Retail Payment Systems in Brazil
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SPB Reform - Background

1st stage: Improvement of financial settlement infrastructure

Focus: Safety (systemic risk reduction)
- Legal and regulatory framework
- Technological infrastructure
- Central counterparties
- Real-Time Gross Settlement (reserve and settlement accounts)

2nd Stage: Payment instruments

Focus: Efficiency and modernization (increase the relative importance of electronic payment instruments)
International experience and academic studies on a selected group of countries show that:

- The cost of an electronic payment is between 1/3 and 1/2 of the cost of a paper-based payment (cash and checks)
- A complete migration to electronic payment instruments would produce an annual cost reduction up to 3% of GDP

Being electronic payment cheaper, why do market forces not promote a massive migration to electronic payments?

Potential efficiency gains

Price mechanism does not work in the allocation of resources, because every bank-customer relationship is priced as a whole (information asymmetry)

There are market failures on the electronic payment instruments supply that limit development and innovation (infrastructure as a barrier to entering)

Answers
Retail Payment System

• Retail payment systems features
  – Large number of transactions
  – Low value transactions
  – Goods and services acquisition
  – Variety of payment instruments

• Payment Instruments
  – Cash, checks, credit transfers, direct debit, credit and debit cards

• Distribution channels
  – Automated Teller Machines (ATM) networks, Electronic Funds Transfers at the Point of Sale (EFTPOS) networks and internet

• Clearing and settlement infrastructure

How to enhance welfare?

Infrastructure arrangements

Cooperative Sector

Interchange fees

Competitive Sector

Bank

Other Banks

Payment Services Market
(account transactions and individual instruments)
Diagnosis-Report: Importance and Structure

• **Importance:**
  – To serve as a starting point for definition of policies and guidelines on the subject
  – Periodical disclosure of information and statistics about the Brazilian Retail Payment System

• **Structure:**
  – Payment Instruments and distribution channels
  – Clearing and settlement infrastructure
  – Quantitative analysis
  – Fundamental issues on Retail Payment Systems

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Diagnosis-Report: Objectives

• To obtain a quantitative and qualitative analysis of the current stage of development

• To analyze the international experience

• To identify obstacles to modernization

• To define necessary actions to further modernization
Diagnosis-Report: Methodology

• Adaptation of international studies that made it possible to obtain a detailed analysis of the Brazilian case and a comparison with the international experience
• Interviews and questionnaires to banks, payment service providers, real sector economy representatives and bank associations
• Analysis of the international bibliography about the subject: publications from international financial organizations, central banks and research institutions
• Technical visits to central banks and to retail payment clearing and settlement systems providers in the countries considered to be at the technological “frontier” and with similar information disclosed

Clearing and Settlement Infrastructure

- Check
- Credit Transfer
- Direct Debit
- Payment Cards

- Electronic Bill
- DOC
- TED

- COMPE Multilateral
- CIP - Silic Multilateral
- CIF - Silic Multilateral
- TECBAN Multilateral
- VISA MULT Multilateral
- DECEM Multilateral

- D + 1
- D + 1
- D + 6
- D + 8/D + 1
- D + 1
- D + 1

Sistema de Transferência de Reservas – STR
(Central Bank RTGS systems)
Payment Instruments - Volume

1999
- Check: 63.4%
- Debit card: 2.6%
- Direct debit: 5.3%
- Credit card: 13.4%
- Interbank credit transfer: 15.2%

2004
- Check: 35.4%
- Debit card: 15.3%
- Direct debit: 11.0%
- Credit card: 21.8%
- Interbank credit transfer: 17.2%

Source: Central Bank of Brazil, Compe, banks, and acquires.

Clearing and Settlement Infrastructure – Transactions - 2004

Volume
- Compe: 55.8%
- TecBan: 1.5%
- Redecard: 15.7%
- CIP – Siloc: 1.9%
- CIP – Sitraf: 0.5%
- STR: 0.2%
- Visanet: 24.5%

Value
- Compe: 35.4%
- TecBan: 3.5%
- Redecard: 0.3%
- CIP – Siloc: 31.8%
- CIP – Sitraf: 1.3%
- STR: 28.7%
- Visanet: 0.1%

Source: Central Bank of Brazil, Compe, banks, and acquires.
### Relative importance of cashless payment instruments

