BRAZILIAN PAYMENTS SYSTEM OVERSIGHT REPORT 2014

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The Brazilian Payments System Oversight Report is a yearly publication which aims to provide greater transparency to Banco Central do Brasil’s (BCB) oversight practices concerning the various elements of the Brazilian Payments System (SPB). In this context, it serves as a tool to all of SPB’s actual and potential participants, in terms of perceiving Banco Central do Brasil’s oversight role and eventually contributing to oversight improvement. It may also be of great use to the international community interested in evaluating investment opportunities in Brazil as well as international and multilateral organizations involved in regulation, thus facilitating international cooperation in the field.

This Report, in its second year of publication, is composed of four chapters. The first one describes the SPB systems which are overseen by BCB and the relevant services provided: check clearing; clearing and settlement of electronic debit and credit orders; transfer of funds and other financial assets; clearing and settlement of transactions in securities; clearing and settlement of transactions in commodities and futures exchanges; among other services offered by entities collectively known as Financial Market Infrastructures (FMI)1. On October 9, 2013, Law number 12,865 was enacted and, as of this date, payment schemes2 and payment institutions also became part of SPB.

The second chapter presents the evolution in the volume of transacted values and the major changes in these infrastructures.

The third chapter describes the effective oversight practices, which include, among others, the monitoring of FMIs’ systemic, operational and financial risks, in addition to on-site inspections and assessments.

The fourth chapter presents the oversight policies that will guide BCB’s actions in promoting SPB’s efficiency and soundness and in the search for an effective access and use, by the population, of financial services tailored to their needs.

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1 Further information about the Financial Market Infrastructures operating in SPB may be found at: [http://www.bcb.gov.br/?FMISYSTEMS](http://www.bcb.gov.br/?FMISYSTEMS).

2 Information regarding the payment schemes which comprise SPB may be found at: [http://www.bcb.gov.br/?PAYMENTSSCHEMES](http://www.bcb.gov.br/?PAYMENTSSCHEMES).
The second edition of the Oversight Report points out the main changes which occurred in 2014 regarding the market infrastructures that integrate the Brazilian Payments System, as follows:

i. beginning of the Card Settlement Service (SLC) operations, by Siloc, allowing, when necessary, a settling financial institutions to request the exclusion of a payment card issuer’s net results before Siloc’s cut-off time, whenever such issuer does not belong to the settling institution’s conglomerate;

ii. changes in the additional safeguards structure of the Equities, Foreign Exchange, and Derivatives Clearinghouses, operated by BM&FBOVESPA, which will now employ the owner’s equity, if necessary, before the mutual shares of participants, resulting in greater protection of the CCPs, in accordance with the international requirements established by the Basel III agreement;

iii. approval of the Over-the-Counter Transactions Recording System, responsible for the registration of Structured Transactions Certificates (COE), Time Deposits (CDB), Real Estate Credit Bills (LCI), and Financial Treasury Bills (LF) operations, so that all information about these securities (e.g., transfer of ownership, restrictions to sale, availability for sale) are recorded in a single system;

iv. authorization of the first phase of the integration process of BM&FBOVESPA’s post-negotiation systems (IPN Project), resulting in the migration of the transactions from the Derivatives Clearinghouse to the new infrastructure called BM&FBOVESPA Clearinghouse, as published in the Policy Statement 26,265/2014;

v. beginning of the Structured Transactions Certificates (COE) registration at Cetip, with future physical delivery, due to clarity and transparency requirements laid down in Resolution 4,263/2013;

vi. implementation, by CIP-C3, of the Consignment Control Service (SCC), consisting of a data processing service that enables the calculation, control, and management of consigned credit3 transactions, and also the integration of lenders and borrowers.

Amongst the major regulatory changes which took place in 2014, it is worth noting:

i. Circular 3,704, of April 24, 2014, regarding the deposit, at a BCB settlement account, of the funds corresponding to the total value of e-money issued in payment accounts, as well as the participation of payment institutions in the Reserves Transfer System (STR);

ii. Circular 3,705, of April 24, 2014, amending Circular 3,681, 3,682 and 3,683, all of November 4, 2013, which regulate payment schemes and payment institutions, and Circular 3,347, of April 11, 2007, which regulates the National Financial System’s Customer Registry (CCS);

iii. Circular Letter 3,653 of April 25, 2014, establishing operational procedures for the deposit at a BCB settlement account of the funds corresponding to the value of e-money issued in payment accounts;

iv. Circular Letter 3,656, of April 30, 2014, which clarifies information and contains forms for authorization requests by payment schemes members of the Brazilian Payments System (SPB), and defines the starting date for payment scheme owners not participating in SPB to send information to BCB, according to Circular 3,682, of November 4, 2013, as amended by Circular 3,705, of April 24, 2014;

v. Circular Letter 3,662, of June 6, 2014, regulating the custody of federal bonds owned by E-Money Issuer Institutions (IEME) in the Special System for Settlement and Custody (Selic);

vi. Circular 3,710, of July 21, 2014, amending articles 3 and 4 of Circular 3,115, of April 18, 2002, regarding the Electronic Funds Transfer (TED);

vii. Circular 3,713, of July 25, 2014, allowing financial market infrastructures to maintain a positive balance in their settlement accounts at BCB;

viii. Policy Statement 26,265, of August 7, 2014, disclosing authorization for the BM&FBOVESPA Clearinghouse to operate;

3 Translator’s note: in Brazil consigned credit refers to payday loan or salary loan, where payments are debited directly from borrowers’ payroll.
ix. Circular 3,721, of September 25, 2014, regulating the obligation of financial institutions and payment institutions to use standardized files for their receivables agendas;

x. Circular 3,724, of October 15, 2014, amending Circular 3,682 and Circular 3,683, both of November 4, 2013, with respect to time limits for authorization requests by payment schemes and payment institutions, respectively;

xi. Circular 3,735, of November 27, 2014, regulating preventive measures for payment scheme owners participating in the Brazilian Payments System (SPB), in order to ensure the soundness, efficiency, and smooth operation of payment schemes;

xii. Circular Letter 3,684, of December 19, 2014, establishing the way by which payment schemes not participating in SPB should provide information to BCB.

Circular 3,743, of January 8, 2015, aimed to meet the provisions of Law 12,810/2013, which defined the centralized deposit activities and the registration of financial securities. More specifically, the Circular meets the need for setting normative standards regarding the centralized deposit and the registration of financial securities.

The final chapter presents the oversight policies that guide BCB’s actions in promoting the efficiency and soundness of SPB. The disclosure policy, which began in the Brazilian Payments System Oversight Report 2013, aims to stimulate solutions aligning market forces with public interest, solutions that may come from the market itself, which is efficient in allocating resources, combined with BCB’s persuasion power.

