

नेपाल राष्ट्र बैंक



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PAYMENT SYSTEMS OVERSIGHT REPORT

2021/22



Nepal Rastra Bank
Payment Systems Department
Baluwatar, Kathmandu

Foreword

Dear Valued Readers,

The payment system is the foundation for economic transactions and financial inclusion. An efficient payment system promotes higher speed, efficiency, and lower cost of service delivery. Thus, every nation prioritizes the modernization of the payment system to smoothen economic transactions.

The Covid-19 pandemic has changed the outlook of the banking industry globally, proliferating the use of digital financial services. Technological innovations have disrupted the traditional banking model and the emergence of FinTechs has led to the rapid advancement of faster payments and the digitalization of other modes of payments.

Innovation and competition in payment systems have successfully brought many unserved and underserved populations into the net of formal financial services. Nonetheless, new forms of challenges and threats have evolved in the payments landscape, demanding rigorous efforts to create public awareness on the benefits of digital payments and associated risks such as cybercrimes and cyber threats. Therefore, the Central Bank, Banks and Financial Institutions, and other payment-related institutions should intensify their efforts on

awareness building and educational campaigns regarding the proper use of digital financial services.

Central Banks play a key role in payment innovation mainly by facilitating innovation and promoting financial inclusion. One of the objectives of Nepal Rastra Bank (NRB) in the NRB Act, 2002 has been to develop a secure, healthy, and efficient system of payment. In this regard, NRB is focusing on establishing and improving payment infrastructures, formulating and implementing legal/regulatory frameworks, encouraging innovations, and promoting awareness regarding digital payments.

Further, payment system oversight is one of the key functions of NRB to promote safety and efficiency by monitoring existing and planned payment systems. Through active oversight, NRB controls and minimizes the risk of transmitting shocks in the economy from the failure of individual payment system participants to settle their payment obligations.

In this context, this report intends to disseminate information on the payment system oversight framework and the key developments in payment systems in Nepal. The report also consists of key findings from the oversight activities in the fiscal year 2021/22. This report is useful for all

stakeholders to understand the Nepalese payment systems and the oversight function of NRB.

At this moment, I would like to thank all my colleagues in the Payment Systems Department, especially Director Mr. Nishchal Adhikari, Director Er. Krishna Ram Dhunju, Deputy Director Mr. Praksah Rai, Deputy Director Mr. Tirtha Raj Ojha, Deputy Director Dr. Deepak Adhikari, Deputy Director Mr. Ramkumar K.C., Deputy Director Mr. Bishal Saraf, and Assistant Director Mr. Rajesh Paneru for their valuable contribution on preparing the report. I would also like to extend my gratitude to the Editorial Committee of NRB for their invaluable feedback to shape this report.

With this, I present the fourth series of the oversight report, entitled “**Payment System Oversight Report, 2021/22**”, with the optimism that it will be beneficial to all the stakeholders.

Thank you!

Guru Prasad Paudel

Executive Director

Payment Systems Department

2023/02/07

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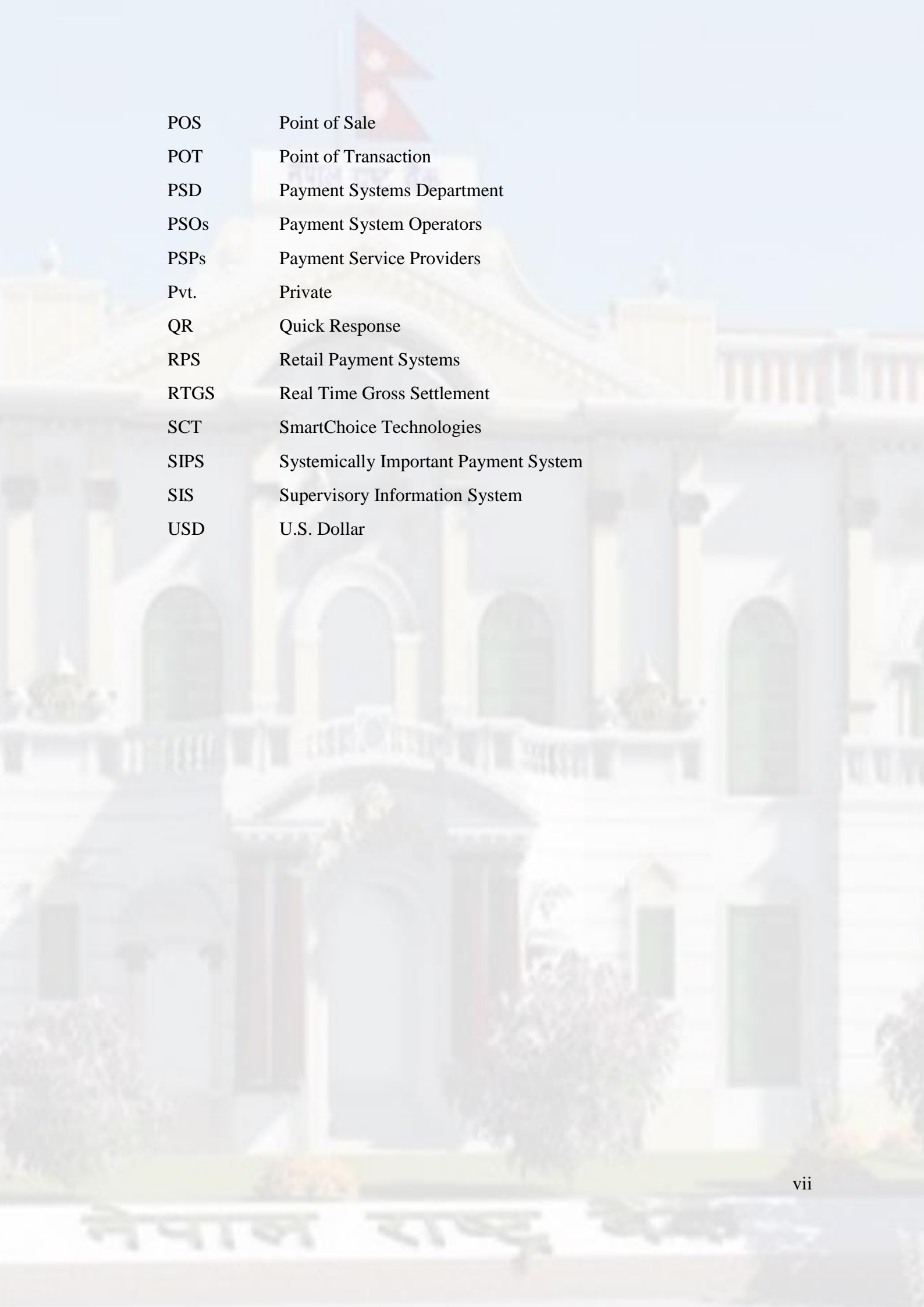
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Acronyms and Abbreviations

| | |
|-------|---|
| A.D. | Anno Domini |
| AEs | Advanced Economies |
| ATM | Automated Teller Machine |
| BFI | Banks and Financial Institutions |
| B.S. | Bikram Sambat |
| CDBC | Central Bank Digital Currency |
| CPMI | Committee on Payments and Market Infrastructures |
| CPSS | Committee on Payment and Settlement Systems |
| ECC | Electronic Cheque Clearing |
| EMDEs | Emerging and Developing Economies |
| EUR | European Euro |
| FY | Fiscal Year |
| GBP | UK Pound Sterling |
| GL | General Ledger |
| IBFT | Interbank Fund Transfer |
| ILF | Intraday Liquidity Facility |
| IOSCO | International Organization of Securities Commission |
| IPS | Interbank Payment System |
| JPY | Japanese Yen |
| LOI | Letter of Intent |
| Ltd. | Limited |
| NCHL | Nepal Clearing House Limited |
| NEPS | Nepal Electronic Payment System |
| No. | Number |
| NPR | Nepalese Rupee |
| NPS | National Payment Switch |
| NPSDS | Nepal Payment System Development Strategy |
| NRB | Nepal Rastra Bank |
| 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 |
| Pvt. | Private |
| QR | Quick Response |
| RPS | Retail Payment Systems |
| RTGS | Real Time Gross Settlement |
| SCT | SmartChoice Technologies |
| SIPS | Systemically Important Payment System |
| SIS | Supervisory Information System |
| USD | U.S. Dollar |

1. Background

Payment and settlement systems are integral aspects of economic activity and the financial sector. Payment systems promote financial stability and economic development by reducing systemic and settlement risks, guarding against the contagion of losses, facilitating proper liquidity management, and promoting the effective transmission of monetary policy. The payment system is also considered as a critical enabler of financial inclusion. Transaction accounts offered by banks and other payment service providers (PSPs) allow people- including the unbanked- to make and receive payments in a cost-efficient way¹. Thus, the strategic direction of every nation is centered around modernizing the payment system.

