaction Number/Count through ECC System

FY	High Value	Express (in '000)	Regular (in '000)	Overall (in '000)	Growth (%)
2016/17	751	437	9,513	9,951	-
2017/18	245	938	8,748	9,686	-2.7
2018/19	310	1,573	10,182	11,755	21.4
2019/20	288	1,466	10,432	11,898	1.2
2020/21	608	1,005	13,406	14,411	21.1
2021/22	263	2,031	14,694	16,726	16.1
2022/23	255	2,187	13,034	15,221	-9.0

Source: NCHL

During the period of the COVID-19 pandemic, the growth rate of presented cheques (1.2 percent) was low due to lockdown and shutdowns imposed by the government. As the effect of the pandemic subsided, the use of cheques increased in subsequent years. However, in the recent (FY 2022/23), there has been a 9 percent decrease in the use of cheques. This statistic also suggests that innovative payment instruments like QR codes, Faster Payment Systems, Mobile Banking, Internet Banking, and e-Wallets are increasingly becoming popular.

Table 13: Number of Cheques Presented and Cleared (NCHL-ECC)

Particulars	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Cheque Presented Count (in'000)	9,951	9,686	11,755	11,898	14,411	16,726	15,221
Cheque Value (in billions)	5175	6342	7657	7346	9234	10538	7830
Cheque Cleared Count (in'000)	9,153	8,582	10,125	10,150	12,295	13,920	12,349

Source: NCHL

In FY 2022/23, the total number of presented cheques stood at 15.22 million of amount NPR. 7,830 billion. Out of the total presented cheques, 12.35 million cheques were successfully cleared.

6.3 Automated Clearing House

The most widely used Automated Clearing House (ACH) payment in Nepal is the Inter-Bank Payment System (IPS) offered by NCHL. IPS is a form of electronic fund transfer that is sent from one bank account to another and it can either be a direct debit or a direct credit facility to the customers.

Table 14: Transaction Number/Count through IPS

FY	Total Presented Transactions (in '000)	Total Rejected Transactions (in '000)	Presented Transaction Growth (%)	Rejected Transaction Growth (%)
2018/19	4,932	504	-	-
2019/20	5,876	485	19.1	-3.8
2020/21	11,376	535	93.6	10.3
2021/22	14,037	613	23.4	14.6
2022/23	16,124	743	14.9	21.2

Source: NCHL

Like other digital payment instruments, the transaction count through IPS has also plunged after the COVID-19 pandemic. There has been a rapid growth in the number of presented transactions from 19.1 percent in FY 2019/20 to 93.6 percent in FY 2020/21. In FY 2022/23, the number of presented IPS transactions has increased by 14.9 percent, reaching 16.12 million (as shown in Table 14). Along with the increase in IPS transactions, the rejection rate of transactions has also increased. A decrease in the growth rate of presented IPS transactions is seen in FY 2022/23 comparing with previous fiscal year, which may be due to the popularity of faster payment systems (like *connectIPS*, IBFT, e-Money, .) that allow customers to transact without visiting bank branches.

6.4 Instant Payment

Nepal's payment system consists of two types of instant payment systems; namely, high value and retail systems. Currently, three major networks facilitate retail instant payments. NCHL operates *connectIPS* and *corporatePAY* instant payment systems. Fonepay Payment Service Ltd. offers instant payment through fonepay direct and IBFT systems. Nepal Payment Solution Ltd. offers instant payment through InstaFund systems. These three networks link one bank customer with another through their instant payment system. Fonepay's instant payment systems are embedded in the mobile banking application of BFIs, whereas NCHL offers *connectIPS* through 3 mediums: the mobile

banking application of BFIs, NCHL's *connectIPS* web portal, and *connectIPS* mobile application. Customers can also use QR codes to transfer funds from their bank accounts. By linking mobile wallets with a bank account, customers can deposit or withdraw funds and pay for services instantly using mobile wallets. For real-time settlement of high value and critical payments, NRB owns and operates the RTGS system.

6.4.1 *connectIPS*

connectIPS is one of the most popular instant payment systems offered and operated by NCHL. *connectIPS* allows bank customers to make instant payments using the mobile application or the web portal. Table 15 has highlighted the trend of *connectIPS* transactions over the last 5 fiscal years.

Table 15: Number/Count of Transactions through *connectIPS*

FY	Total Presented Transactions (in '000)	Total Rejected Transactions (in '000)	Presented Transactions Growth (%)	Rejected Transactions Growth (%)
2018/19	186	6	-	-
2019/20	2,850	65	1432.3	983.3
2020/21	18,981	147	566.0	126.2
2021/22	39,602	185	108.6	25.9
2022/23	50,579	277	27.7	49.7