The sections on policies for payment schemes and on policies for financial market infrastructures basically show the evolution, over the year of 2014, of actions based on the policies disclosed in the 2013 Report:

i. perspectives of payment schemes’ and payment institutions’ regulatory framework as a driver of financial inclusion by increasing access to payment services;

ii. meeting the demand for solutions to add convenience to electronic payment instruments so as to replace the use of checks in high-value transactions;

iii. studies on payment schemes’ costs structure, especially those based on payment cards (debit, credit, and prepaid), in order to assess in which situation cooperation or competition, between market participants, will yield an optimal result;

iv. developments in the provision of mobile payment services;

v. studies of faster payments models;

vi. advances in ATM interoperability;

vii. regulation of payment institutions participating in cross-border schemes;

viii. the adoption of communications standards;

ix. assessment of financial market infrastructures operating in the country regarding the requirements brought in by the PFMIs about the management of general business risks;

x. adoption of the guidelines established in the document “Recovery of Financial Market Infrastructures” in oversight activities, aiming to assess the FMIIs’ compliance to the PMFIs regarding their recovery state planning.
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1 THE ROLES AND SCOPE OF BRAZILIAN PAYMENTS SYSTEM OVERSIGHT

The oversight of financial market infrastructures and payment schemes participating in SPB is based on the following legislation:

i. Law 10,214/2001 defines the terms for the operation of the clearinghouses within the scope of the Brazilian Payments System, among other provisions;

ii. Resolution 2,882/2001 establishes that it is Banco Central do Brasil’s responsibility to regulate and authorize the functioning of clearinghouses and other clearing and settlement providers;

iii. Circular 3,057/2001 sets forth the oversight of the clearinghouses and other clearing and settlement systems by Banco Central do Brasil;

iv. Circular 3,100/2002 establishes the Reserves Transfer System (STR) and its regulation;

v. Law 12,865/2013 regulates the payment schemes and payment institutions, which became a part of SPB after its publication;

vi. Resolution 4,282/2013 establishes the guidelines for regulation, oversight, and supervision of payment institutions and payment schemes participating in SPB, according to Law 12,865, of October 9, 2013;

vii. Circular 3,682/2013 approves the regulation regarding the provision of payment services by the payment schemes participating in SPB;

viii. Law 12,810/2013 defines the activities of centralized deposit and registration of financial assets and securities, and establishes BCB’s and CVM’s competency, in accordance with their powers, to authorize, supervise, and establish conditions for carrying out these activities;

ix. Policy Statement 25,097/2014 communicates the adoption, by the Department of Banking Operations and Payments System (Deban), of the Principles for Financial Market Infrastructures in monitoring and evaluating the Brazilian Payments System;

x. Policy Statement 27,115/2015 discloses the Principles for Financial Market Infrastructures applicable to the monitoring and evaluation of each system operating in SPB.

The following table shows the infrastructures operating in SPB, under BCB’s oversight:

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2 The Principles for Financial Market Infrastructures (PFMI), published by the Committee on Payment and Settlement Systems of the Bank for International Settlements (CPSS/BIS) and the Technical Committee of the International Organization of Securities Commissions (TC/IOSCO).
Table 1 – Classification of the Brazilian Payments System financial market infrastructures

<table>
<thead>
<tr>
<th>NAME</th>
<th>FMI</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR - Reserves Transfer System (Sistema de Transferência de Reservas)</td>
<td>PS</td>
<td>Real-time settlement of Selic and other clearinghouses’ operations, Electronic Funds Transfers (TED), and other critical payments, directly from participants’ accounts held in BCB.</td>
</tr>
<tr>
<td>CIP - Sitraf – Funds Transfer System (Sistema de Transferência de Fundos – Sitraf), by the Interbank Payments Clearinghouse (Câmara Interbancária de Pagamentos - CIP)</td>
<td>PS</td>
<td>Settlement of Electronic Funds Transfers (TED) below R$1 million.</td>
</tr>
<tr>
<td>CIP - Siloc – Deferred Settlement System for Interbank Credit Orders (Sistema de Liquidação Diferida das Transferências Interbancárias de Ordem de Crédito – Siloc), by the Interbank Payments Clearinghouse (Câmara Interbancária de Pagamentos - CIP)</td>
<td>PS</td>
<td>Clearing and settlement of electronic bills up to R$250 thousand, card transactions, and credit transfers (DOC).</td>
</tr>
<tr>
<td>Compe – Checks Clearinghouse (Centralizadora da Compensação de Cheques)</td>
<td>PS</td>
<td>Clearing and settlement of checks up to R$250 thousand.</td>
</tr>
<tr>
<td>Cielo – Multicard Clearing System (Cielo - Sistema de Liquidação Financeiro Multibandeiras)</td>
<td>PS</td>
<td>Clearing and settlement of Visa card transactions in which Cielo is the acquirer.</td>
</tr>
<tr>
<td>Rede – Domestic Clearing System (Rede - Sistema de Liquidação Doméstica)</td>
<td>PS</td>
<td>Clearing and settlement of card transactions in which Rede is the acquirer.</td>
</tr>
<tr>
<td>Selic – Special System for Settlement and Custody (Sistema Especial de Liquidação e de Custódia)</td>
<td>CSD, SSS</td>
<td>Clearing and settlement of government security transactions.</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA Clearinghouse (Câmara BM&amp;Fbovespa)</td>
<td>CCP, SSS, TR</td>
<td>Registration, clearing, and settlement of financial derivatives and commodities market operations.</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA Foreign Exchange Clearinghouse (Câmara de Câmbio da BM&amp;Fbovespa)</td>
<td>CCP, PS</td>
<td>Clearing and settlement of interbank foreign exchange transactions.</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA - Securities Clearinghouse (Câmara de Ativos da BM&amp;Fbovespa)</td>
<td>CCP, SSS</td>
<td>Registration, clearing, and settlement of government security transactions.</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA - Equities Clearinghouse (Câmara de Ações da BM&amp;Fbovespa)</td>
<td>CCP, CSD, SSS, TR</td>
<td>Registration, clearing, and settlement of equity and corporate bonds transactions.</td>
</tr>
<tr>
<td>BM&amp;FBOVESPA - Registration System (Sistema de Registro da BM&amp;Fbovespa)</td>
<td>TR</td>
<td>Registration of securities and over-the-counter market operations.</td>
</tr>
<tr>
<td>CIP - C3 – Credit Assignment Central (Central de Cessão de Crédito - C3), by the Interbank Payments Clearinghouse (Câmara Interbancária de Pagamentos - CIP)</td>
<td>SSS, TR</td>
<td>Recording of all information regarding credit assignment transactions.</td>
</tr>
</tbody>
</table>

1 Central counterparty (CCP), Central securities depository (CSD), Payments system (PS), Securities settlement system (SSS), Trade repository (TR), according to the classification of Policy Statement 27,115/2015, based on the Principles for Financial Market Infrastructures - PFMI.
2 Further information about each infrastructure may be found on BCB’s web page: http://www.bcb.gov.br/?FMISYSTEMS.
3 Structured Transactions Certificates (COE), Time Deposits (CDB), Real Estate Credit Bills (GCI).
2 EVOLUTION OF THE BRAZILIAN PAYMENTS SYSTEM IN 2014

2.1 VOLUMES TRANSACTED THROUGH THE FINANCIAL MARKET INFRASTRUCTURES

The figures below show the average daily gross values transacted through the financial market infrastructures. It is worth noting that, as part of these values has final settlement in STR, some of that system’s values are double-counted.

Table 2 - Average Daily Transactions (R$ million)

<table>
<thead>
<tr>
<th>Funds Transfer Systems</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR</td>
<td>934,408</td>
<td>1,054,283</td>
</tr>
<tr>
<td>CIP-Sitraf</td>
<td>13,797</td>
<td>15,391</td>
</tr>
<tr>
<td>CIP-Silc</td>
<td>9,432</td>
<td>13,058</td>
</tr>
<tr>
<td>Compe</td>
<td>4,054</td>
<td>4,366</td>
</tr>
<tr>
<td>Cielo</td>
<td>1,520</td>
<td>1,757</td>
</tr>
<tr>
<td>Rede</td>
<td>1,152</td>
<td>1,272</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Systems responsible for providing clearing, settlement, repository, and depository services</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selic 1</td>
<td>1,625,594</td>
<td>1,858,932</td>
</tr>
<tr>
<td>BM&amp;FBovespa Clearinghouse</td>
<td>2,294</td>
<td>4,864</td>
</tr>
<tr>
<td>BM&amp;FBovespa – FX</td>
<td>4,696</td>
<td>3,363</td>
</tr>
<tr>
<td>BM&amp;FBovespa – Securities</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>BM&amp;FBovespa – Equities</td>
<td>7,757</td>
<td>7,504</td>
</tr>
<tr>
<td>BM&amp;FBovespa – Registration2</td>
<td>–</td>
<td>304</td>
</tr>
<tr>
<td>Cetip3</td>
<td>80,199</td>
<td>84,741</td>
</tr>
<tr>
<td>CIP-C3</td>
<td>192</td>
<td>194</td>
</tr>
</tbody>
</table>

1 Disclosed values now include repo and intrabank transactions.
2 Values starting in March 2014.
3 Disclosed values now include intrabank transactions.