Globally, the Covid-19 pandemic has accelerated the use of digital and contactless payments, further increasing the motivation of central banks to develop central bank digital currencies (CBDCs). The total value of non-paper-based or digital credit transfers grew strongly in both advanced economies (AEs) and emerging market and developing economies (EMDEs) during the Covid-19 pandemic². In many jurisdictions, the growth in card payments also lost momentum in addition to the decline in cash payments. The shift from cash and cards to digital financial services (including contactless cards) and digital credit transfers has probably been driven by the ongoing trends as well as Covid-19-related developments, such as working-from-home, temporary lockdowns and shutdowns, merchants refusing cash payments, the surge in e-commerce activities, active promotion of digital payments by the banks and financial institutions (BFIs), the growth in digital person-to-person payments³, and the distribution of Covid-19 benefit payments by governments⁴.

In this regard, a study by CPMI (2021) has reported that the share of contactless payments in total card transactions increased in 2020 at its highest rate since 2015 (Figure 1- right-hand panel). This could be due to the fear of Covid-19 contagion from banknotes and coins. Further, in 2020, economies experienced a rapid surge in the use of cashless payment (using debit or credit cards) and credit transfers, with credit

¹ See. World Bank Group (2020)

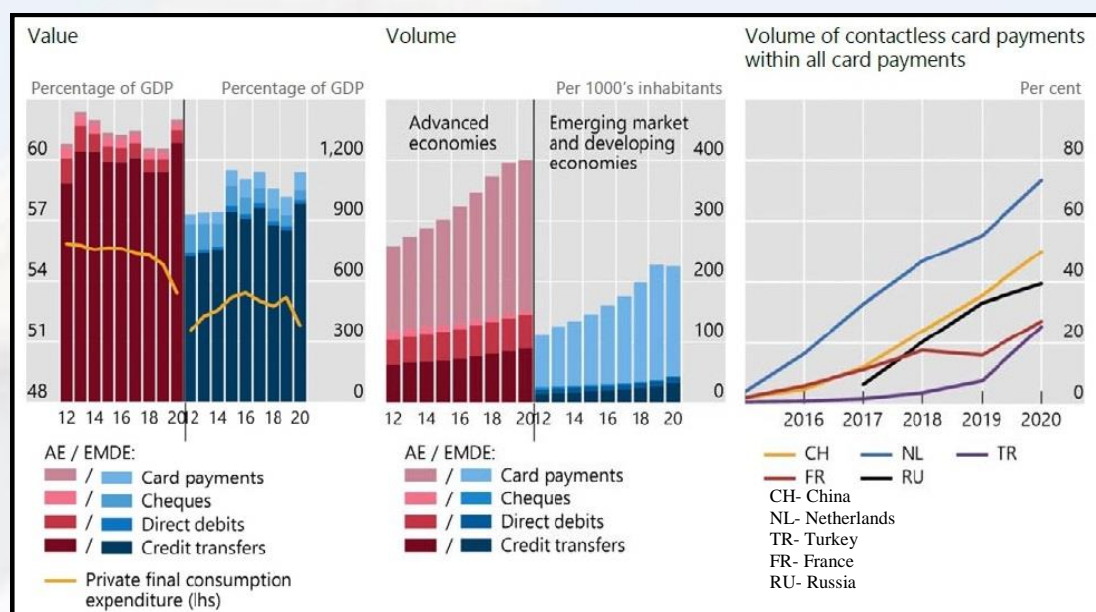
² See. CPMI (2021)

³ For example, in the United States, person-to-person and mobile payments increased by 6% and 8%, respectively, during 2020 and the first months of 2021 (Akana (2021)).

⁴ See. IMF (2021)

transfers accounting for the largest share of cashless payments in terms of value (Figure 1- left-hand panel).

Figure 1: Global Usage of Credit Transfer and Contactless Cards in 2020



Source: CPMI Red Book Statistics

On the contrary, cash withdrawals declined during the Covid-19 pandemic. Compared with 2019, both the number and value of cash withdrawals dropped in 2020 in most countries. The payment systems, therefore, have evolved globally as the economies are experiencing more cashless transactions. With the digitalization of financial activities, the risks from the digital sphere are also emerging. Hence, the role of the central bank has further increased to ensure the safety and efficiency of the payment system.

Central Banks, historically, have been involved in payment systems as the main actor taking steps to develop and improve domestic and cross-border payments. The international central banking community has further emphasized the need to ensure the smooth functioning of domestic and cross-border payment systems through appropriate oversight. 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 enforcement⁵.

⁵ See. CPMI (2021)

Payment system oversight is one of the key central bank functions to promote safety and efficiency by monitoring existing and planned payment systems. Overseeing the payment system controls and minimizes the risk of transmitting shocks through the economy via reverberation across the payment system failure by individual participants to settle payment obligations⁶. Oversight activities further help central banks bring developmental initiatives, policies, directives, guidelines, and circulars to support payment system modernization endeavors. Through the payment system oversight report, central banks relay information about the oversight initiatives along with key actions undertaken for the upliftment of the payment system to the relevant stakeholders.

The “**Payment System Oversight Report, 2021/22**” is a similar initiative of Nepal Rastra Bank (NRB) to disseminate information on the development of Nepalese payment systems and to elucidate oversight activities undertaken by the Payment Systems Department (PSD) for further ensuring efficient, safe, and healthy payment system in Nepal.

2. Nepalese Payment Systems

Digital payments have evolved rapidly, with the Covid-19 pandemic igniting their mass adoption in Nepal. 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, etc. 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. In this regard, the Budget Speech (Point No. 322) and the Monetary Policy (Point 125) of the fiscal year (F.Y.) 2022/23 have provisioned for making necessary arrangements to allow full-fledged Digital Banks in Nepal.

The development of digital payment systems in Nepal is a planned initiative of NRB. Although digital payments took pace in early 2016 and rose from 2020, the foundational

⁶ See. NRB (2018)

arrangements for modernizing the payment systems started in 2014. The National Payment Systems Development Strategy (NPSDS), 2014 was formulated to further develop a secure, healthy, and efficient payment system as mentioned in the NRB Act, 2002⁷. The NPSDS, 2014 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/Mechanism, 2016; Payment and Settlement Act, 2019; and Payment and Settlement Bylaw, 2020 have brought other breakthroughs in the era of digital payment. NRB has further issued Retail Payment Strategy, 2019; 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.

As of Mid-July 2022, 37 institutions are licensed as payment institutions. Among them, 27 are PSPs, and 10 are Payment System Operators (PSOs). In addition, all 26 commercial banks, 13 development banks, 14 finance companies, and 1 microfinance financial institution have obtained the license to operate as PSP from NRB. The detailed list of licensed institutions is presented in Annex 1 to Annex 4.