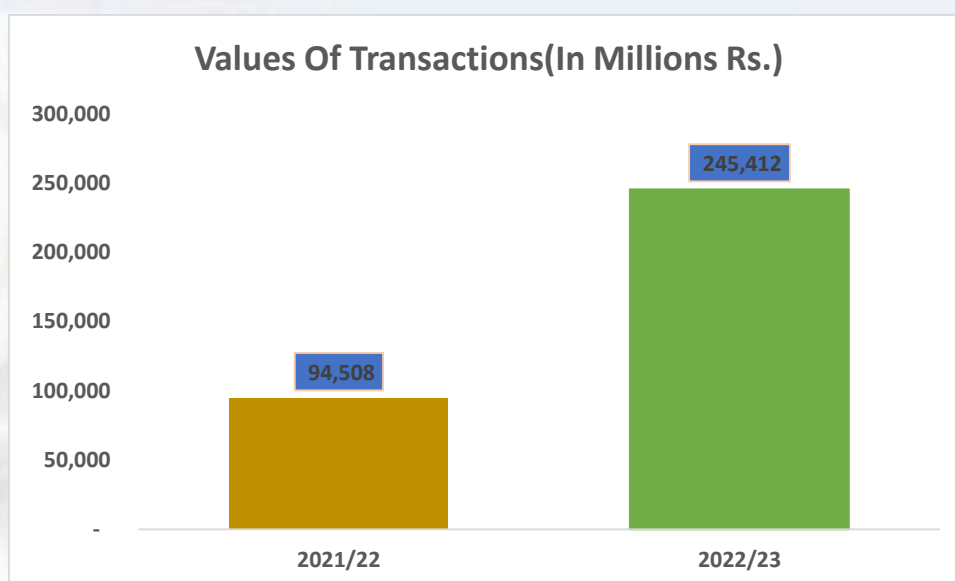
Source: NCHL

The use of *connectIPS* has surged especially after the COVID-19 pandemic (with the growth rates remaining as high as 1432.3 percent and 566 percent in FY 2019/20 and FY 2020/21 respectively). In FY 2022/23, the total number of *connectIPS* transactions has increased (27.7 percent) and reached 50.58 million. Similarly, the rate of rejected transactions has increased with 49.7 percent of the total presented transactions being rejected in FY 2022/23.

6.4.2 *QR Code-based Payment*

Foneway Payment Service Ltd. started the platform for QR Code-based payment in Nepal. The BFIs have also used the same platform to offer QR Code-based payment services to their customers. Further, some PSPs, such as IME Digital Solution Ltd., Q Pay Pvt. Ltd., Khalti Pvt. Ltd., and Nepal Paytime Pvt. Ltd., have also started QR code-based payment service through their respective mobile application.

Figure 6: QR Code-based Payments in Nepal



QR Code is one of the cheapest and easiest payment platforms for instant payment. Customers can pay a merchant after scanning the QR code through their mobile banking application. The number and value of QR Code-based transactions have increased by 189.53 percent and 159.67 percent respectively in FY 2022/23 as compared with FY 2021/22(Annex 6). At present, QR Code is the most widely preferred payment instrument by customers.

6.4.3 Mobile and Internet Banking

BFIs have offered Mobile Banking and Internet Banking services to their customers, allowing the users to perform financial transactions, such as electronic fund transfer, QR payments, utility payments on self-service and digital mode.

Table 16: Number of Customers using Mobile and Internet Banking

Period	Mobile Banking		Internet Banking	
	Number (in '000)	Growth (%)	Number (in '000)	Growth (%)
Mid-Jul, 2016	1,755	-	515	-
Mid-Jul, 2017	2,670	52.1	784	52.2
Mid-Jul, 2018	5,086	90.5	834	6.4
Mid-Jul, 2019	8,347	64.1	917	10.0

Period	Mobile Banking		Internet Banking	
	Number (in '000)	Growth (%)	Number (in '000)	Growth (%)
Mid-Jul, 2020	11,307	35.5	1,031	12.4
Mid-Jul, 2021	14,195	25.5	1,160	12.5
Mid-Jul, 2022	18,307	29.0	1,684	45.2
Mid-Jul, 2023	21,364	16.7	1,856	10.2

