Technological transformation and payment systems

Lorenza Martínez Trigueros, June 2016
Summary

1. Innovation: existing versus disruptive networks
2. Innovation brings new participants and services...
3. …and changes the way we pay
4. Mexican experience: benefits of innovation
5. New challenges: regulation
Incremental innovations have had an important impact

- Network externalities on payment systems: take advantage of critical mass

Innovation

Existing networks

- Cards
- Transfers and others
- Parallel networks of existing services

Disruptive networks

Virtual assets
New participants and services

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<th>Before</th>
<th>Currently</th>
<th>New</th>
<th>Devices</th>
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<td>Card Networks</td>
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<td>Checks and Transfers</td>
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Innovation changes participants and services

Technological transformation

- Reduces fixed costs → New participants or systems
  - prices
  - barriers to entry
  - competition
  - participants
  - different participants (non-banks)
  - users (financial inclusion)
  - use by existent customers
  - customer experience (e.g., + trust in non-banks, - steps to pay for customers)
  + flexible products

- Expands frontiers → New/improved services and products
The way we pay is changing

Distribution of transactions by method of payment

1/ CPMI countries: Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Italy, Japan, Korea, Mexico, Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Sweden, Switzerland, Turkey, United Kingdom and United States.
Source: CPMI

2/ EMDEs: Brazil, China, India, Mexico, Russia, Saudi Arabia, South Africa and Turkey.
Source: CPMI
4 **Mexican experience: cards systems**

Reduction of entry barriers for aggregators has brought new benefits and improvements.

Number of POS terminals from banks and aggregators

Mexico, thousands

In 2015, one of the largest aggregators affiliated:

- + 8,000 taxi cabs (1% of total POS)
- + 6,500 small merchants

Source: Bank of Mexico
Mexican experience: cards systems

Advances in regulation:
• Reduce entry barriers for ACHs
• Reduced tariffs
• New cards acquirers (business model: information based)

However, there are still areas of opportunity in terms of high discount rates and low penetration.

POS terminals per million inhabitants
CPMI countries, 2014

Discount rates on debit and credit cards
Percentage

Source: CPMI

Source: Bank of Mexico
SPEI, the Mexican RTGS and fast payment system, is allowing for system-wide interoperability and relevant new services such as mobile payments on a 24/7 schedule.

Electronic disbursement of federal payments has cut costs by 3.3% of total annual expenditure.\(^3\)

Min. transaction is the minimum amount per transfer on SPEUA/SPEI.
Fee is the amount that Banxico charges to commercial banks per transaction on SPEUA/SPEI.

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Mexican experience: new developments

New technologies attack the reasons behind people not having a bank account (restrictive requirements, high prices, distance to bank branches). Potential: users have shown increased acceptance of developments such as mobile banking.

Some new products and services might convey lower transaction costs and faster services. This is potentially beneficial for the remittances market, where users still face relatively high prices.

Number of accounts with mobile banking functionality

Remittance prices in USA-MEX corridor
As % of value sent, 2015

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<th>200 USD</th>
<th>500 USD</th>
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<tbody>
<tr>
<td>Bank</td>
<td>4.68%</td>
<td>3.31%</td>
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<tr>
<td>MTO</td>
<td>5.15%</td>
<td>3.42%</td>
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<td>Total</td>
<td>5.09%</td>
<td>3.40%</td>
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Source: Remittance Prices Worldwide, World Bank

Source: National Banking and Securities Commission
Data corresponds to the last quarter of each year, except for 2015 (2nd quarter)
New challenges: regulation

Technological changes pose benefits (+ competition, quality and quantity of payment alternatives)...

... albeit new risks (e.g., cybersecurity, data privacy, money laundering, financial instability)

Necessity to create a regulatory framework. Considerations:

- Focus on services rather than on particular entities or payment devices
- Protect consumers
- Give legal certainty to payment service providers
- Enough flexibility as to encourage innovation
- Degree of regulatory power over payment innovations relies on:
  - Type of network innovations are installed on (existing or parallel networks)
  - Degree of centralization
  - Ability to move internationally