Additional statistics, including data from previous years, can be obtained on the website: http://www.bcb.gov.br/?PAYSYSDATA

All funds transfer systems showed an increase in the daily average transacted values. Also noteworthy is the increase in the amount transacted in Siloc, of 38% over the previous year, which was mainly due to the increase in the settlement value of electronic bills3.

3 In June 2013, the settlement limit for payment of electronic bills in Siloc was raised from R$ 5 thousand to R$ 250 thousand. Thus, this new limit throughout the year of 2014 partially explains (43%) the large increase in Siloc’s volume in relation to 2013, when compared to the other funds transfer systems.
2.2 SIGNIFICANT CHANGES IN THE MARKET INFRASTRUCTURES THAT INTEGRATE THE BRAZILIAN PAYMENTS SYSTEM

CIP-Siloc

In 2014 Siloc’s Card Settlement Service (SLC) came into effect, offering a payment card settlement service, by financial institutions, to institutions with no reserves or settlement accounts at BCB, including payment institutions. If the institution responsible for issuing the payment card doesn’t belong to the settling financial institution’s conglomerate, SLC allows the settling institution to request the exclusion of the payment card issuer’s results before Siloc’s cut-off time.

This new service mitigates settlement risk in that system, as it allows the settling financial institution to refuse debits for which there is no previously contracted coverage with its client, for example. Regarding efficiency, this possibility, on one hand, encourages new settling banks to provide settlement services and, on the other, enables these financial institutions to require fewer guarantees from their payment card clients.

BM&FBOVESPA

On January 8, 2014, BCB’s Board approved changes in the additional safeguards structure of the Equities, Foreign Exchange, and Derivatives Clearinghouses operated by BM&FBOVESPA. Each system’s additional safeguards can now count on the company’s equity, if necessary, before using the mutual shares of participants, resulting in higher adequacy of the CCPs’ protection mechanisms, in accordance with the international requirements established by the Basel III agreement.

On August 6, the first phase of the integration process of BM&FBOVESPA’s post-negotiation systems (IPN Project) was authorized, resulting in the migration of the transactions from the Derivatives Clearinghouse to the new infrastructure called BM&FBOVESPA Clearinghouse, as published in the Policy Statement 26,265/2014. This first phase included, among other changes, the adoption of a new risk management model, called CORE (Closeout Risk Evaluation), which reduced the amount of individual guarantees required, compared to the previous model, without resulting in greater exposure of the central counterparty or its participants. In the old model, the risk of a derivatives portfolio was calculated as the sum of the existing risks in three sets of separate contracts: futures, options, and OTC derivatives, and did not consider, therefore, the risk-reducing effects of existing hedges, even partially. The CORE model uses an optimization procedure that seeks the optimal portfolio closing strategy. A direct implication of this new methodology is the reduction in collateral requirements’ pro-cyclicality.

CETIP

Among other changes introduced by Cetip in 2014, the beginning of the Structured Transactions Certificates (COE) registration stands out, and later of COE with physical delivery, in accordance with the clarity and transparency requirements laid down in Resolution 4,263/2013.

CIP-C3

The Consignment Control Service (SCC) was implemented by CIP-C3, consisting of a data processing service that enables the calculation, control, and management of consigned credit transactions, and also the integration of lenders and borrowers.

2.3 RETAIL PAYMENTS

On February 5, BCB’s Board approved the Securities and OTC Operations Registering System, responsible for the registration of Structured Transactions Certificates (COE), Time Deposits (CDB), Real Estate Credit Bills (LCI), and Financial Treasury Bills (LF) operations. Although negotiations occur outside the BM&FBOVESPA environment, all information related to the securities (e.g., transfer of ownership, restrictions to sale, availability for sale) are reflected in the system. The settlement of transactions involving direct participants and their clients occurs outside the BM&FBOVESPA environment, and transactions between direct participants are settled by the BM&FBOVESPA Equities Clearinghouse.

On August 6, the first phase of the integration process of BM&FBOVESPA’s post-negotiation systems (IPN Project) was authorized, resulting in the migration of the transactions from the Derivatives Clearinghouse to the new infrastructure called BM&FBOVESPA Clearinghouse, as published in the Policy Statement 26,265/2014. This first phase included, among other changes, the adoption of a new risk management model, called CORE (Closeout Risk Evaluation), which reduced the amount of individual guarantees required, compared to the previous model, without resulting in greater exposure of the central counterparty or its participants. In the old model, the risk of a derivatives portfolio was calculated as the sum of the existing risks in three sets of separate contracts: futures, options, and OTC derivatives, and did not consider, therefore, the risk-reducing effects of existing hedges, even partially. The CORE model uses an optimization procedure that seeks the optimal portfolio closing strategy. A direct implication of this new methodology is the reduction in collateral requirements’ pro-cyclicality.

CETIP

Among other changes introduced by Cetip in 2014, the beginning of the Structured Transactions Certificates (COE) registration stands out, and later of COE with physical delivery, in accordance with the clarity and transparency requirements laid down in Resolution 4,263/2013.

CIP-C3

The Consignment Control Service (SCC) was implemented by CIP-C3, consisting of a data processing service that enables the calculation, control, and management of consigned credit transactions, and also the integration of lenders and borrowers.

2.3 RETAIL PAYMENTS

In 2014, the growth of debit card operations was practically equal to the average growth rate seen over the past six years, while the increase in credit card transactions was lower, consolidating the trend observed in recent years that transactions with debit cards outweigh credit card operations (considering only one installment operations).

5 Translator’s note: in Brazil consigned credit refers to payday loan or salary loan, where payments are debited directly from borrowers’ payroll.

6 Translator’s note: in Brazil credit card purchases can be negotiated in several installments directly with the merchant (so-called merchant credit). Credit card operations are settled to merchants in 30 days and debit cards in 2 days.
It is worth noting that when a buyer does not need credit to finance the purchase, using a debit card is socially more efficient, since it is a cheaper operation, both from the users’ perspectives (merchants and consumers), due to the smaller discount rate and receiving time (2 days in average), as from the service provider’s perspective, since the cost of managing risk is lower than with credit card transactions. However, it is also worth noting that there is an overuse of credit cards, encouraged, on one hand, by the perception of the benefits offered by card issuers for using this instrument (loyalty benefits, miles, etc.) and, on the other hand, by the lack of transparency about their costs, which indirectly impacts the final price of goods.

In 2014, the percentage of transactions, in value, captured by card chips was 77% whereas the percentage captured by magnetic stripes reduced from 14% to 5%. This represents a safety improvement, since transactions in person based on chip access are safer than those using magnetic stripe. The amount of remote transactions (card not present) already represents 17% of total credit card revenue, signaling that the industry should make efforts to mitigate the increased risks with this type of transaction without imposing substantial costs on the business and, consequently, on consumers.

In the credit card acquiring market, the concentration ratio of the two largest acquirers increased from 88% in 2013 to 90% in 2014. One reason was the migration of this activity in Hipercard to the Rede acquirer. Despite the increase in market concentration, the average discount rates hardly changed in the period.

The concentration of the four largest credit card issuers also increased, going from 77% in 2013 to 81% in 2014. Debit card issue decreased one percentage point, to 81%.

In addition, the profits of this activity increased 32% in comparison with the previous year, and the profit of the issuers who actually profited from this activity fell 7% in the same period.

In 2014, the value of transactions with debit cards and credit cards (considering only single installment purchases) was equivalent to 14% of all withdrawals made in financial institutions (using withdrawal volume as a proxy for the amount of payments made in cash), demonstrating that there is definitely room for electronic payments to absorb cash payments, as is the case with part of the salary payments.