Figure 7: Mobile Banking Customers in Nepal

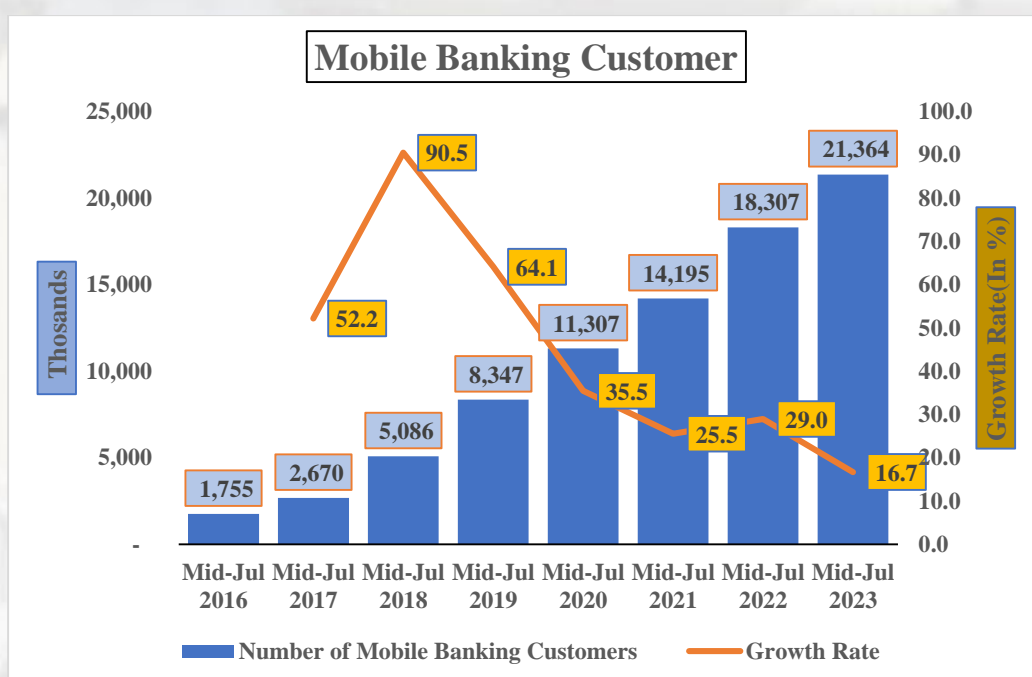
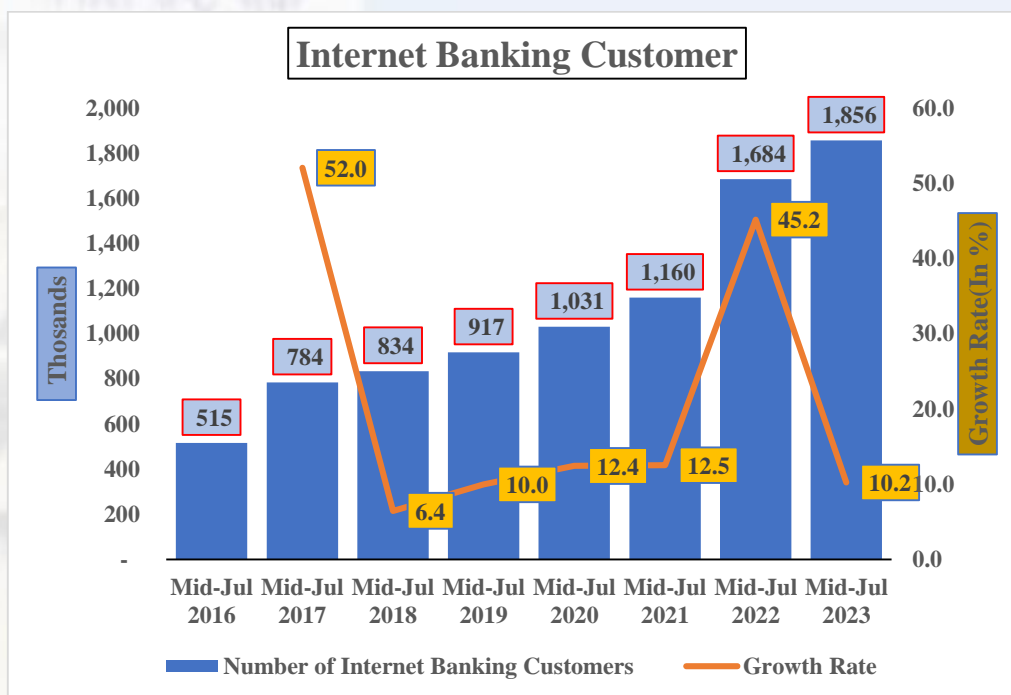


Figure 8: Internet Banking Users in Nepal



The user base of mobile banking and internet banking has increased post the COVID-19 pandemic, although at a decreasing rate. In FY 2022/23, the number of mobile banking users has increased by 16.7 percent and reached 21.36 million. Similarly, the number of internet banking users has increased by 10.2 percent in FY 2022/23 and reached 1.86 million.

6.4.4 Mobile Wallet

The use of mobile wallets (e-money) provided by PSPs has been increasing significantly in Nepal. The number of mobile wallet users has stood at 18.94 million as of Mid-July, 2023 (Table 10) with a total transaction amount of NPR. 219.81 billion (Annex 6).

7. Usage of Payment Systems

As access on the payment system is increasing, the use of different payment instruments has also increased in Nepal. After the COVID-19 pandemic, instruments like *connectIPS*, e-Wallets, Mobile Banking, Internet Banking, QR code, and Cards have widely been used as customers can use these instruments in self-service mode. Further, e-commerce and POS transactions have also increased after the pandemic. Post COVID 19

pandemic, the use of faster payment systems like *connectIPS*, QR, e-Wallets, and Mobile Banking has sky-rocketed. The number and value of *connectIPS* transactions have grown by 27.5 percent and 33.5 percent respectively from FY 2021/22 to FY 2022/23. Similarly, QR code-based payment is the most widely used digital payment instrument in the country. The number and value of QR-based payments have surged by 189.5 percent and 159.7 percent respectively from FY 2021/22 to FY 2022/23 (Annex 6). The use of mobile banking and wallets are on the rise in recent years.

While card-based payments (debit and credit cards) are increasing at a decreasing rate, the use of prepaid cards has plunged, especially after the COVID-19 pandemic. The number and value of transactions through prepaid cards increased by 52.1 percent and 56.2 percent respectively from FY 2021/22 to FY 2022/23. The primary reason for the rapid growth in volume and value of prepaid card transactions, which had dropped during the COVID-19 pandemic, could be the removal of travel restrictions by different countries.

The usage of POS is increasing. An increase in e-commerce or online payments using cards has also been observed. The number and value of online payments using cards have increased by 20.8 percent and 27.4 percent in FY 2022/23 as compared with FY 2021/22. Further, online sites have integrated wallets and instant payment systems for online payment, providing cardless digital payment options to customers. Thus, a detailed study is required to identify the reason behind the increase in both e-commerce transactions through cards and POS transactions.

The RTGS system is the central infrastructure to process large value payments. The number of transaction through RTGS system increased by 8.6 percent in FY 2022/23, but the total amount of transaction went down by 18.6 percent. Similarly, the number and value of ECC transactions have gone down by 11.3 percent and 29.3 percent respectively in FY 2022/23 as compared to previous fiscal year. As digital financial services are proliferating, the use of cheques and the ECC system is decreasing. Nevertheless, cheque is still one of the most favorable mediums of fund transfer and payments in Nepal.