⁷ See. NRB (2014)

Table 2: Institutions Licensed to Operate as PSO/PSP (Mid-July, 2022)

| Category | Count |
|--|-------|
| Payment Service Provider (PSP) | 27 |
| Payment System Operator (PSO) | 10 |
| Commercial Banks as PSP | 26 |
| Development Banks as PSP | 13 |
| Finance Companies as PSP | 14 |
| Microfinance Financial Institutions as PSP | 1 |

NRB has further been encouraging digital payments instead of cash transactions to ensure transparency and smooth functioning of payment systems. In this endeavor, NRB announced to celebrate the F.Y. 2021/22 as the “E-Payment Transaction Promotion Year”. 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 like QR Codes, e-wallets, etc. 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/Overseer 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, as the dedicated department for payment systems, regulates and supervises/oversees the payment-related institutions based on the existing legal framework, directives, oversight framework, major international guiding principles such as Principles of Financial Market Infrastructures (PFMIs), and other prevalent guiding documents.

4. Legal and Regulatory Provisions

NRB has laid down 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 directed 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, 2020

Payment and Settlement Bylaw, 2020 empowers NRB with 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 payment and settlement
- Required documents and details for the renewal of the license
- Qualification of the board members and executive chief of PSPs/PSOs
- Liability of licensed institutions
- Provisions for consumer protection
- Provisions regarding the addition and cancellation of payment instruments
- Securities of payment and settlement system
- Voluntary liquidation of the licensed institution

4.4 Licensing Policy for Payment Related Institutions, 2016

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 license renewal, rules and standards to operate as a PSP/PSO, etc.

4.5 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 institutions

4.6 NepalQR 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.

4.7 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.

4.8 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 important⁸, 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 also specified in the Payment Systems Related Unified Directives No. 12, 2078 that the licensed institutions should consider the PFMI as the guiding principles for risk management. Further, 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. Further, new licenses have been assigned to additional BFIs in 2021/22. The key developments and activities undertaken by NRB in 2021/22 are as below:

5.1 Issuance of Unified Directives

NRB issues payment systems-related unified directives and continuously updates the existing directives to further ensure the safety and efficiency of the payment systems. Altogether, 15 directives related to payment systems/services have been issued by NRB

⁸ 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))

as of Mid-July 2022. 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 | Security measures while providing electronic payment services |
| 4 | Settlement bank |
| 5 | Transaction limit for electronic transactions |
| 6 | Approval of annual financial report before publishing |
| 7 | RTGS system |
| 8 | Branchless Banking (BLB) |
| 9 | Electronic Cheque Clearing (ECC) |
| 10 | Statistical description |
| 11 | Corporate governance-related provisions |
| 12 | Risk management-related provisions |
| 13 | Customer protection-related provisions |
| 14 | Prevention of financial investment in money laundering and terrorist activities |
| 15 | Miscellaneous provisions |

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 2021/22 are presented in Table 4.

Table 4: Public Notices Issued by NRB, 2021/22

| Date (A.D.) | Public Notice Regarding |
|-------------|---|
| 2 Nov, 2021 | Termination of the license of GME Pay Private (Pvt.) Limited (Ltd.) |
| 4 Feb, 2022 | Risks in electronic financial transactions. |
| 2 Mar, 2022 | Domestic remittance transaction limit |

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 2021/22 is presented in Table 5.

Table 5: Circulars Issued by PSD in 2021/22

| Date (A.D.) | Circulars |
|--------------------------------|---|
| 20 Dec, 2021 | Security Measures while Providing Electronic Payment Services |
| 23 Dec, 2021 | Reporting Data within the 7 th day of Next Month through Reporting Portal/Supervisory Information System (SIS) |
| 4 Feb, 2022 | Branchless Banking Service and Authentic Agents |
| 4 Feb, 2022 | Interoperability and Access of Payment Systems |
| 11 Feb, 2022 | Digital Lending Guidelines |
| 2 Mar & 6 Jun, 2022 | Domestic Remittance Transaction |
| 2 May, 2022 | Loading Money in Wallet through Credit Card |
| 30 May, 2022 | Prevention of Financial Investment on Money Laundering and Terrorist Activities |

The circular on interoperability and access of payment systems is one of the key milestones in providing a seamless user experience to customers, merchants, and settlement counterparties like PSOs. Interoperable systems can ensure the efficiency of payment systems by facilitating the proper exchange of information and payment messages for settlement. From customers' viewpoint, interoperable payment systems further eliminate the need to carry or subscribe to multiple payment instruments to avail digital financial services provided by multiple PSPs. Thus, interoperability can provide greater convenience for customer payments and increase the adoption of electronic payment instruments. The provisions mentioned in the stated circular are as follows:

Interoperability and Access of Payment Systems

- Interoperability refers to business, technology, and legal provision that assist to coordinate the system, mechanism, or instrument of a licensed institution with the system, mechanism, or instrument of another licensed institution.
- Interoperability assists/facilitates participants of payment services to exchange information and clear and settle payment transactions with others' systems.
- Applicable Institutions:
 - ❖ Payment System Operators (PSOs)
 - ❖ Payment Service Providers (PSPs)
- Applicable Instruments:
 - ❖ Retail payment instruments (Mobile Banking, Mobile Wallet, QR Code, etc.)
- Licensed institutions can make an agreement with each other for interoperability incorporating:
 - ❖ Technical, business, and legal aspects,
 - ❖ Common standards for exchanging transactions data and information between electronic means using common telecommunication networks.
 - ❖ Methodology for clearing and settlement of transactions, fee associated with the implementation of structure and interoperability services, fee allotment/sharing, and punishment or compensation for breaches of the terms of the agreement, and
 - ❖ Grievance handling of customers of the parties involved.
- All PSOs and PSPs operating a retail payment system or issuing retail payment instruments are required to follow payment-related international best practices and business standards.
- Retail payment licensed PSOs are not allowed to make laws and technology to interrupt other licensed institutions in accession of their own payment system.
- PSOs and PSPs are required to maintain the security and confidentiality of data/information obtained or collected from beneficiaries while providing interoperability service.

5.3 Licensing

During 2021/22, NRB has issued licenses to the institutions listed in Table 6 to operate as PSP:

Table 6: PSP Licenses Issued by PSD in F.Y. 2021/22

| Licensed Date (B.S.) | Institution's Name | Address | Institution Type |
|----------------------|---------------------------------------|------------------------|------------------------------------|
| 2078/05/27 | Nepal Finance Ltd. | Kamaladi, Kathmandu | Finance Company |
| 2078/05/27 | Central Finance Ltd. | Kupandol, Lalitpur | Finance Company |
| 2078/11/23 | Mahalaxmi Bikas Bank Ltd. | Durbarmarg, Kathmandu | Development Bank |
| 2079/02/16 | Janaki Finance Company Ltd. | Janakpurdham, Dhanusa | Finance Company |
| 2079/02/16 | Multipurpose Finance Ltd. | Rajbiraj, Saptari | Finance Company |
| 2079/03/19 | Laxmi Laghubitta Bittiya Sanstha Ltd. | Maharajgunj, Kathmandu | Microfinance Financial Institution |

5.4 Large Value Payment Systems

Based on the mandate given by the Payment and Settlement Act, 2019 and the Payment and Settlement Bylaw, 2020, NRB has been operating Real Time Gross Settlement (RTGS) system for large value and critical payments since 12th September, 2019. 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, liquidity management using Intraday Liquidity Facility (ILF), etc. among others. Similarly, NRB has also issued a separate directive (Directive No. 7 of Payment System Related Unified Directives, 2078) 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 | | 26 |
| | Development Banks | | 10 |
| | Finance Companies | | 10 |
| | Nepal Infrastructure Bank (NIFRA) | | 1 |
| | Total | | 47 |
| | <i>(As of Mid-July 2022)</i> | | |
| Allowed Currencies for Transaction Settlement | <ul style="list-style-type: none"> • Nepalese 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 | 2020/21 | | 2021/22 | |
|----------|--------------------|---------------------|--------------------|---------------------|
| | No. of Transaction | Amount (in Million) | No. of Transaction | Amount (in Million) |
| NPR | 5,22,174 | 2,04,45,704.04 | 733,795 | 4,15,61,970.8 |
| USD | 10,364 | 688.04 | 14,774 | 828.12 |
| EUR | 702 | 161.09 | 1,098 | 222.83 |
| GBP | 426 | 3.23 | 582 | 4.96 |
| JPY | 175 | 1,891.12 | 348 | 75,633.62 |

Note: Transaction amount (in Million) in respective currencies

The value of RTGS transactions has almost doubled in 2021/22 as compared to 2020/21. Since the RTGS system is a domestic interbank settlement system, around 98 percent of the total transactions are based on Nepalese currency. Out of the allowed 4 foreign currencies, transactions in US Dollars are more frequent than in other currencies.