Check use continues to decline (fall of 10% in 2014), mainly in low-value transactions, resulting in an 8% increase in the average value per check, to R$ 2,414 in 2014.

Complete statistics, including data from previous years, are available on the website: http://www.bcb.gov.br/?SPBADENDOS (Portuguese only).

2.4 REGULATORY CHANGES

Upon the publication of Circular 3,713/2014, the financial market infrastructures can now maintain a positive balance in their settlement accounts at BCB.

This feature allows the FMIs to provide settlement services regardless of STR opening hours, so new services can evolve without adding risk to these infrastructures. That also mitigates the impacts of an eventual STR unavailability, by allowing some infrastructures to settle payments using their account balances at BCB.

The publication of Circular 3,743 on January 8, 2015 aimed to meet the provisions of Law 12,810/2013, which defined the activities of centralized deposit and registration of financial securities. The Circular filled a gap in the regulation of such activity.

The objective of centralized deposit is to hold centralized custody of financial assets and securities in an entity named central securities depository, through the transfer of fiduciary ownership to this entity, responsible for maintaining these accounts in its systems. The registration of financial securities includes bookkeeping, storage, and information disclosure related to financial transactions. The Circular establishes the operational scope of these entities and the obligations arising from these activities.

This measure aims to enhance the market’s soundness and efficiency, not only in relation to the provisions of Law number 12,810/2013 but also of Law number 10,931/2004, regarding the establishment of liens and encumbrances on financial assets.

Amongst the major policy changes which took place in 2014, it is worth noting:

i. Circular 3,704, of April 24, 2014, regarding the maintenance, in BCB, of resources corresponding to the total value of e-money kept in payment accounts, as well as the participation of payment institutions in the Reserves Transfer System (STR);
Circular 3,705, of April 24, 2014, amending Circular 3,681, 3,682 and 3,683, all of November 4, 2013, which regulate payment schemes and payment institutions, and Circular 3,347, of April 11, 2007, which regulates the National Financial System’s Customer Registry (Cadastro de Clientes do Sistema Financeiro Nacional – CCS);

iii. Circular Letter 3,653 of April 25, 2014, establishing operating procedures for maintaining in BCB the resources corresponding to the value of electronic currencies held in payment accounts;

iv. Circular Letter 3,656, of April 30, 2014, which clarifies information and contains forms for authorization requests by payment schemes within the Brazilian Payments System (SPB), and defines the starting date for payment scheme owners not participating in SPB to send information to BCB, according to Circular 3,682, of November 4, 2013, as amended by Circular 3,705, of April 24, 2014;

v. Circular Letter 3,662, of June 6, 2014, regulating the custody of federal bonds owned by E-Money Issuer Institutions (IEME) in the Special System for Settlement and Custody (Selic);

vi. Circular 3,710, of July 21, 2014, amending articles 3 and 4 of Circular 3,115, of April 18, 2002, regarding the Electronic Funds Transfer (TED);

vii. Policy Statement 26,265, of August 7, 2014, disclosing authorization for the BM&FBOVESPA Clearinghouse to operate;

viii. Circular 3,721, of September 25, 2014, regulating the obligation of financial institutions and payment institutions to use standardized files for their receivables agendas;

ix. Circular 3,724, of October 15, 2014, amending Circular 3,682 and Circular 3,683, both of November 4, 2013, setting the deadlines for authorization requests made by payment schemes and payment institutions, respectively;

x. Circular 3,735, of November 27, 2014, regulating preventive measures for payment scheme owners participating in the Brazilian Payments System (SPB), in order to ensure the soundness, efficiency, and smooth operation of payment schemes;

xi. Circular Letter 3,684, of December 19, 2014, establishing the way by which payment schemes not participating in SPB should provide information to BCB.
3 OVERSIGHT ACTIVITIES

The following sections present the results of the analysis of data collected regularly in the various systems comprising SPB, enabling BCB to monitor the FMIs’ technical infrastructure and risk management.

The oversight activities are complemented with on-site inspections and assessments against the best practices and international standards.

It should be noted that the way in which the FMIs deal with past errors is monitored regularly, aiming to reduce the probability of recurrence.

3.1 CLASSIFICATION OF FMIS BY SYSTEMIC RISK

Circular number 3,057/2001 establishes the criteria to define a system as systemically important. By those criteria, every system that clears and settles securities is considered systemically important. Considering the criteria applicable specifically to funds transfer systems, CIP-Sitraf, CIP-Siloc, Compe, Cielo, and Rede are not, for the time being, systemically important.

3.2 MONITORING OPERATIONAL RISK INDICATORS

Monitoring operational risk in payment systems entails the monitoring of the: (i) availability index, (ii) amount of failures, and (iii) capacity utilization applicable to the real time settlement systems.

The availability of systems considered to be systemically important should be at least 99.8%, as defined in Circular number 3,057/2001.

In 2014, all evaluated systems showed higher rates than the minimum set by the regulation.

Capacity utilization is particularly relevant in systems that provide settlement services in real time. Regarding the systems evaluated in 2014, STR presented maximum daily capacity utilization of 31%, while CIP-Sitraf reached 88%. BCB is monitoring CIP-Sitraf’s efforts to adjust the processing capacity’s increasing volume, especially on peak days.

3.3 MONITORING FINANCIAL RISKS IN CLEARING AND SETTLEMENT CLEARINGHOUSES THAT ACT AS CENTRAL COUNTERPARTIES

BCB performs tests with the infrastructures that act as central counterparties (see Table 1 - Classification of financial market infrastructures in the Brazilian Payments System) to verify whether the guarantees and safeguards required from the participants, calculated by the CCP’s risk system, are capable of covering an event of default by one or two participants with the highest aggregate risk exposure for the CCP.

The tests performed during 2014 indicated that the safeguards of each infrastructure, in both scenarios, would be sufficient to cover the credit and liquidity risk exposures.

Further information regarding the methodology is available in the Financial Stability Report (chapter regarding the Brazilian Payments System), at: http://www.bcb.gov.br/?relestab (Portuguese only).

3.4 INSPECTION AND ASSESSMENT

During Cetip’s inspection, progress was seen in the company’s governance, with the creation of the audit committee and the segregation of the internal audit and internal control functions. Noteworthy is the installation of a new contingency site, in accordance with the standards and best practices of business continuity management.

9 CIP-Sitraf uses two settlement mechanisms: gross settlement in real time, which is the most widely used form, and continuous netting, every five minutes. Due to the use of these two mechanisms, CIP-Sitraf is considered a hybrid settlement system.

10 The clearinghouses that act as central counterparties (CCPs) are subject to liquidity and credit risks. To protect themselves from these risks, CCPs use individual guarantees deposited by participants, their own equity, additional safeguards, usually in the form of collateral pools, and credit facilities with liquidity providers. The principal risk is mitigated through the delivery versus payment (DvP) or payment versus payment (PvP) mechanism, which ensures that corresponding obligations are mutually conditioned.

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8 Capacity utilization is calculated as the ratio of the number of transactions processed on the busiest day at a given time period and the daily processing capacity proven in tests.
In BM&FBOVESPA’s inspection, improvements were also found in its corporate governance, business continuity management, and in the modernization of IT systems and infrastructures, especially with respect to the post-trading integration project (IPN project).

Regarding the inspection held at CIP, encompassing its three systems, it is important to note the evolution of IT management processes and of the company’s governance, highlighting the creation of the Audit Committee.

In the second semester of 2014, BCB required all entities operating financial market infrastructures in the country, including BCB itself (as STR and Selic operator), to perform self-assessments about their adherence to the PFMIs11.

The information and evidence presented in self-assessments are important analysis tools for BCB in order to evaluate the FMIs’ consistent adoption and continued compliance, with the PFMIs.

In general, the FMIs operating in the Brazilian market are adherent to the PFMIs. However, there are opportunities for improvement in some dimensions, such as those related to transparency, general organization, and business continuity, for example.