<table>
<thead>
<tr>
<th>Country</th>
<th>Check</th>
<th>Debit Card</th>
<th>Credit Transfer</th>
<th>Direct Debit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>5.8</td>
<td>1.4</td>
<td>-75.9</td>
<td>28.9</td>
</tr>
<tr>
<td>Brazil</td>
<td>62.5</td>
<td>39.4</td>
<td>-36.9</td>
<td>16.5</td>
</tr>
<tr>
<td>Finland</td>
<td>0.1</td>
<td>...</td>
<td>...</td>
<td>38.4</td>
</tr>
<tr>
<td>France</td>
<td>40.1</td>
<td>29.7</td>
<td>-25.9</td>
<td>20.6</td>
</tr>
<tr>
<td>Germany</td>
<td>3.8</td>
<td>1.0</td>
<td>-73.7</td>
<td>11.0</td>
</tr>
<tr>
<td>Italy</td>
<td>25.2</td>
<td>15.6</td>
<td>-38.1</td>
<td>18.0</td>
</tr>
<tr>
<td>Japan</td>
<td>8.2</td>
<td>4.3</td>
<td>-47.6</td>
<td>51.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.0</td>
<td>0.0</td>
<td>...</td>
<td>27.7</td>
</tr>
<tr>
<td>Portugal</td>
<td>34.1</td>
<td>...</td>
<td>...</td>
<td>47.2</td>
</tr>
<tr>
<td>Spain</td>
<td>10.7</td>
<td>...</td>
<td>...</td>
<td>24.3</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.3</td>
<td>0.0</td>
<td>...</td>
<td>22.3</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.8</td>
<td>0.4</td>
<td>-50.0</td>
<td>26.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>28.8</td>
<td>18.6</td>
<td>-35.4</td>
<td>34.3</td>
</tr>
<tr>
<td>USA</td>
<td>61.7</td>
<td>45.3</td>
<td>-28.6</td>
<td>31.4</td>
</tr>
</tbody>
</table>

Source: Central Bank of Brazil, banks, credenciadores e administradores de cartões, BIS/CPSS, European Central Bank.

### ATM – Number of terminals

![Graph showing the number of ATM terminals from 1999 to 2004](image_url)

Source: Central Bank of Brazil, banks and ATM networks
ATM – Transactions in 2004

- Credit Transfer: 1.6%
- Bill Payment: 3.4%
- Deposit: 11.5%
- Balance/Bank statement: 41.2%
- Others: 10.6%
- Cash withdraw: 31.7%

Source: Central Bank of Brazil, banks and ATM networks

ATM – Interoperability
Average of transactions per terminal - 2004

Source: Central Bank of Brazil, banks and ATM networks
ATM – Number of transactions - 2003

Transactions per inhabitant

Source: Acquirers, Card Associations, BIS/CPSS, European Central Bank

Payment Cards: debit and credit

Source: Acquirers, Card Associations

Credit cards

Debits cards
POS - Number of terminals

Source: Acquirers, Card Associations

Debit card transactions
International Comparison - 2003

Transactions per capita

Source: Acquirers, Card Associations, BIS/CPSS, European Central Bank
Credit card transactions
International Comparison - 2003

Transactions per capita
70,0
60,0
50,0
40,0
30,0
20,0
10,0
0,0
0 10.000 20.000 30.000 40.000 50.000 60.000 70.000

Terminals per million of inhabitants

Source: Acquirers, Card Associations, BIS/CPSS, European Central Bank

Remote Access

<table>
<thead>
<tr>
<th>Transactions</th>
<th>Volume (millions)</th>
<th>Value (R$ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total volume:</td>
<td>1,281</td>
<td>3,311</td>
</tr>
<tr>
<td>Payment</td>
<td>88</td>
<td>585</td>
</tr>
<tr>
<td>Credit transfer</td>
<td>33</td>
<td>339</td>
</tr>
<tr>
<td>Electronic bills and agreements</td>
<td>55</td>
<td>246</td>
</tr>
<tr>
<td>Non-payment:</td>
<td>1,193</td>
<td>2,725</td>
</tr>
<tr>
<td>Balance and bank statement consultings</td>
<td>733</td>
<td>1,476</td>
</tr>
<tr>
<td>Others</td>
<td>460</td>
<td>1,250</td>
</tr>
</tbody>
</table>

Source: Banks.

1 TED, Doc and inter accounts transfers.
2 Taxes, fees, contributions, etc.
Main Conclusions

• Barriers to the development of electronic payment instruments
  – Infrastructure as a competitive factor (barrier to entry) in the payment services supply
  – Settlement infrastructure fragmentation
  – Low level of interoperability on ATM networks
  – Low level of interoperability on POS networks
  – Price system does not work in the allocation of resources (indirect pricing and cross-subsidies)

The Role of Central Bank

• Establish guiding principles: policies, guidelines and objectives
• Foster cooperative and market solutions
• Coordinate expectations and investment decisions
• Act as a catalyst among the involved participants and other public authorities
• Regulation, when necessary
Central Bank Actions

• Coordinate and act as a catalyst of changes
• Promote business governance cooperation on the ATM network and POS network
• Stimulate system investment costs optimization
• Foster cooperation at upstream network and competition at downstream market

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