5.5 Retail Payment Systems (RPS)

The retail payment systems in Nepal 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. The retail payment systems in Nepal 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 and mobile banking services to BFIs. Other major operators in the cards payment landscape are SmartChoice Technologies (SCT) Ltd. and Nepal Electronic Payment Systems (NEPS) Ltd. Internationally recognized institutions like Visa Worldwide Pvt. Ltd., Union Pay International Company Ltd., and Master Card Asia/Pacific Pte Ltd. are also operating as PSOs in the Nepalese 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 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, Wallets, QR Code, etc. are the major developments in the field of retail payments. The use of instant payment

systems like *connectIPS*, Interbank Fund Transfer (IBFT), and QR code has skyrocketed 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)

As mentioned in the Payment and Settlement Act, 2019; mandated by the Payment and Settlement Bylaw, 2020; and as announced in the Monetary Policy of F.Y. 2019/20, the National Payment Switch (NPS) is currently under the process of development through NCHL. NPS is a key infrastructure to establish interoperable payment systems, allowing the settlement of all domestic transactions within the country. 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 has accelerated the digitalization of payments making non-cash payments the new normal, especially in city areas. Digital payment instruments like Mobile Banking, Cards, QR code, *connectIPS*, e-Wallets, Internet Banking, POS machines, etc. have been extensively used owing to the fear of Covid-19 infection from

cash and cheques. Moreover, licensed institutions are constantly working to modernize existing instruments and innovate new payment instruments.

Table 9: Access on Payment Systems

| Particulars | Number | | |
|--------------------------|------------------|----------------|----------------|
| | Mid-August, 2020 | Mid-July, 2021 | Mid-July, 2022 |
| PSPs Agent | 5,139 | 9,279 | 12,685 |
| Wallet Users | 6,274,129 | 8,885,914 | 13,675,993 |
| <i>connect</i> IPS Users | 162,117 | 534,615 | 896,341 |
| ECC Members | 65 | 60 | 59 |
| IPS Members | 85 | 103 | 111 |

There has been a rapid increase in the user base of e-Wallets and *connect*IPS post the Covid-19 pandemic. The number of wallet users increased from 6.27 million in Mid-August, 2020 to 13.68 million in Mid-July, 2022. Similarly, the number of *connect*IPS users increased from 1.62 lakhs in Mid-August, 2020 to 8.96 lakhs in Mid-July, 2022. The number of IPS members is also increasing with 111 members as of Mid-July, 2022. Due to ongoing mergers and acquisitions, the number of ECC members has reduced from 65 in Mid-August, 2020 to 59 in Mid-July, 2022.

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 acclimatized users to digital banking rather than branch-based banking. The access report on different payment instruments in 2021/22 has been summarized below:

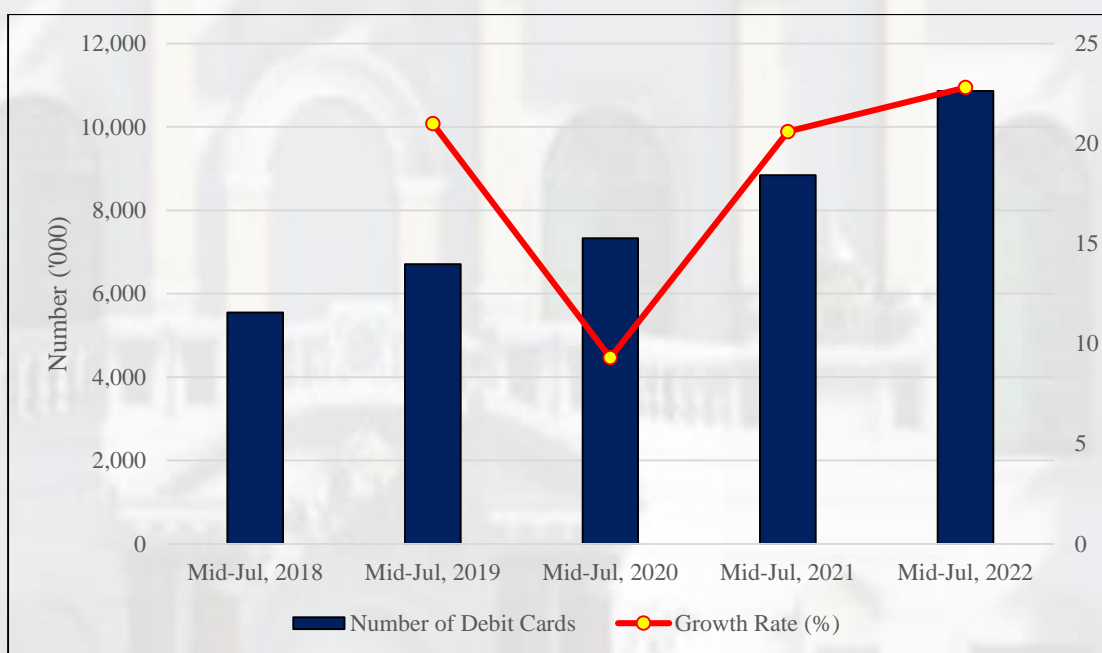
6.1 Cards

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 (starting in March, 2020 and ending in Mid-July, 2020). On the contrary, the growth rate of credit cards was comparatively higher during the pandemic (as shown in Table 10, Figure 2, and Figure 3).

Table 10: Total Outstanding 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 |

* Also includes card issued by PSPs

Figure 2: Total Outstanding Debit Cards

The reason for the decrease in the growth rate of debit cards could be Covid-19 related developments; such as working-from-home, temporary shutdowns and commuting restrictions, the active promotion of digital payments by the banks and financial institutions (BFIs), and the growth in digital person-to-person payments. Due to increased e-commerce activities and waiver packages (related to issuance and transaction fees and other charges) in the issuance of credit cards, the growth rate of credit cards may have increased during the pandemic.