3.5 BRAZILIAN RETAIL PAYMENTS SYSTEM OVERSIGHT

As a result of the new regulatory framework on payment schemes and payment institutions, the payment schemes subject to authorization had to submit their applications to BCB by December 1st, 2014. The authorization process is the first BCB oversight action for payment schemes participating in SPB.

Applications for authorization are currently under analysis, and, if necessary, BCB may require adjustments in the payment schemes’ rules before approval, always observing the principles set out in Law number 12,865/2013 and the objectives prescribed by Conselho Monetário Nacional – CMN (the National Monetary Council).

Additionally, with the enactment of Circular number 3,735, of November 27, 2014, BCB regulated the application of preventive measures when facing situations capable of disrupting the normal, efficient, and sound functioning of a payment scheme. During the authorization process, the implementation of such measures may occur, for example, when BCB does not obtain the payment scheme owner’s cooperation to modify rules that violate the principles and objectives established in the Law and regulation.

In this first moment, the priority is to authorize large payment schemes, which can offer higher risk to the normal functioning of the retail payment system.

In order to promote greater competition in the acquiring market, BCB issued regulation about the obligation of use, by financial institutions and payment institutions, of standardized files for their payment card receivables agendas12. Thus, it will be possible for merchants to advance receivables regardless of chosen acquirer or merchants’ bank (the bank where the merchant receives card transactions payments).

In addition, BCB publishes statistics about payment cards (credit, debit, and prepaid cards) and other payment instruments, including data on the use of access channels13; prices; infrastructure organization; and on the level of interoperability between payment service providers. The results of this annual survey are available on BCB’s website, at: http://www.bcb.gov.br/?SPBADENDOS (Portuguese only). This report updates statistical data published in the Report on the Brazilian Retail Payment System, in 2005, and subsequently in the Report on the Brazilian Payment Card Industry, in 2010.

11 According to the terms of Policy Statements number 25,097/2014 and 25,164/2014, self-assessments are based on CMPI’s and IOSCO’s recommendations described in the document: Disclosure Framework and Assessment Methodology – DFAM.


13 The access channels used in retail payments can be classified as: remote access (web, home, and office banking); ATMs; banking agencies; banking correspondents; call centers; and mobile devices.
4 OVERSIGHT POLICIES

This section presents BCB’s oversight policies aiming to promote the efficiency and soundness of SPB. The topics are divided into policies for payment schemes and policies for financial market infrastructures.

Some general principles guide these policies, such as: efficiency, safety, integrity, and reliability of payment systems; soundness and efficiency of payment schemes and payment institutions; innovation and diversity of business models; interoperability between payment schemes, infrastructures, payment instruments, and access channels; non-discriminatory access to payment schemes and infrastructures; meeting the end users’ needs; reliability, quality, and security of payment services; financial inclusion; regulation adjusted to the risks involved; preservation of the value and liquidity of resources held in payment accounts.

The disclosure of these policies aims to stimulate solutions aligning market forces with public interest, solutions that may come from the market itself, which is efficient in allocating resources, combined with BCB's persuasion power.

4.1 POLICIES FOR PAYMENT SCHEMES

BCB has strived to expand its knowledge on the payment instruments used in the country, in order to support the National Monetary Council’s task towards promoting the efficiency of the Brazilian Payments System, as set out in article 3rd, V of Law 4,595/1964. In that sense, the Report on the Brazilian Retail Payment System was published in 2005; the article Custo e Eficiência na Utilização de Instrumentos de Pagamento de Varejo (Cost and efficiency in the use of retail payment instruments, only available in Portuguese), in 2007; and the Report on the Brazilian Payment Card Industry, in 2010.

As a consequence of the enactment of Law 12,865/2013 and Resolution 4,282/2013, BCB understood that it will be necessary to deepen studies in order to support policies aiming to promote greater efficiency of the retail payment system, which includes payment schemes, payment institutions, and financial institutions.

Since the publication of Law 12,865/2013 and subsequent regulation, BCB has been discussing this regulation with associations and market participants, aiming to clarify important points established in the regulation, to increase the clarity and transparency of BCB’s actions and policies, and also to better understand the retail market.

In 2014, several rules were issued specifically to clarify and streamline payment schemes’ authorization procedures. In other cases, the objective was to intervene where BCB found that market forces were not satisfactorily achieving the expected goals, for example, with the publication of Circular 3,721/2014, which establishes the use of standardized files for the financial and payment institutions’ receivables agendas. The theme, although widely debated by the market, was advancing at a slower pace than expected.

Another important theme concerns the principles of disclosure, objectivity, and non-discrimination regarding the payment schemes’ participation criteria, as a way of achieving adequate competition and interoperability among schemes.

As a general rule, each payment scheme owner should ensure open and non-discriminatory access to all participants, including issuers, acquirers, sub-acquirers, and merchants’ banks. In the payment schemes’ authorization process, participation restrictions will be analyzed in light of these factors and the approval, even of schemes that are already in operation, will be subject to compliance with these rules.

The only exception is the existence of closed-loop payment schemes, where, according to our regulation, payment scheme owner, issuer, and acquirer are part of the same parent company. However, in order to ensure interoperability among schemes, even regarding closed-loop payment schemes, the provision of network services (card switch or VAN) should always be open and non-discriminatory.

In recent market terminology, this means that, in any scheme where there is no common control structure between the payment scheme owner, issuer, and acquirer, all acquirers should be granted “full acquirer” access, while in the payment schemes where such a control structure exists, acquirers should have, at least, a value-added-network (VAN) open access.

It is noteworthy that Circular 3,682/2013 created the “closed-loop payment scheme” supposing that this structure may be necessary, under certain conditions, to ensure the innovation
and diversity of business models, which are also principles established by Law number 12,865/2013. Therefore, it is common for new schemes to adopt a closed-loop structure mainly due to the difficulty of recruiting multiple partners at first.

The competitive impacts of closed-loop payment schemes have limited range in principle. This is explained by the fact that only the payment scheme owner acts towards the scheme’s growth, whereas for open-loop payment schemes there is a multiplicity of agents acting along.

Thus, certain closed-loop payment schemes cause, at first, low impact in terms of competition, since they are relatively small. It is clear, however, that this assumption should be evaluated in each case, in light of actual facts, in order to ensure that BCB’s role is in line with the principles of competition and interoperability between payment schemes established by the aforementioned law. The natural evolution of these schemes is to become attractive to potential partners, then turn into open-loop payment schemes, and thus increase their growth potential in the market.

Another important point highlighted in the regulation is the responsibility given to payment scheme owners to manage all funds flow risks from the payer’s to the receiver’s chosen accounts (e.g. merchant’s bank account or e-money account). The payment scheme owner is responsible for managing the risk of the intermediary participants such as acquirers and sub-acquirers. Traditionally, the market also tends to call sub-acquirers, or facilitators, the institutions which the new regulation is now referring to as e-money issuers. Since they are effectively participants of the payment scheme, they may ultimately bring risks and endanger its smooth functioning.

In addition, interoperability between payment schemes must also be guaranteed. E-money issuers that interoperate with certain credit card schemes are not considered participants of the card scheme and do not represent, from a financial point of view, risk to the credit card’s payment scheme. Thus, in the same way as when the funds arrive in the merchant’s bank, the obligations of the credit card’s payment scheme owner cease as soon as the funds are made available to the e-money issuer chosen by the receiving end user. Subsequent transactions will then be subject to the rules of the payment scheme which the e-money institution is a part of.

This notwithstanding, electronic currency schemes interoperating with other schemes may be subject to contractual interoperability clauses dealing with, for example, the exchange of information and the security requirements for this exchange, in order to ensure, from the consumers’ viewpoint, transparency for end users, and from the prudential point of view, capacity to protect the confidentiality of transactions and to adopt measures to prevent money laundering.