Nepal's economy experienced liquidity crisis during the post-pandemic economic rebound. Due to large trade deficit and external sector imbalance, NRB had to implement forced measures to control imports of luxurious goods (for 47 Harmonic Codes). The impact of the liquidity crisis was observed in the payment systems as well. Consequently, the multi-fold

growth in the usage of Nepal's payment systems has subsided, and the transaction volume and value have increased but at a decreasing rate in FY 2022/23.

8. Payment Systems Oversight

Oversight function differs from supervision in the sense that oversight uses a guideline and resolution-based approach from a payment system viewpoint (considering the broader system), whereas supervision uses a regulation and institutional-based approach from prudential solvency and liquidity viewpoint (considering the individual institutions)¹⁶.

8.1 Payment System Oversight Framework in Nepal

NRB has implemented the Payment System Oversight Framework, 2018 highlighting the objectives, principles, instruments, targets, scope, types of action, and the role of overseer as the major components of the oversight framework. NRB undertakes the oversight function by following the Payment System Inspection and Supervision Bylaw, 2021 and the Payment System Oversight Manual, 2021; which have been prepared considering the Payment System Oversight Framework, 2018. The provisions of the framework are presented in Table 17.

Table 17: Payment System Oversight Framework in Nepal

Role of the Overseer (PSD)	<ul style="list-style-type: none"> ❖ Develop a secure, healthy and efficient system of payment in Nepal. ❖ Assess systems, participants, and instruments to ensure that systems are sufficiently protected against risks. ❖ Promote the smooth, efficient, and safe flow of funds between individuals, businesses, and financial markets. ❖ Promote payment system development.
Oversight Objectives	<p><u>General Objective:</u></p> <ul style="list-style-type: none"> ❖ Ensure a secure, healthy, and efficient system of payment. <p><u>Specific Objective:</u></p> <ul style="list-style-type: none"> ❖ Ensure a sound legal foundation ❖ Enhance risk management and control

¹⁶ See. NRB (2018)

	<ul style="list-style-type: none"> ❖ Boost competitive market conditions ❖ Ensure integration and interoperability of different payment system ❖ Assess reach and range of payment services ❖ Prevent the market from abuse and frauds ❖ Safeguard customers and ensure their protection ❖ Review competitiveness in the market 		
Oversight Principles	<ul style="list-style-type: none"> ❖ Fairness (Fair competition) ❖ Transparency ❖ Continuity ❖ Cooperation ❖ International Standard 		
Oversight Instruments	Targets	Scope of Action	Types of Action
<ul style="list-style-type: none"> ❖ Regulations ❖ Incentives and Sanctions ❖ <u>Monitoring:</u> <ul style="list-style-type: none"> • Off-site supervision • On-site Inspections • Special Inspection ❖ Assessment/ Analysis ❖ Policy Dialogue ❖ Enforcement and Remedies ❖ Agreements with other Regulatory Institutions and Stakeholders 	<ul style="list-style-type: none"> ❖ Fair Access ❖ Risk Control ❖ Transparency ❖ System Development ❖ Integration and Interoperability of Systems ❖ Consumer Protection ❖ Financial and Economic Stability 	<ul style="list-style-type: none"> ❖ <u>Institutions:</u> <ul style="list-style-type: none"> • PSPs • PSOs ❖ <u>Instruments:</u> <ul style="list-style-type: none"> • Cards • Mobile Banking • Internet Banking • e-Money • Others (QR Codes, POS, .) ❖ <u>Systems:</u> <ul style="list-style-type: none"> • Large Value Payment System (SIPS) • Retail Payment System • Securities Settlement System • Other payment and settlement systems ❖ Any New Payment Services 	<ul style="list-style-type: none"> ❖ As per Section 35 of the Payments & Settlement Act, 2075 ❖ As per Unified Directive No. 14/079 for money laundering and financing of terrorism activities related offense.

8.1.1 Reporting Arrangement

NRB has laid down regulatory reporting requirements in Directive No. 10 of the Payment Systems Related Unified Directives, 2079. The types of reports, along with the frequency and deadline of reporting, are presented in Table 18.

Table 18: Regulatory Reporting by Licensed Institutions

Annex No.	Particulars	Institution	Frequency	Submission Deadline
10.1.1	Details of Branchless Banking Centre	BFI	As per the need	Within the 7 th day of operation
10.1.2	Details of ATM Location Centre	BFI		
10.1.3	Account Detail- BLB wise	BFI	Monthly	Within the 7 th day of the next month
10.1.4	Electronic Transaction of BFI	BFI		
10.1.5	Transactions Report for PSP	PSP		
10.1.6	Statement of Success and Failed Transactions	PSP		
10.1.7	Reconciliation Statement of e-Money and Settlement Bank	PSP		
10.1.8	Customer Details of PSP	PSP		
10.1.9	Transactions Report of PSP's Agent	PSP		
10.1.10	Transactions Report of PSO	PSO		
10.1.11	Transactions Report of PSO	PSO		
10.1.12	Transactions Report of Clearing House	NCHL		
10.1.13	Number Transaction Reported to Financial Intelligence Unit(FIU)	PSO/PSP		

Since NRB uses such reports in the oversight of the licensed institutions as well as in the publication of indicators, licensed institutions must adhere to the submission deadlines.