Figure 3: Total Outstanding Credit Cards

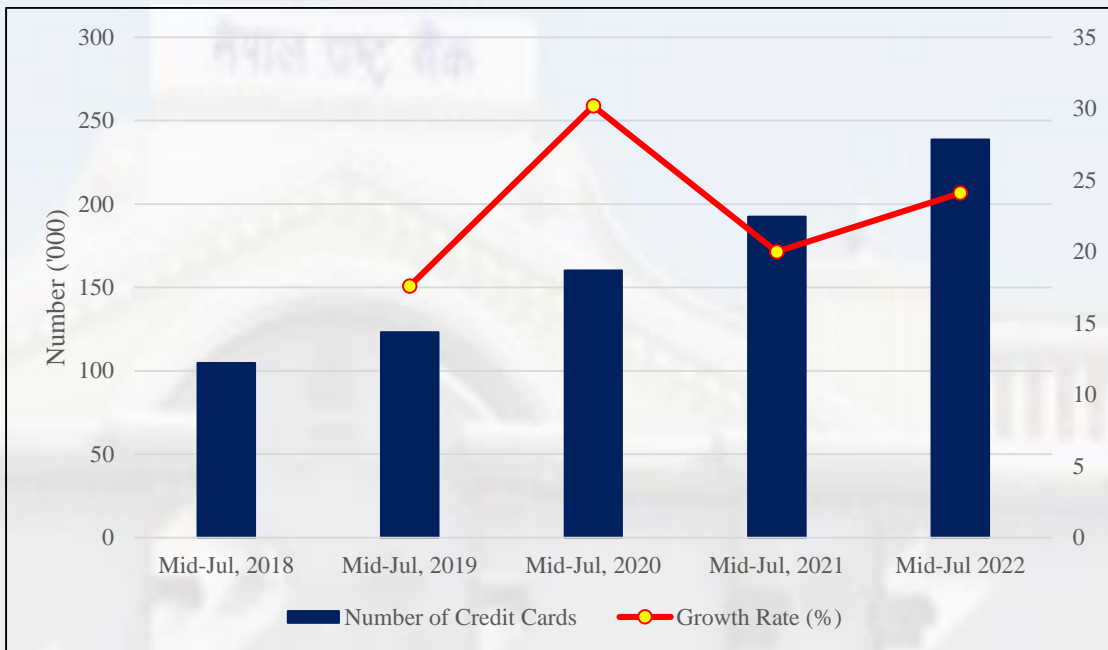
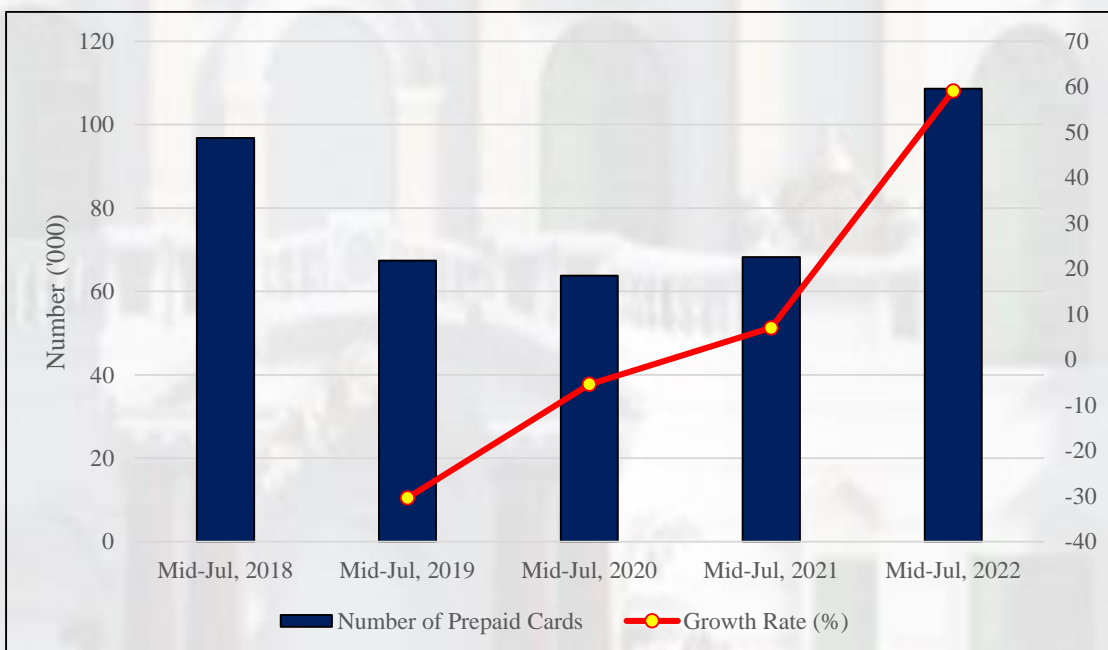


Figure 4: Total Outstanding Prepaid Cards



As shown in Figure 4, the use of prepaid cards also dipped primarily due to domestic as well as international travel restrictions imposed by the government during the Covid-19 pandemic. Nonetheless, as the restrictions have been lifted and the pandemic has subsided, the use of all types of cards has increased as reflected in Table 10 for Mid-July, 2021 and Mid-July, 2022.

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 11.

Table 11: 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 |

Source: NCHL

During the period of the Covid-19 pandemic, the growth rate of presented cheques (1.2 percent) dropped due to lockdowns and shutdowns imposed by the government. As the effect of the pandemic has subsided, the use of cheques has increased again. Nevertheless, digital payment instruments like NFC-enabled cards, QR codes, Mobile Banking, Internet Banking, and e-Wallets are increasingly becoming popular. Consequently, the use of cheques is decreasing, which is evident from a decreased growth rate of presented cheques from 21.1 percent in 2020/21 to 16.1 percent in 2021/22.

Table 12: Number of Cheques Presented and Cleared (NCHL-ECC)

| Particulars | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
|----------------------------------|---------|---------|---------|---------|---------|---------|
| Cheque Presented Count (in '000) | 9,951 | 9,686 | 11,755 | 11,898 | 14,411 | 16,726 |
| Cheque Value (in billions) | 5,175 | 6,342 | 7,657 | 7,346 | 9,234 | 10,539 |
| Cheque Cleared Count (in '000) | 9,153 | 8,582 | 10,125 | 10,150 | 12,295 | 13,920 |

Source: NCHL

As shown in Table 12, the number of presented and cleared cheques has increased over the years, along with the increment in the value of cheques. In 2021/22, the total number of presented cheques stood at 16.73 million of amount NPR. 10,539 billion. Out of the total presented cheques, 13.92 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 13: 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 |

Source: NCHL

Like other digital payment instruments, the transaction count through IPS has also surged after the Covid-19 pandemic. There has been a rapid growth in the number of transactions from 19.1 percent in 2019/20 to 93.6 percent in 2020/21. In 2021/22, the number of IPS transactions has increased by 23.4 percent, reaching 14.04 million (as shown in Table 13). Along with the increase in IPS transactions, the rejection rate of transactions has also increased. A decrease in the growth rate of IPS transactions is seen in 2021/22. Such decrease in IPS transaction may have resulted due to the extensive use of connectIPS, a faster payment system developed by NCHL to allow customers to transact without visiting bank branches.

6.4 Instant Payment

Nepalese payment system consists of two types of instant payment systems; namely, high value and retail systems. Currently, two major networks facilitate retail instant payments. NCHL operates *connectIPS* and *corporatePAY* instant payment systems. Fonepay offers instant payment through *fonepay direct* and *IBFT* systems. These two

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 14 has highlighted the trend of *connectIPS* transactions over the last 4 fiscal years.