It should be noted that e-money issuance is defined as the conversion of physical or book-entry currency into electronic currency at the exact moment when the currency is issued and at the ratio of one to one. The only exception regards the phase-in set forth in paragraph 9, art. 12, of Circular number 3,681, of November 4, 2013 (amended by Circular 3,705/2014).

Thus, the amount of e-money issued must correspond to the total amount received, and it should be issued at the exact moment when these funds are received by the issuer and registered in the end user’s account, becoming then fully available for use.

However, it is known that many prepaid models operate by making resources available previously to the receipt of funds. E-money is issued at a “discount”, the so-called “negative rate”\(^\text{14}\). Besides violating the concept of conversion, this practice confuses what is the service provided (converted e-money) and what is the price charged for this service (fee for converting e-money), which should be separated from the conversion.

Another point to be emphasized is the need to shorten the time to settle e-money payments. It is not justifiable, from the point of view of economic efficiency, that prepaid models have settlement deadlines for the funds to reach the receiving end user, much longer than the time required to process the transaction\(^\text{15}\). This is another factor that will continue to be discussed between BCB and the market.

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\(^\text{14}\) Translator’s note: for the sake of the argument, some prepaid models sell $100 for less than that. Payers believe they are doing a good deal but, as it is possible in any two-sided market, the discount is then passed on to merchants through the discount rate. Discount rates are, in turn, passed on to prices.

\(^\text{15}\) Translator’s note: in Brazil most prepaid cards send funds to merchants in 30 days, in average, more than the average 2 days of debit cards.
E-money

Law 12,865/2013 defines **e-money** as funds stored in a device or an electronic system that allow end users to perform payment transactions. Complementarily, the subsequent regulation created the **prepaid payment account**, from which payment transactions in e-money can be performed from funds denominated in Real and previously registered in that account. The operationalization of the payment transaction with e-money will depend on the model and rules of the payment schemes and payment institutions offering the service.

The regulation also defines an **e-money issuer**, which is the **payment institution** that manages the end user’s prepaid payment account, makes e-money transactions available, and converts the funds held in these accounts into physical or book-entry money or vice-versa.

Creating a regulatory definition for **e-money** and **prepaid payment accounts** was an innovation guided by the economic understanding that their potential effects on new and existing business models must be fully understood.

Book-entry money consists of sight deposits in banks or other lending institutions. The availability of funds in a prepaid payment account is the conversion of physical or book-entry currency into e-money. Conversion means the “full sterilization” of physical or book-entry money\(^1\) with simultaneous issuance of e-money at a ratio of one to one\(^2\). Conversion of money non-simultaneously or at a different ratio than established by the regulation could potentially characterize financial intermediation, which is an activity performed exclusively by financial institutions.

According to the regulation, the funds held in payment accounts constitute separate assets, which shall not be merged with the payment institution’s assets\(^3\). Thus, the e-money issuer is merely a custodian of the funds registered in a prepaid account, which implies that these funds do not respond directly for any obligations of the payment institution, cannot be intermediated, and, consequently, do not generate the currency multiplier effect.

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1 According to the regulation, funds converted into e-money must be deposited in a separate account at BCB or invested in National Treasury Securities, in accordance with the phase-in set forth in paragraph 9, art. 12, of Circular number 3,681, of November 4, 2013, amended by Circular 3,705/2014.

2 One “Real” in physical or book-entry money enables the emission of one “Real” in e-money.

3 Law 12,865/2013, art. 12, section I.

Payment services as a means of financial inclusion

It is still premature to analyze the effects of the regulations on payment schemes and payment institutions in terms of financial inclusion. The regulation encourages the provision of payment services by financial and payment institutions and creates certain mechanisms, such as the prepaid accounts, which may lead to business models designed for the underserved population.

There is a growing international consensus of the benefits that the provision of payment services can bring in terms of promoting financial inclusion. The transaction accounts, more specifically, have increasingly been seen as an interesting instrument in this sense. Examples of this type of instrument in Brazil are the simplified account, the salary account, and the prepaid payment account. These are simple tools that allow users to perform the basic operations of deposit, withdrawal, transfer, and payment. In one hand, they do not require large financial knowledge, and they expose users to low or no risk, while allowing them to have more knowledge and control of their budget, enabling better planning and potentially leading to more demand for financial services. On the other hand, they do not generate user risk
exposure to the service provider, making it possible to monitor transactions and funds flows, so as to offer financial services tailored to consumers’ profiles.

The creation of these transaction accounts and the new business models that have emerged from this solution, as well as the technological progress and new access channels, are making universal access to payment services possible.

Nationally, payment service provision by banks has increased in coverage and efficiency. This scenario, together with the establishment of a clear and consistent legal framework regarding SPB, are making it possible for the market to adopt innovative models aiming to meet consumer needs that have not yet been met.

The gains in terms of greater security and payment system efficiency are recognized, reflecting in lower costs, greater formalization of the economy, greater transaction traceability, faster and secure transactions, besides the aforementioned potential financial inclusion benefits. In the absence of additional incentives from the regulator, there would apparently be an exhaustion of this model’s capacity to increase its reach.

While waiting for a future clearer assessment of the effects of payment scheme regulation on financial inclusion, BCB will try to establish agreements with national and multinational bodies aiming to promote the expansion of payment service provision through measures, such as:

- case studies on other countries’ ecosystems;
- adaptation of existing services and channels;
- analysis of the potential benefits and scope gains from the interaction with other services like credit reporting, micro-savings, micro-insurance, etc.;
- organizing events to raise stakeholders’ awareness; and
- understanding the factors constraining supply and demand for payment services.

**Convenience in the use of electronic payment instruments**

The market has not yet been able to meet the regulator’s demands in the pursuit of an electronic payment instrument to replace the use of checks in high-value transactions. Despite the convenience of checks to the payer, this instrument is not guaranteed, and the costs related to its use (production, delivery, processing, etc.) outweigh those of electronic instruments.

However, the replacement of checks by electronic instruments in high-value transactions requires investments in convenience and transaction security, and a lower price to the end user. With regard to the latter, it must be emphasized that payment cards haven’t been, so far, the adequate substitute for checks in high-value transactions because their pricing is based on a percentage of the transaction amount (ad valorem), which makes this instrument very expensive.

Meanwhile, it seems that the market has been seeking to improve the efficiency of checks, reducing processing costs, and increasing the agility of the interbank settlement process. It is expected that soon interbank final settlement of all checks, regardless of value, will occur in D+1, that is, just on the day after the deposit in a bank. This will allow the receiver to use the amount received with checks when netting obligations on the night of D+1. By comparison, the debit card funds are only deposited to the payee in D+2 and credit card funds in D+30.

**Efficiency in the provision of payment services**

In 2014, requests were made to the market associations representing payment service providers to assess the cost components of their production chains. These studies are still in preparation and will provide support for the regulator to act on eventual bottlenecks in the system, which should be overcome by coordination among market participants, whenever possible, or by regulatory intervention, if necessary.

The deeper knowledge about the services’ cost structure will help in the assessment of which situations are best addressed by promoting greater cooperation and which can be tackled by promoting greater competition between market participants.

It was also requested that these associations provide the rationale for the current settlement terms of payment transactions in Brazil, when compared to similar ones abroad, as well as the expected impacts in case of an eventual reduction of such time. As in the previous case, these studies are still being drawn up by the representative associations of SPB’s participants. It is worth remembering that a long settlement period increases the credit exposure among members of the payment schemes, increasing risk and making service provision more inefficient.
EXPANSION OF MOBILE PAYMENT SERVICES

As with financial inclusion, it is still premature to analyze the increase in the mobile phones’ use as a result of the regulation on payment schemes and payment institutions. It can be said that the major mobile operators in the country have developed business models in partnership with banks or with other payment schemes owners, such as payment cards. It is clear that these business models are interested in providing payment services for the unbanked population, particularly services which do not require internet access, use USSD technology, and are based on prepaid accounts.