9. Oversight Activities in 2022/23

PSD carries out on-site inspections, in line with the target stated in the annual work plan for each fiscal year. The off-site supervision of PSD requires licensed institutions to submit reports in the prescribed format (as specified in Table 18) for regular supervision. The oversight activities and the key findings/actions taken by NRB in FY 2022/23 have been summarized below:

9.1 Inspection/Supervision

9.1.1 On-site Inspection

On-site inspection of PSPs/PSOs is carried at least once in every two years as per annual action plan. The on-site inspection activities may broadly be classified into following 3 categories:

- **Periodic Inspections**

There are scheduled inspection as a part of annual action plan.

- **Special Inspections**

Special inspections, as their name indicate, are unscheduled inspection. These are carried out as and when necessary, based on an analysis of data and information of payment related institutions.

- **Follow-up Inspections**

The follow-up inspections are carried out to assess the implementation status of the instructions/directions given in the course of earlier inspection.

The on-site inspection process is basically composed of following 3 steps:

- **Inspection Planning**

In this step, the inspection team determines the scope of the inspection. The team reviews all available information (off-site supervision report, previous on-site inspection report.).

- **Inspection Procedure**

Introductory meeting with CEO along with top management officials of the institution is conducted firstly. Relevant and necessary data and information are collected in detail.

- **Evaluate the Compliance Status**

The assessment of the compliance functions is conducted thoroughly on the basis of following grounds:

- Payment and Settlement Act, 2019
- Payment and Settlement Bylaw (First Amendment, 2023), 2020
- Payment System-related Unified Directive
- Notices and Circulars
- Prevalent Accounting Standards

In FY 2022/23, NRB carried on-site inspection of the following 18 licensed institutions:

Table 19: On-site Inspection in FY 2022/23

S.N.	Name of Institution	Nature of Institution
1.	Gateway Payment Service Pvt. Ltd.	PSO
2.	Fonepay Payment Service Ltd.	PSO
3.	First Pay Technology Pvt. Ltd.	PSO
4.	We Pay Pvt. Ltd.	PSP
5.	Khalti Pvt. Ltd.	PSP
6.	E-sewa Pvt. Ltd.	PSP
7.	Nepal Pay Time Pvt. Ltd.	PSP
8.	Paywell Nepal Pvt. Ltd.	PSP
9.	Prabhu Technology Pvt. Ltd.	PSP
10.	Nepal Digital Payment Company Ltd.	PSP
11.	I-Cash Pvt. Ltd.	PSP
12.	Mohar Digital Pvt. Ltd.	PSP
13.	Focusone Payment Solutions Pvt. Ltd.	PSP
14.	Lenden Sewa Pvt. Ltd.	PSP
15.	Chhito Paisa Pvt. Ltd.	PSP
16.	Nepal E-Biz Management Pvt. Ltd.	PSP
17.	Fintech International Pvt. Ltd.	PSP
18.	Digi Pay Pvt. Ltd.	PSP

During on-site inspections, information related to systemic, operational, settlement, and liquidity risks of licensed institutions were collected. The analysis was done based on the available information and the prevailing market scenario. The major issues observed from the on-site inspections in FY 2022/23 are as follows:

- Lack of sufficient policies
- Inadequate physical infrastructure for the operation
- Poor corporate governance
- Lack of proper strategy for continuous business operations at a time of crisis.

9.1.2 Off-site Supervision

As per the Payment and Settlement Act, 2019, the licensed payment institutions are required to complete their statutory audit within 4 months of the completion of the fiscal year. They are also required to get approval on the financial statements from NRB before publishing them for the general public. Based on the document submitted by the institution, PSD prepares the off-site supervision report of the concerned institution. In FY 2022/23, NRB conducted off-site supervision of the following 27 licensed institutions:

Table 20: Off-site Supervision in FY 2022/23

S.N.	Name of Institution	Nature of Institution
1.	Nepal Clearing House Ltd. (NCHL)	PSO
2.	Smart Choice Technologies Ltd. (SCT)	PSO
3.	Nepal Electronic Payment Systems Ltd. (NEPS)	PSO
4.	Nepal Payment Solution Pvt. Ltd.	PSO
5.	Fonepay Payment Service Ltd.	PSO
6.	IME Digital Ltd.	PSP
7.	E-sewa Pvt. Ltd.	PSP
8.	Cellcom Pvt. Ltd.	PSP
9.	CG Pay Nepal Pvt. Ltd.	PSP
10.	Khalti Pvt. Ltd.	PSP

11.	Pay Nep Pvt. Ltd.	PSP
12.	Smart Card Nepal Pvt. Ltd.	PSP
13.	Prabhu Technology Pvt. Ltd.	PSP
14.	Focusone Payment Solutions Pvt. Ltd.	PSP
15.	Kurakani Pay Pvt. Ltd.	PSP
16.	Paywell Nepal Pvt. Ltd.	PSP
17.	Goldmine Business Group Pvt. Ltd.	PSP
18.	We Pay Pvt. Ltd.	PSP
19.	Fintech International Pvt. Ltd.	PSP
20.	Lenden Sewa Pvt. Ltd.	PSP
21.	DG Pay Pvt. Ltd.	PSP
22.	Nepal Ebiz Management Pvt. Ltd.	PSP
23.	I-Cash Pvt. Ltd.	PSP
24.	Nepal Digital Payment Company Ltd. (NDPC)	PSP
25.	Sulav Pay Pvt. Ltd.	PSP
26.	Chhito Paisa Pvt. Ltd.	PSP
27.	Sajilo Pay Payment Services Pvt. Ltd.	PSP

9.2 Actions Taken for the Non-compliance

In FY 2022/23, actions have been taken against some PSPs on the following issues:

- Annual general meeting conducted without prior approval.
- Advance taken by directors.
- Sale of promoter share before the completion of five years of licensing.
- Cash withdrawal more than upper limit through agents.
- Non-inclusion of minimum provision in money laundering prevention policy.
- Lack of continuous update/monitoring of customer's profile.
- Non-execution of policy related to anti-money laundering.
- Non-conducting the agent due diligence.
- Non-follow of AML Policy related to PEP screening and conducting CDD.
- Non-reporting E-money through SIS.
- Non-maintaining sufficient balance in settlement account for E-money.