Table 14: 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 |

Source: NCHL

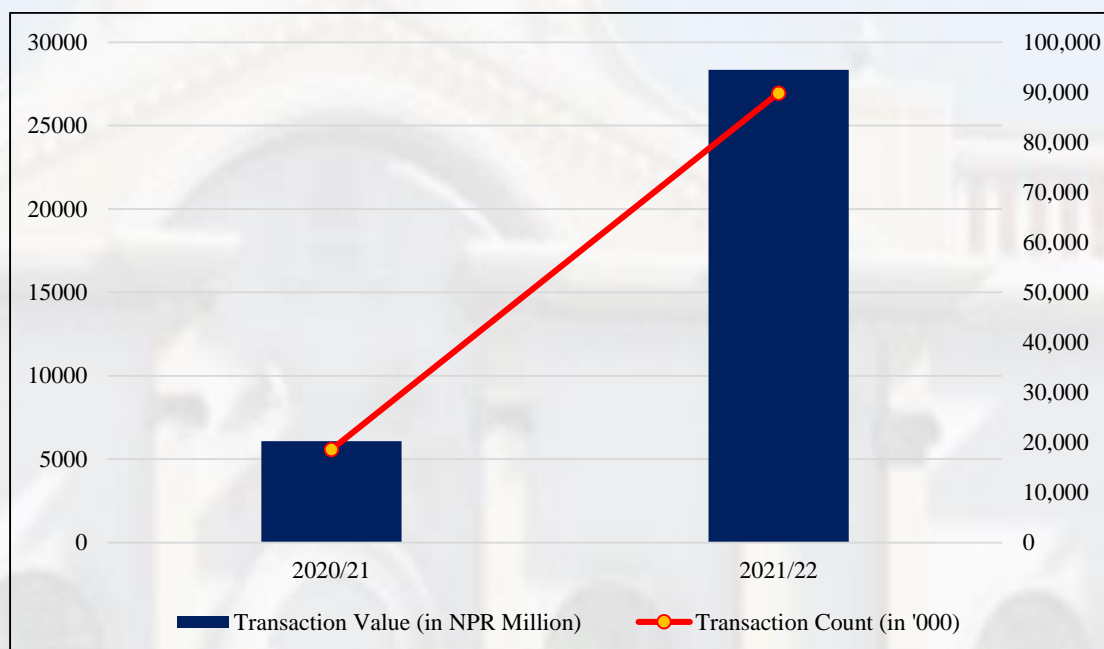
The use of *connectIPS* has surged especially after the Covid-19 pandemic (with the growth rates remaining as high as 1432.3 percent and 566 percent in 2019/20 and 2020/21 respectively). In 2021/22, the total number of *connectIPS* transactions has increased significantly (108.6 percent) and reached 39.6 million. Similarly, the rate of rejected transactions has decreased with just 25.9 percent of the total presented transactions being rejected in 2021/22.

6.4.2 QR Code-based Payment

Fonepay 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 5: Usage of 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 382.8 percent and 366 percent respectively in 2021/22 as compared with 2020/21. At present, QR Code is the most widely preferred payment instrument by customers.

6.4.3 Mobile and Internet Banking

BFI's 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, etc. on self-service and digital mode.

Table 15: Number of Customer 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 |
| 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 |

Figure 6: Mobile Banking Customers in Nepal

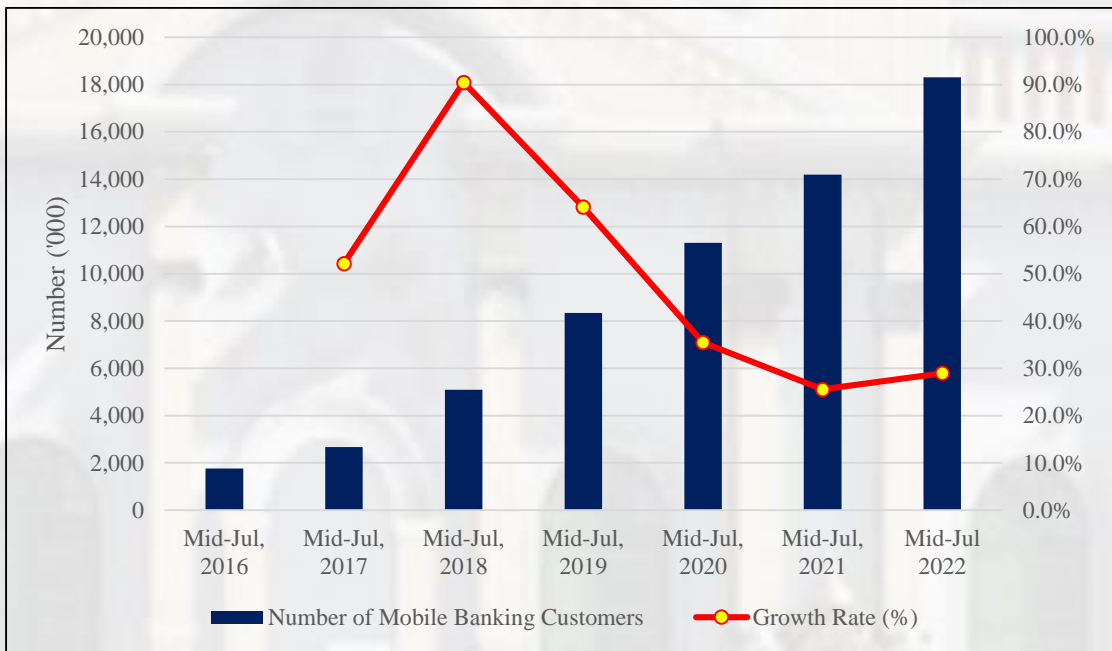
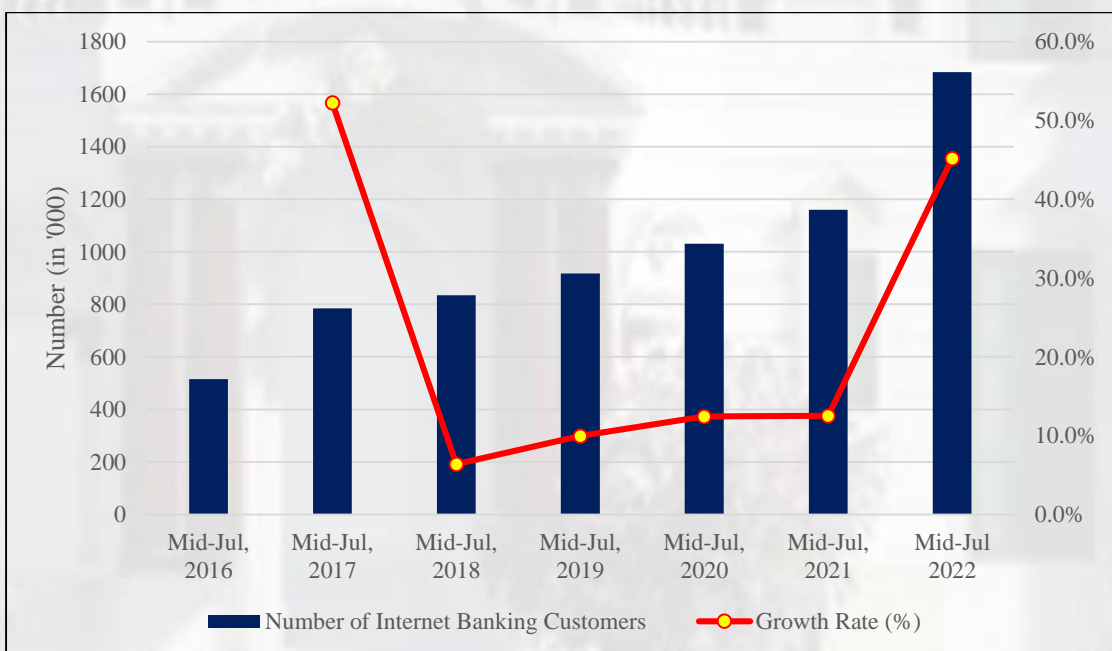


Figure 7: Internet Banking Users in Nepal



The user base of mobile banking and internet banking has increased post the Covid-19 pandemic, although at a decreasing rate. The primary reason for the decreasing growth rate of mobile banking and internet banking users may be the surge in the user base of instant payment systems like *connectIPS*. In 2021/22, the number of mobile banking users has increased by 29 percent and reached 18.31 million. Similarly, the number of internet banking users has increased by 45.2 percent and reached 1.68 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 13.7 million as of Mid-July, 2022 (Table 9) with a total transaction amount of NPR. 184.29 billion (Annex 5).

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. The usage of different payment system instruments is presented in Annex 5. Post the Covid 19 pandemic, the use of faster payment systems like *connectIPS*, QR, e-Wallets, Mobile Banking, and Internet Banking has sky-rocketed. The number and value of *connectIPS* transactions have grown by 109.3 percent and 127.1 percent respectively from 2020/21 to 2021/22. 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 382.8 percent and 366 percent respectively from 2020/21 to 2021/22. The use of mobile banking, internet banking, and wallets are all 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 274 percent and 263.3 percent respectively from 2020/21 to 2021/22. 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.