BCB continues to follow the international debate on the issue, with highlight to BCB’s participation in the CPMI/BIS retail group, which discusses mobile and internet payments, and in the digital financial services group of the International Telecommunications Union, the UN agency specialized in information and communication technologies.

The increase in the number of smartphones in the country opens the possibility of using this device more widely as an access channel, including the use of internet applications. In September 2014, Brazil had 89.5 million smartphones, representing 32.4% of the total mobile access devices in Brazil (source: GSMA - The Mobile Economy - Latin America 2014.). Of all mobile phones sold in 2014, 78% were smartphones, compared to 13% in 2011 (data from consultancy IDB Brazil). At the end of 2014, there were 158 million accesses via mobile broadband in the country, almost three times the number reported at the end of 2012 (source: National Telecommunications Agency - Anatel).

Between 2011 and 2014, there was a significant increase in the use of remote access channels (Internet, home and office banking, mobile phones, and PDAs), of approximately 131% when compared to other access channels, such as bank branches (traditional and correspondent banking), ATMs, and call centers, which increased 21%, 28%, and 12% respectively. In the last five years, the share of mobile phone use in initiating banking transactions jumped from almost zero to 10%, having doubled during the last year. Telephone networks and internet were the used channels to start half of banking transactions in 2014. Considering payment services only, mobile phones were used for 2% of transactions in 2014 and internet accounted for 40%.

This change favors the use of existing technology as an interoperable access channel, through which financial institutions and payment institutions can initiate transactions. In addition, interoperability should be enhanced in the coming years given the prerogative that payment institutions should participate in the existing credit transfer schemes: TED, DOC, and electronic bills. This prerogative ensures interoperability in business terms — given that the acceptance and settlement of transactions under such schemes bind all participants, regardless of the counterparty — and in technological terms — given the standardization of messages and the centralization of networks and clearing and settlement systems.

FASTER PAYMENTS

BCB continues to evaluate real-time retail payment (faster payments), having discussed this theme with regulators in other countries, such as the Bank of England, the European Central Bank, and the Federal Reserve System (Fed).

In all these contacts it is clear that there is a tendency of increasing the supply of such services by market participants. Interestingly, although initially reluctant about this model, the need to compete with new payment schemes, based on technological innovation, has encouraged banks to adhere to these new models, and challenged the products traditionally offered by banks.

There are different business models for the provision of these services, with more or less operational involvement of the central bank, depending on the country.

The market needs to overcome challenges related not only to the provision of the service in real time, but also to lowering the cost of these transactions, since the new business model is not compatible with the cost currently charged by banks for sending credit transfers (TED and DOC).

ATM INTEROPERABILITY

BCB monitors the use of ATMs in the country and recognizes that the proprietary networks are inefficient because they present a low level of utilization when compared to the ATM networks in the international community. The coverage of ATMs, measured in terms of terminals per million inhabitants, is comparable to developed countries. However, low interoperability results in excessive overlap of ATMs and underutilization in terms of the number of transactions per machine, thereby causing inefficient coverage and unnecessary concentration in urban areas.

According to the Statistics on payment, clearing and settlement systems in the CPMI countries - Figures for 2013, known as the Red Book, organized by the BIS, the coverage in Brazil, measured in terms of terminals per million inhabitants, is twice the average of CPMI countries, while the average transactions per ATM, in thousands per year, measured as the number of withdrawals and e-money cash-in/cash-out, is inferior to the average of CPMI countries.
In 2014, almost all transactions made by customers in independent networks were through the TecBan network, showing a low degree of sharing of proprietary networks. In this sense, considering only basic operations (withdrawals and account inquiries), which are responsible for about 70% of total transactions in this channel, the average use of TecBan network terminals is almost 90% higher than the average of proprietary networks.

A point worth mentioning with regard to difficulties in sharing proprietary networks is the lack of industry standardization, with different systems and security mechanisms that hinder the communication between institutions and, for example, the identification of a client in a terminal of another bank’s proprietary network. It is understood that there is room for better coordination between agents in the field.

In 2014, the TecBan shareholding banks agreed to promote the replacement of part of the proprietary ATMs installed in public places to TecBan’s terminals. Furthermore, there is a proposal of installing new TecBan terminals in places where it would not be feasible to install a private equipment of any of the shareholders. These terminals would also serve customers of TecBan members, as well as holders of national and international payment cards, under the same access rules applicable to customers of shareholding banks.

These actions have the potential of driving efficiencies and economies of scale in the provision of payment services to customers who use this channel, representing a breakthrough in this matter.

**Cross-border payment schemes**

Article 10 of Circular 3,682/2013 defines payment schemes as domestic or cross-border, according to their territorial coverage. Although this Circular applies equally to both types, Circular 3,680, 3,681, and 3,683, all of November 4, 2013, apply only to payment institutions participating in domestic schemes.

Thus, after the initial regulatory period and taking into account the international concern of multilateral bodies in relation to the remittances market, BCB will engage in the regulation of payment institutions participating in cross-border schemes. It is expected that this will help to increase the efficiency and transparency in the provision of such services, the security of cross-border payment transactions, and the adherence to international guidelines.

Until then, foreseeing some of the aspects that the regulation could potentially address, BCB recommends that the market seeks solutions which enable the provision of cross-border payment services in a multilateral and interoperable manner, using FMIs, ACH links between different countries, international agreements, and internationally accepted and compatible communication standards, according to the laws and regulations applicable to the foreign exchange and capital markets.

**4.2 Policies for Financial Market Infrastructures**

As stated in the previous Brazilian Payments System Oversight Report, many agreements signed within the G20 have increased the demand for transparency in rules, policies, and procedures for financial market infrastructures. In this sense, and in line with the G20 expectations, the full, timely, and consistent implementation of the Principles for Financial Market Infrastructures (PFMI) is considered essential to ensure the security and soundness of the infrastructures and to support the resilience of the global financial system.

The members of the Committee on Payments and Market Infrastructure (CPMI) and of the International Organization of Securities Commissions (IOSCO) committed themselves to adopting the Principles and Responsibilities included in the PFMI. The jurisdictions that integrate the Financial Stability Board (FSB) and the participants of the CPMI-IOSCO have been monitored in relation to the implementation of these principles.

The monitoring process involves three phases: (1) Level 1 to assess whether the jurisdictions have completed the process of adopting the legislation, regulation, and other policies that will enable them to implement the Principles and Responsibilities; (2) Level 2 to assess whether the content of the legislation, regulation, and policies is complete and compliant with the Principles and Responsibilities; and (3) Level 3 to assess whether the outcomes of this implementation are consistent.

In May 2014 the first monitoring update report 17 was published, which shows substantial progress of the jurisdictions regarding the initial assessment published in August 2013. Brazil received 4 rating (maximum level), meaning that the measures which will enable the implementation are already in full force for all the Principles and Responsibilities with respect to all categories of infrastructures described in the PFMI.

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17 [http://www.bis.org/cpmi/publ/d117.pdf](http://www.bis.org/cpmi/publ/d117.pdf)
With the publication of Policy Statement number 25,097 of January 10, 2014, which made public the adoption of the PFMIs for the oversight activities of the financial market infrastructures operating in the country, the parameter for evaluating the Brazilian FMIs became the adherence to those Principles and Responsibilities.

Although the evaluation of the jurisdictions regarding Level 2 of the Principles has already begun, the Brazilian jurisdiction has not yet been assessed; this should happen in the first months of 2016. The Level 3 assessment has not yet started for any jurisdiction because it is still in the phase of methodological discussions. Finally, the assessment for Levels 2 and 3 of the Responsibilities is being conducted simultaneously, and it is estimated that a report should be published further in 2015.

COMMUNICATION STANDARDS

The implementation of communication standards can bring potential gains in terms of competition and efficiency in payment systems. The communication standardization facilitates the entry of new participants and enables continuous processing between system participants. Since 2002, communication between institutions participating in SPB follows a national proprietary standard set out in the National Financial System Service Catalog. However, as it is a national standard, it can hinder the entry of new external participants or the automation with other connecting links in the payment chain.