9.3 Policy Facilitation

In FY 2022/23, NRB carried out following activities to ease the payment system:

- Allowing cash withdrawal facility through prepaid card issued by PSPs.
- Increasing transaction limit of Mobile Banking, Internet Banking, and e-Wallets.
- Reducing the upper limit of per transaction service fee/charge for revenue payment and Interbank Fund Transfer (IBFT).
- Fixing the upper limit of service fee/charge for loading fund in wallet and cash withdrawal from wallet through agent.
- Fixing the upper limit of per transaction service fee/charge for fund transfer from wallet to bank account.

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Annexure

Annex 1: Licensed Institutions (PSOs and PSPs) (As of Mid-July 2023)

S.N.	Name	Address	Licensed Date (B.S.)
Payment System Operators (PSOs)			
1	Nepal Clearing House Ltd.	Kamaladi, Kathmandu	2074/04/15
2	SmartChoice Technology Ltd.	Baluwatar, Kathmandu	2074/09/17
3	Nepal Electronic Payment Systems Ltd. (NEPS)	Naxal, Kathmandu	2076/01/29
4	Union Pay International Company Ltd.	Shanghai, China	2076/03/30
5	Visa Worldwide Private Ltd.	Singapore	2076/04/29
6	Nepal Payment Solution Pvt. Ltd.	Kamalpokhari, Kathmandu	2076/07/19
7	Master Card Asia/Pacific Pte Ltd.	Singapore	2076/08/24
8	Fonepay Payment Services Ltd.	Pulchowk, Lalitpur	2076/10/26
9	First Pay Technology Pvt. Ltd.	Hattisar, Kathmandu	2076/11/13
10	Gateway Payment Service Pvt. Ltd.	Banasthali, Kathmandu	2077/11/03
Payment Service Providers (PSPs)			
1	Prabhu Technology Pvt. Ltd.	Gairidhara, Kathmandu	2074/03/04
2	IME Digital Solution Ltd.	Panipokhari, Kathmandu	2074/03/05
3	eSewa Pvt. Ltd.	Pulchok, Lalitpur	2074/03/05
4	Cellcom Pvt. Ltd.	Airport, Kathmandu	2075/09/08
5	CG Pay Nepal Pvt. Ltd.	Sanepa, Lalitpur	2075/09/13
6	Khalti Pvt. Ltd.	Pulchok, Lalitpur	2076/01/02
7	Pay Nep Pvt. Ltd.	Naxal, Kathmandu	2076/04/15
8	QPay Pvt. Ltd	Baluwatar, Kathmandu	2076/05/19
9	Nepal Pay Time Pvt. Ltd	Putalisadak, Kathmandu	2076/05/19
10	Smart Card Pvt. Ltd	Madhyapur Thimi, Radheradhe, Bhaktapur	2076/06/29
11	Mohar Digital Pvt. Ltd	Kumaripati, Lalitpur	2076/06/30
12	E-Net Payment Pvt. Ltd.	Durbarmarg, Kathmandu	2076/11/21
13	Focusone Payment Solutions Pvt. Ltd.	Kamaladi, Kathmandu	2076/11/29
14	Kurakani Pay Pvt. Ltd.	Sanepa, Lalitpur	2077/02/29
15	PayWell Nepal Pvt. Ltd.	Anamnagar, Kathmandu	2077/06/11

S.N.	Name	Address	Licensed Date (B.S.)
16	Goldmine Business Group Pvt. Ltd.	Baneshwor, Kathmandu	2077/08/29
17	We Pay Pvt. Ltd.	Sundhara, Kathmandu	2077/09/15
18	Fintech International Pvt. Ltd.	Thamel, Kathmandu	2077/10/20
19	Lenden Sewa Pvt. Ltd.	Teku, Kathmandu	2077/10/20
20	Digi Pay Pvt. Ltd.	Anamnagar, Kathmandu	2077/11/18
21	Nepal E-Biz Management Pvt. Ltd.	Sundhara, Kathmandu	2077/11/18
22	I Pay Pvt. Ltd.	Khichapokhari, Kathmandu	2077/11/21
23	I Cash Pvt. Ltd.	Jamal, Kathmandu	2077/12/03
24	Nepal Digital Payments Company Ltd.	Tripureshwor, Kathmandu	2077/12/03
25	Sulav Pay Pvt. Ltd.	Kuleshwor, Kathmandu	2077/12/05
26	Chitto Paisa Pvt. Ltd.	Sanepa, Lalitpur	2077/12/05
27	Sajilo Pay Payment Services Pvt. Ltd.	Baluwatar, Kathmandu	2077/12/17

* Excluding BFIs licensed as PSPs.