While the usage of POS is increasing, a decline in e-commerce or online payments using cards has been observed. The number and value of online payments using cards have reduced by 39.1 percent and 46.8 percent in 2021/22 as compared with 2020/21. Many customers opt for cash-on-delivery options for e-commerce shopping. As a result, there may have been a decline in e-commerce transactions through cards. 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 decline in e-commerce transactions through cards.

The RTGS system has processed large value payments with 40.6 percent and 105 percent growth in the number and value of transactions respectively in 2021/22 as compared with 2020/21. As digital financial services are proliferating, the use of cheques and the ECC system is slowly decreasing. Nevertheless, cheque is still one of the most favorable mediums of fund transfer and payments in Nepal. The number and value of ECC transactions have grown by 13.2 percent and 8.9 percent respectively in 2021/22 as compared with 2020/21.

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)⁹.

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

⁹ See. NRB (2018)

prepared considering the Payment System Oversight Framework, 2018. The provisions of the framework are presented in Table 16.

Table 16: 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 ❖ 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 | <ul style="list-style-type: none"> ❖ Fair Access ❖ Risk Control | <ul style="list-style-type: none"> ❖ <u>Institutions:</u> <ul style="list-style-type: none"> • PSP • PSO | <ul style="list-style-type: none"> ❖ As per Section 35 of the Payments & |

| | | | |
|--|--|--|--|
| <ul style="list-style-type: none"> ❖ <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"> ❖ Transparency ❖ System development ❖ Integration and interoperability of systems ❖ Consumer Protection ❖ Financial and Economic Stability | <ul style="list-style-type: none"> ❖ <u>Instruments:</u> <ul style="list-style-type: none"> • Cards • Mobile Banking • Internet Banking • e-Money • Others (QR Codes, POS, etc.) ❖ <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 | <p>Settlement Act, 2075</p> <ul style="list-style-type: none"> ❖ As per Section 5 of Unified Directive No. 14/078 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, 2078. The types of reports, along with the frequency and deadline of reporting, are presented in Table 17.

Table 17: 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 7th day of operation |
| 10.1.2 | Details of ATM Location Centre | BFI | | |
| 10.1.3 | Customer Account and Electronic Card Details- BLB wise | BFI | Monthly | Within the 15th day of the next month |
| 10.1.4 | E-Banking Transactions Report | BFI | | |
| 10.1.5 | Transactions Report of Non-bank PSP | PSP | | |

| | | | | |
|---------|---|-------------|--|--|
| 10.1.6 | Statement of Success and Failed Transactions of PSP | 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 PSO | PSO | | |
| 10.1.10 | Statement of Success and Failed Transactions of PSO | PSO | | |
| 10.1.11 | Transaction Report of PSP's Agent | PSP | | |
| 10.1.12 | Cash Transactions from Credit Card and Prepaid Card | BFI and PSP | | |
| 10.1.13 | Transactions Report of Clearing House | NCHL | | |

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

8.1.2 Requirement to Approve Financial Statements

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.

9. Oversight Activities in 2021/22

The oversight function of PSD requires licensed institutions to submit reports in the prescribed format (as specified in Table 17) for regular supervision. PSD also carries out onsite inspections, in line with the target stated in the annual work plan for each fiscal year. The oversight activities and the key findings/ actions taken by NRB in 2021/22 have been summarized below:

9.1.1 Inspection/Supervision

In 2021/22, NRB conducted on-site inspections of the following 16 licensed institutions:

Table 18: Onsite Inspections in 2021/22

| S.N. | Name of Institution | Nature of Institution |
|------|--|-----------------------|
| 1. | Nepal Electronic Payment Systems Ltd. (NEPS) | PSO |
| 2. | SmartChoice Technology Ltd. | PSO |
| 3. | Fonepay Payment Service Ltd. | PSO |
| 4. | Nepal Clearing House Ltd. (NCHL) | PSO |
| 5. | Nepal Payment Solution Pvt. Ltd. | PSO |
| 6. | SajiloPay Payment Service Pvt. Ltd. | PSP |
| 7. | Goldmine Business Group Pvt. Ltd. | PSP |
| 8. | Prabhu Technology Pvt. Ltd. | PSP |
| 9. | eSewa Pvt. Ltd. | PSP |
| 10. | Celcom Pvt. Ltd. | PSP |
| 11. | Pay Nep Pvt. Ltd. | PSP |
| 12. | IME Digital Solution Ltd. | PSP |
| 13. | CG Pay Nepal Pvt. Ltd. | PSP |
| 14. | Smart Card Nepal Pvt. Ltd. | PSP |
| 15. | QPay Pvt. Ltd. | PSP |
| 16. | E-Net Pvt. Ltd. | PSP |

During the time of on-site inspection, NRB collected information related to systemic, operational, settlement, and liquidity risks of licensed institutions. The analysis was done based on the available information and the prevailing market scenario. The major issues observed from the on-site inspections in 2021/22 are as follows:

- Involvement of board members in day-to-day business of the institution
- Lack of sufficient policies
- Inadequate physical infrastructure for the operation
- Poor corporate governance
- Lack of proper strategy for running a business at the time of crisis
- Lack of procedure for Board meetings
- Concentration of business in city area only

9.1.2 Actions Taken for the Non-compliance

In 2021/22, 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
- Executive chief not appointed within the stipulated time and not fulfilling the minimum qualification requirements
- Involvement of board members in day-to-day business operation
- Chairperson assuming office without taking the oath

9.1.3 Policy Facilitation

In 201/22, NRB carried out the following activities to ease the payment system:

- Waiver of off-us ATM withdrawal fee/charge for at least two transactions per month.
- Increase in transaction limit of Mobile Banking, Internet Banking, and e-Wallet.
- Fixing the upper limit of per transaction service fee/charge for IBFT through mobile banking.

References

- Akana, T. (2021). Changing US consumer payment habits during the COVID-19 crisis. *Journal of Payments Strategy & Systems*, 15(3), 234-43.
- CPMI. (2021, December 09). *Covid-19 accelerated the digitalisation of payments*. Committee on Payments and Market Infrastructures, Bank for International Settlements. Retrieved from https://www.bis.org/statistics/payment_stats/commentary2112.pdf
- CPSS-IOSCO. (2012). *Principles for financial market infrastructures*. Bank for International Settlements. doi:ISBN 92-9197-108-1 (online)
- IMF. (2021). *Policy response to Covid-19 Policy Tracker*. International Monetary Fund. Retrieved from <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
- NRB. (2014). *National Payment Systems Development Strategy*. Kathmandu: Nepal Rastra Bank. Retrieved from https://www.nrb.org.np/contents/uploads/2019/12/Nepal_National_Payment_System_Development_Strategy.pdf
- NRB. (2018). *Payment Systems Oversight Framework*. Payment Systems Department. Kathmandu: Nepal Rastra Bank. Retrieved from https://www.nrb.org.np/contents/uploads/2019/12/Payment_System_Oversight_Framework_2018_20741108.pdf
- World Bank Group. (2020). *Payment Systems Worldwide: A Snapshot*. Washington DC: World Bank Group.