The lack of standardization in communication between the institutions directly participating in SPB and the end users also undermines effective competition in the provision of payment services and the perception of efficiency by users.

Examples of initiatives towards standardization are: the requirement established in Circular 3,625, of February 14, 2013, to adopt internationally accepted standards for bank account identification (IBAN); the mandatory use of standardized receivables agenda files by financial institutions and payment institutions, established in Circular 3,721, of September 25, 2014; and the adoption by Selic of the International Securities Identification Number (ISIN), already used by BM&FBovespa and Cetip.

Based on principle 22 of the PFMIs, BCB considers it important that the financial market infrastructures operating in SPB seek to adopt or to accommodate procedures and communication standards used internationally.

From BCB’s point of view, the adoption or the accommodation of procedures and standards by an infrastructure enables it to receive and send information in a common standard, and to handle, process, and respond using these same procedures and standards, so that operations made by participants using internationally consolidated standards are processed in a similar way as those made by participants using local standards and communication protocols. Several strategies are possible for achieving this condition, and the best choice depends on the systems, the types of business, and its regulations.

In 2014, BCB conducted a survey requesting information from the infrastructures and their participants, aiming to know more about the challenges, difficulties, and market perceptions regarding the adoption of internationally accepted standards and procedures.

The analysis of the information received shows considerable variation in the cultural level of standardization and knowledge about the subject among market participants, suggesting the need for new actions to expand and level knowledge on the subject, before developing a strategy to adopt or accommodate these standards.

GENERAL BUSINESS RISK

The assessments conducted during 2014 already encompassed the requirements brought in by the PFMIs regarding the management of general business risks for financial market infrastructures operating in the country. In general, the absence of a formal plan to ensure a recovery or orderly wind-down was noted, mainly due to the novelty of this issue. However, the FMIs are dealing with action plans to fulfill what is required by this principle, and these plans are being accompanied by BCB.

With regard to the obligation of maintaining sufficient liquid assets, in equity, to cover potential losses arising from general business risks, BCB continues working to identify the points that need clarification or further details, with the objective of providing more certainty to the FMIs.

Obviously, this does not mean that the FMIs do not have to meet the requirements imposed by the PFMIs, which is critical to the soundness of the SPB infrastructures. Thus, the adequate amount of capital kept for this purpose will continue to be monitored via BCB’s oversight actions.
Recovery and resolution

Given the importance of the FMIs, their business continuity deserves special attention. Despite the robust risk management framework adopted by the entities and BCB’s constant oversight, the risks to which they are subject, may, in extreme situations, threaten the continuity of their activities.

Recovery is a state in which an operating entity faces relevant risk, usually accompanied by significant financial losses, but is still capable of recovering, by itself, its financial health and operational viability.

In this sense, the recovery plan is an essential tool to manage the stakeholders’ expectations while conducting this process and to guide the most sensitive decisions. The PFMIs even point out the need for all systemically important infrastructures to establish their own extensive, comprehensive, and effective recovery processes.

In order to describe guidelines for infrastructures to develop these recovery plans, in line with the standards required by the PFMIs, the BIS/CPMI and IOSCO published the document “Recovery of Financial Market Infrastructures” in October 2014. BCB will adopt the guidelines contained in this document in its oversight activities, in order to assess the infrastructures’ compliance to the PFMIs regarding the recovery state planning.

A resolution regime, on the other hand, implies the adoption of a special regime enacted by a public authority when the entity that operates an FMI is no longer capable of surviving or maintaining proper functioning on its own. In these circumstances, the special regime ensures that the critical services provided by the FMI are not disrupted. The objectives here are clearly public in nature and consist in ensuring financial stability and preserving user confidence in financial assets and payment instruments. Such objectives are generally not addressed in ordinary bankruptcy provisions.

BCB is participating actively in the debates about resolution in international forums with other regulators and taking the necessary actions to improve the domestic legal framework of special resolution regimes applicable to the financial market infrastructures operating in the country.
ACRONYMS AND ABBREVIATIONS

ACH
Automated Clearing House

ANATEL – Agência Nacional de Telecomunicações
National Telecommunications Agency

ATM
Automated Teller Machine

BCB
Banco Central do Brasil
Central Bank of Brazil

BIS
Bank for International Settlements

BM&FBOVESPA
Securities, Commodities and Futures Exchange - Brazilian Mercantile & Futures Exchange (BM&F) and the São Paulo Stock Exchange (Bovespa)

BM&FBOVESPA – AÇÕES
BM&Fbovespa - Equities Clearinghouse

BM&FBOVESPA – ATIVOS
BM&Fbovespa - Securities Clearinghouse

BM&FBOVESPA – CÂMBIO
BM&Fbovespa – FX (Foreign Exchange) Clearinghouse

CÂMARA BM&FBOVESPA
BM&Fbovespa Clearinghouse

CCP
Central Counterparty

CCS
National Financial System’s Customer Registry

CDB
Time Deposits

CDI
Interbank Deposit Certificate

CETIP
OTC Clearinghouse

CIP
Interbank Payments Clearinghouse

CIP-C3
Interbank Payments Clearinghouse – Credit Transfer System

CIP-SILOC
Interbank Payments Clearinghouse - Deferred Settlement System for Interbank Credit Orders

CIP-SITRAF
Interbank Payments Clearinghouse – Funds Transfer System

CMN – Conselho Monetário Nacional
National Monetary Council

COE
Structured Transactions Certificates

COMPE
Checks Clearinghouse

CORE
Closeout Risk Evaluation

CPMI/BIS
Committee on Payments and Market Infrastructures/ Bank for International Settlements

CSD
Central Securities Depository

CVM
Brazilian Securities and Exchange Commission

DEBAN
Department of Banking Operations and Payments System

DFAM
Disclosure Framework and Assessment Methodology
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>DOC</td>
<td>Credit Transfer Document</td>
</tr>
<tr>
<td>DvP</td>
<td>Delivery versus Payment</td>
</tr>
<tr>
<td>FED</td>
<td>Federal Reserve System</td>
</tr>
<tr>
<td>FMI</td>
<td>Financial Market Infrastructure</td>
</tr>
<tr>
<td>FSAP</td>
<td>Financial Sector Assessment Program</td>
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<tr>
<td>FSB</td>
<td>Financial Stability Board</td>
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<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>LCI</td>
<td>Real Estate Credit Bills</td>
</tr>
<tr>
<td>LF</td>
<td>Financial Treasury Bills</td>
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<tr>
<td>OTC</td>
<td>Over-the-Counter</td>
</tr>
<tr>
<td>PFMI</td>
<td>Principles for Financial Market Infrastructures</td>
</tr>
<tr>
<td>PS</td>
<td>Payment System</td>
</tr>
<tr>
<td>PvP</td>
<td>Payment versus Payment</td>
</tr>
<tr>
<td>SCC</td>
<td>Consignment Control Service</td>
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<tr>
<td>SELIC</td>
<td>Special System for Settlement and Custody</td>
</tr>
<tr>
<td>SILOC</td>
<td>Deferred Settlement System for Interbank Credit Orders, by CIP</td>
</tr>
<tr>
<td>SITRAF</td>
<td>Funds Transfer System, by CIP</td>
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<tr>
<td>SLC</td>
<td>Card Settlement Service</td>
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<tr>
<td>SPB</td>
<td>Brazilian Payments System</td>
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<tr>
<td>SSS</td>
<td>Securities Settlement System</td>
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<tr>
<td>STR</td>
<td>Reserves Transfer System</td>
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<tr>
<td>TC/IOSCO</td>
<td>Technical Committee of the International Organization of Securities Commissions</td>
</tr>
<tr>
<td>TED</td>
<td>Electronic Funds Transfer</td>
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<tr>
<td>TR</td>
<td>Trade repository</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>VAN</td>
<td>Value-added network</td>
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