Annex 2: Commercial Banks Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023)

S.N.	Name	Address	Licensed Date (B.S.)
1	Nepal Bank Ltd.	Dharmapath, Kathmandu	2073/12/17
2	Agricultural Development Bank Ltd.	Ramshahpath, Kathmandu	2073/12/17
3	Global IME Bank Ltd.	Kamaladi, Kathmandu	2073/12/17
4	NIC Asia Bank Ltd.	Thapathali, Kathmandu	2073/12/17
5	Prime Commercial Bank Ltd.	Kamalpokhari, Kathmandu	2073/12/17
6	NMB Bank Ltd.	Babarmahal, Kathmandu	2073/12/20
7	Laxmi Sunrise Bank Ltd.	Hattisar, Kathmandu	2073/12/20
8	Nabil Bank Ltd.	Beena Marg, Kathmandu	2073/12/24
9	Prabhu Bank Ltd.	Babarmahal, Kathmandu	2073/12/24
10	Kumari Bank Ltd.	Tangal, Kathmandu	2073/12/24
11	Nepal Investment Megha Bank Ltd.	Durbarmarg, Kathmandu	2073/12/24
12	Siddhartha Bank Ltd.	Hattisar, Kathmandu	2073/12/24
13	Himalayan Bank Ltd.	Kamaladi, Kathmandu	2073/12/24

S.N.	Name	Address	Licensed Date (B.S.)
14	Machhapuchhre Bank Ltd.	Lazimpat, Kathmandu	2073/12/24
15	Sanima Bank Ltd.	Naxal, Kathmandu	2073/12/29
16	Citizens Bank International Ltd.	Narayanhitipath, Kathmandu	2073/12/29
17	Rastriya Baniya Bank Ltd.	Singh Durbar Plaza, Kathmandu	2073/12/29
18	Standard Chartered Bank Nepal Ltd.	Naya Baneshwor, Kathmandu	2073/12/30
19	Everest Bank Ltd.	Lazimpat, Kathmandu	2073/12/30
20	Nepal SBI Bank Ltd.	Keshermahal, Kathmandu	2073/12/30

Annex 3: Development Banks Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023)


S.N.	Name	Address	Licensed Date (B.S.)
1	Shangrila Development Bank Ltd.	Baluwatar, Kathmandu	2075/01/21
2	Garima Bikash Bank Ltd.	Lazimpat, Kathmandu	2075/02/22
3	Excel Development Bank Ltd.	Birtamod, Jhapa	2075/04/17
4	Saptakoshi Development Bank Ltd.	Dhankutabazar, Dhankuta	2075/06/15
5	Shine Resunga Development Bank Ltd.	Butwal, Rupandehi	2075/09/20
6	Miteri Development Bank Ltd.	Dharan, Sunsari	2075/11/30
7	Sindhu Bikash Bank Ltd.	Barhabise, Sindhupalchowk	2076/03/03
8	Kamana Sewa Bikash Bank Ltd.	Gyaneshwor, Kathmandu	2076/03/30
9	Muktinath Bikash Bank Ltd.	Kamaladi, Kathmandu	2076/05/16
10	Green Development Bank Ltd.	Pokhara, Kaski	2076/05/25
11	Lumbini Bikas Bank Ltd.	Dillibazar, Kathmandu	2076/09/23
12	Jyoti Bikas Bank Ltd.	Kamaladi, Kathmandu	2077/10/25
13	Mahalaxmi Bikas Bank Ltd.	Durbarmarga, Kathmandu	2078/11/23
14	Corporate Development Bank Ltd.	Birgunj, Parsa	2079/10/05
15	Karnali Development Bank Ltd.	Nepalgunj, Banke	2080/01/11
16	Narayani Development Bank Ltd.	Rattnagar, Chitawan	2080/03/05

Annex 4: Finance Companies Licensed as Payment Service Providers (PSPs) (As of Mid-July 2023)

S.N.	Name	Address	Licensed Date (B.S.)
1	Pokhara Finance Ltd.	Pokhara, Kaski	2074/09/13
2	ICFC Finance Ltd.	Tangal, Kathmandu	2075/01/16
3	Gurkhas Finance Ltd.	Dillibazar, Kathmandu	2075/02/24
4	Goodwill Finance Ltd.	Hattisar, Kathmandu	2075/08/17
5	Manjushree Finance Ltd.	Naya Baneshwor, Kathmandu	2076/08/25
6	Progressive Finance Ltd.	Tinkune, Kathmandu	2076/09/23
7	Reliance Finance Company Ltd.	Pradashanimarg, Kathmandu	2077/10/25
8	Samridhi Finance Company Ltd.	Hetauda, Makawanpur	2078/01/14
9	Best Finance Company Ltd.	Chabhil, Kathmandu	2078/01/19
10	Guheshwori Merchant Banking and Finance Company Ltd.	Pulchowk, Lalitpur	2078/01/31
11	Central Finance Ltd.	Kupandol, Lalitpur	2078/05/27
12	Nepal Finance Ltd.	Kamaladi, Kathmandu	2078/05/27
13	Janaki Finance Company Ltd.	Janakpurdham, Dhanusa	2079/02/16
14	Multipurpose Finance Ltd.	Rajbiraj, Saptari	2079/02/16
15	Shree Investment and Finance Company Ltd.	Dillibazar, Kathmandu	2079/05/09

Annex 5: Microfinance Financial Institutions as Payment Service Providers (PSPs) (As of Mid-July 2023)