Annexures

Annex 1: Licensed Institutions (PSOs and PSPs)*

| 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) | Narayanchaur, 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. | Sundhara, Kathmandu | 2076/07/19 |
| 7 | Master Card Asia/Pacific Pte Ltd. | Singapore | 2076/08/24 |
| 8 | Fonepay Payment Services Ltd. | Hattisar, Kathmandu | 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. | Kamaladi, Kathmandu | 2074/03/04 |
| 2 | IME Digital Solution Ltd. | Panipokhari, Kathmandu | 2074/03/05 |
| 3 | eSewa Pvt. Ltd. | Hattisar, Kathmandu | 2074/03/05 |
| 4 | Cellcom Pvt. Ltd. | Sinamangal, Kathmandu | 2075/09/08 |
| 5 | CG Pay Nepal Pvt. Ltd. | Sanepa, Lalitpur | 2075/09/13 |
| 6 | Khalti Pvt. Ltd. | Pulchowk, 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 | Anamnagar, Kathmandu | 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. | Kamaladi, Kathmandu | 2077/02/29 |
| 15 | PayWell Nepal Pvt. Ltd. | Baluwatar, Kathmandu | 2077/06/11 |
| 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. | Naksal, 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)

| 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 Bank Ltd. | Hattisar, Kathmandu | 2073/12/20 |
| 8 | Century Commercial Bank Ltd. | Putalisadak, Kathmandu | 2073/12/20 |
| 9 | Mega Bank Ltd. | Kamaladi, Kathmandu | 2073/12/24 |
| 10 | Nabil Bank Ltd. | Tindhara, Kathmandu | 2073/12/24 |
| 11 | Prabhu Bank Ltd. | Babarmahal, Kathmandu | 2073/12/24 |
| 12 | Kumari Bank Ltd. | Tangal, Kathmandu | 2073/12/24 |
| 13 | Nepal Investment Bank Ltd. | Durbarmarg, Kathmandu | 2073/12/24 |
| 14 | Siddhartha Bank Ltd. | Hattisar, Kathmandu | 2073/12/24 |
| 15 | Civil Bank Ltd. | Sundhara, Kathmandu | 2073/12/24 |
| 16 | Himalayan Bank Ltd. | Kamaladi, Kathmandu | 2073/12/24 |
| 17 | Machhapuchhre Bank Ltd. | Lazimpat, Kathmandu | 2073/12/24 |
| 18 | Sanima Bank Ltd. | Naxal, Kathmandu | 2073/12/29 |
| 19 | Bank of Kathmandu Ltd. | Kamalpokhari, Kathmandu | 2073/12/29 |
| 20 | Citizens Bank International Ltd. | Narayanhitipath, Kathmandu | 2073/12/29 |
| 21 | Rastriya Banijya Bank Ltd. | Singh Durbar Plaza, Kathmandu | 2073/12/29 |
| 22 | NCC Bank Ltd. | Thapathali, Kathmandu | 2073/12/29 |
| 23 | Sunrise Bank Ltd. | Gairidhara, Kathmandu | 2073/12/29 |
| 24 | Standard Chartered Bank Nepal Ltd. | Naya Baneshwor, Kathmandu | 2073/12/30 |
| 25 | Everest Bank Ltd. | Lazimpat, Kathmandu | 2073/12/30 |
| 26 | Nepal SBI Bank Ltd. | Keshermahal, Kathmandu | 2073/12/30 |

Annex 3: Development Banks Licensed as Payment Service Providers (PSPs)

| 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 |

Annex 4: Finance Companies and Microfinance Financial Institutions Licensed as Payment Service Providers (PSPs)

| S.N. | Name | Address | Licensed Date (B.S.) |
|---|--|----------------------------|----------------------|
| Finance Companies: | | | |
| 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. | Pradashanimarga, 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 |
| Microfinance Financial Institutions: | | | |
| 1 | Laxmi Laghubitta Bittiya Sanstha Ltd. | Maharajgunj, Kathmandu | 2079/03/19 |

Annex 5: Usage of Payment Systems

| Particulars | FY 2020/21 | | FY 2021/22 | | Change (%) | |
|----------------------|---------------------|----------------------------|---------------------|----------------------------|---------------------|--------------|
| | No. of Transactions | Total Amount (NPR Million) | No. of Transactions | Total Amount (NPR Million) | No. of Transactions | Total Amount |
| RTGS | 533,841 | 20,552,212 | 750,597 | 42,134,018 | 40.6 | 105.0 |
| ATM-Cash Withdrawal | 74,479,681 | 648,268 | 100,988,504 | 839,732 | 35.6 | 29.5 |
| ECC | 12,295,926 | 8,056,449 | 13,920,129 | 8,773,753 | 13.2 | 8.9 |
| IPS | 10,841,023 | 2,369,108 | 13,424,453 | 2,060,041 | 23.8 | -13.0 |
| <i>connectIPS</i> | 18,833,752 | 1,356,742 | 39,417,168 | 3,081,764 | 109.3 | 127.1 |
| Debit Cards | 81,648,703 | 679,353 | 110,830,652 | 881,396 | 35.7 | 29.7 |
| Credit Cards | 1,717,397 | 9,986 | 2,270,929 | 14,143 | 32.2 | 41.6 |
| Prepaid Cards | 130,867 | 853 | 489,507 | 3,099 | 274.0 | 263.3 |
| Internet Banking | 3,179,362 | 98,656 | 3,355,888 | 159,489 | 5.6 | 61.7 |
| Mobile Banking | 111,923,386 | 460,014 | 181,545,676 | 1,210,134 | 62.2 | 163.1 |
| Branchless Banking | 639,338 | 12,869 | 752,248 | 16,190 | 17.7 | 25.8 |
| Wallet | 124,945,099 | 114,432 | 167,491,933 | 184,293 | 34.1 | 61.1 |
| QR-Based Payments | 5,581,779 | 20,282 | 26,950,009 | 94,508 | 382.8 | 366.0 |
| Point of Sales (POS) | 7,547,405 | 31,725 | 11,773,031 | 51,435 | 56.0 | 62.1 |
| E-Commerce* | 1,345,364 | 9,101 | 819,395 | 4,840 | -39.1 | -46.8 |

* Online payments using cards

Annex 6: 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 |
|---------------------|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 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 |
| | Development Banks | 479,318 | 260,225 | 206,589 | 216,991 | 231,287 | 348,411 | 538,672 |
| | Finance Companies | 35,417 | 26,667 | 29,694 | 37,245 | 35,443 | 32,009 | 43,272 |
| | Total | 4,657,125 | 4,980,958 | 5,544,253 | 6,708,521 | 7,329,202 | 8,839,855 | 10,856,357 |
| Credit Card | Commercial Banks | 52,014 | 68,966 | 104,721 | 123,146 | 160,297 | 192,370 | 238,794 |
| Prepaid Card | Commercial Banks | 82,797 | 101,458 | 96,816 | 67,386 | 63,775 | 65,786 | 105,121 |

Annex 7: 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 |
|------------------|-------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| ATM Terminals | Commercial Banks | 1,661 | 1,874 | 2,552 | 2,951 | 3,759 | 3,983 | 4,235 |
| | Development Banks | 230 | 177 | 209 | 318 | 296 | 301 | 323 |
| | Finance Companies | 17 | 30 | 30 | 47 | 51 | 41 | 44 |
| | Total | 1,908 | 2,081 | 2,791 | 3,316 | 4,106 | 4,325 | 4,602 |
| 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 |
| | Development Banks | 133,561 | 217,432 | 351,796 | 909,512 | 1,100,743 | 1,500,050 | 2,114,559 |
| | Finance Companies | 16,427 | 14,078 | 23,176 | 30,873 | 90,741 | 56,423 | 101,232 |
| | Total | 1,754,566 | 2,669,732 | 5,086,069 | 8,347,187 | 11,306,797 | 14,194,839 | 18,307,255 |
| Internet Banking | Commercial Banks | 489,835 | 766,958 | 816,074 | 888,268 | 1,001,866 | 1,115,532 | 1,279,475 |
| | Development Banks | 23,036 | 14,634 | 14,634 | 24,124 | 23,332 | 37,063 | 394,563 |
| | Finance Companies | 2,594 | 2,159 | 3,594 | 4,952 | 6,029 | 7,726 | 10,272 |
| | Total | 515,465 | 783,751 | 834,302 | 917,344 | 1,031,227 | 1,160,321 | 1,684,310 |