S.N.	Name	Address	Licensed Date (B.S.)
1	Laxmi Laghubitta Bittiya Sanstha Ltd.	Maharajgunj, Kathmandu	2079/03/19
2	Chhimek Laghubitta Bittiya Sansthan Ltd.	Old Baneswor, Kathmandu	2079/05/09
3	Nirdhan Utthan Laghubitta Bittiya Sasthan Ltd.	Naksal, Kathmandu	2079/05/21
4	Mirmire Laghubitta Bittiya Sasthan Ltd.	Banepa, Kavrepalanchowk	2079/08/14
5	Sworojkar Laghubitta Bittiya Sasthan Ltd.	Banepa, Kavrepalanchowk	2079/08/21



S.N.	Name	Address	Licensed Date (B.S.)
6	Unnati Sahakarya Laghubitta Bittiya Sasthan Ltd.	Siddharthanagar, Rupandehi	2079/08/21
7	Swablamban Laghubitta Bittiya Sansthan Ltd.	Kamalpokhari, Kathmandu	2079/09/24

Annex 6: Usage of Payment Systems

Particulars	FY 2021/22		FY 2022/23		Change (%)	
	No. of Transactions	Total Amount (NPR Million)	No. of Transactions	Total Amount (NPR Million)	No. of Transactions	Total Amount
RTGS	750,597	42,134,018	815,180	34,289,975	8.60	-18.62
ATM-Cash Withdrawal	100,988,504	839,732	122,052,298	968,397	20.86	15.32
ECC	13,920,129	8,773,753	12,348,969	6,207,166	-11.29	-29.25
IPS	13,424,453	2,060,041	15,380,646	2,135,705	14.57	3.67
<i>connectIPS</i>	39,417,168	3,081,764	50,252,944	4,114,628	27.49	33.52
Debit Cards	110,830,652	881,396	131,774,747	1,010,493	18.90	14.65
Credit Cards	2,270,929	14,143	2,868,591	18,351	26.32	29.76
Prepaid Cards	489,507	3,099	744,620	4,840	52.12	56.16
Internet Banking	3,355,888	159,489	3,216,663	156,828	-4.15	-1.67
Mobile Banking	181,545,676	1,210,134	283,420,597	2,185,999	56.12	80.64
Branchless Banking	752,248	16,190	878,368	18,049	16.77	11.48
Wallet	167,491,933	184,293	213,367,144	219,807	27.39	19.27
QR-Based Payments	26,950,009	94,508	78,029,200	245,412	189.53	159.67
Point of Sales (POS)	11,773,031	51,435	12,315,919	59,045	4.61	14.80
E-Commerce*	819,395	4,840	990,135	6,182	20.84	27.74

* Online payments using cards

Annex 7: Number of Payment Instruments Issued by BFIs

Cards	Issuer	Mid-July 2016	Mid-July 2017	Mid-July 2018	Mid-July 2019	Mid-July 2020	Mid-July 2021	Mid-July 2022	Mid-July 2023
Debit Card	Commercial Banks	4,142,390	4,694,066	5,307,970	6,454,285	7,062,472	8,459,435	10,274,413	11,358,426
	Development Banks	479,318	260,225	206,589	216,991	231,287	348,411	538,672	826,506
	Finance Companies	35,417	26,667	29,694	37,245	35,443	32,009	43,272	60,553
	Total	4,657,125	4,980,958	5,544,253	6,708,521	7,329,202	8,839,855	10,856,357	12,245,485
Credit Card	Commercial Banks	52,014	68,966	104,721	123,146	160,297	192,370	238,794	283,126
	Development Banks	-	-	-	-	-	-	-	646
	Total	52,014	68,966	104,721	123,146	160,297	192,370	238,794	283,772
Prepaid Card	Commercial Banks	82,797	101,458	96,816	67,386	63,775	65,786	105,121	135,626
	Development Banks	-	-	-	-	-	-	-	1,494
	Total	82,797	101,458	96,816	67,386	63,775	65,786	105,121	137,120

Annex 8: Number of ATM Terminals and Customers of Mobile and Internet Banking

Channel	Institutions	Mid-July 2016	Mid-July 2017	Mid-July 2018	Mid-July 2019	Mid-July 2020	Mid-July 2021	Mid-July 2022	Mid-July 2023
ATM Terminals	Commercial Banks	1,661	1,874	2,552	2,951	3,759	3,983	4,235	4,465
	Development Banks	230	177	209	318	296	301	323	346
	Finance Companies	17	30	30	47	51	41	44	44
	Total	1,908	2,081	2,791	3,316	4,106	4,325	4,602	4,855
Mobile Banking	Commercial Banks	1,604,578	2,438,222	4,711,097	7,406,802	10,115,313	12,638,366	16,091,464	18,438,455
	Development Banks	133,561	217,432	351,796	909,512	1,100,743	1,500,050	2,114,559	2,772,852
	Finance Companies	16,427	14,078	23,176	30,873	90,741	56,423	101,232	152,682
	Total	1,754,566	2,669,732	5,086,069	8,347,187	11,306,797	14,194,839	18,307,255	21,363,989
Internet Banking	Commercial Banks	489,835	766,958	816,074	888,268	1,001,866	1,115,532	1,279,475	1,347,970
	Development Banks	23,036	14,634	14,634	24,124	23,332	37,063	394,563	494,753
	Finance Companies	2,594	2,159	3,594	4,952	6,029	7,726	10,272	13,472
	Total	515,465	783,751	834,302	917,344	1,031,227	1,160,321	1,684,310	1,856,195