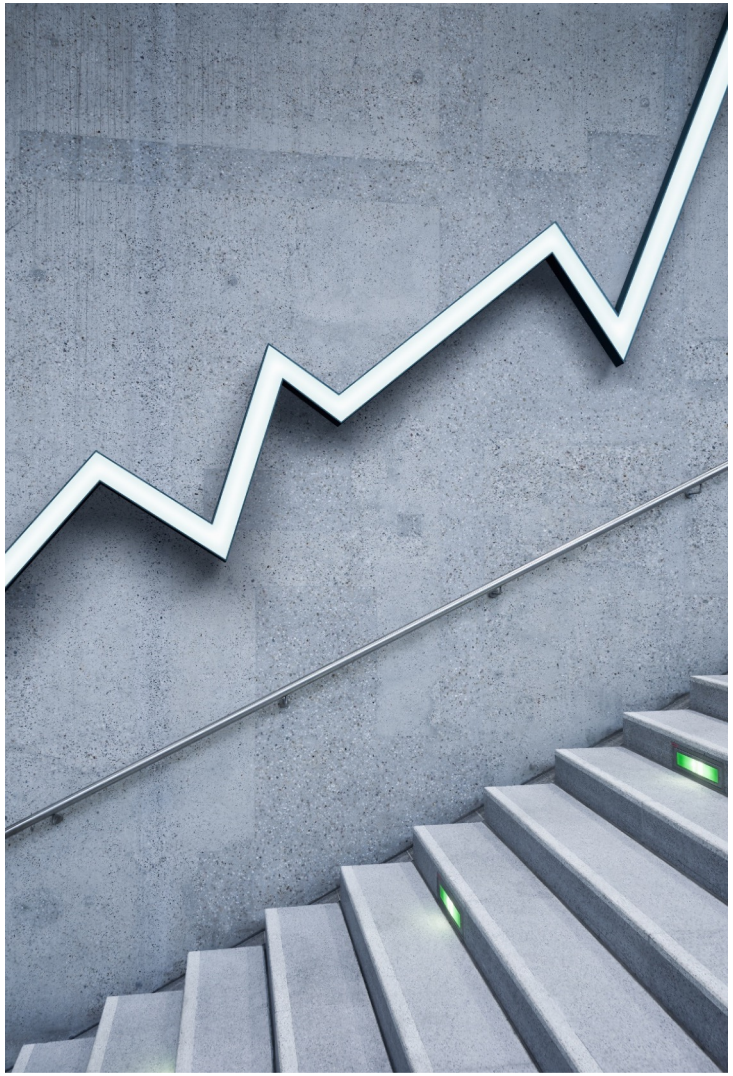


W3C – Web Payments

VICTOR THOMAZETTI MACHADO SILVA [ITAÚ]

GUSTAVO KOK [NETFLIX]

March 28th, 2023

AGENDA:

- Brazil | Itaú | Victor | Gustavo
- PIX Overview
- Context:
  - FIDO
  - WEB
  - LGPD/GDPR/PRIVACY
- Challenges
  - WEB P2M
  - WEB CORPORATE

Brazil | Itaú | Victor | Gustavo

Brazil

- ❑ **214MM** people
- ❑ Modern banking ecosystem
- ❑ Challenging fraud landscape (“*Brazil is not for amateurs*”)
- ❑ 5 FIFA World Cup titles

Itaú

- ❑ Largest bank in LatAm
- ❑ **70MM** customers
- ❑ **USD 475 Bn** in assets
- ❑ **40.9MM** credit cards
- ❑ **34.5MM** debit cards
- ❑ Official sponsor of the Brazilian soccer team

Victor

- ❑ 13 Years in Banking & Payments
  - ❑ 7 Years at Citibank
  - ❑ 3 years at ELO (*Brazilian Card Scheme)*
  - ❑ 3 Years at Itaú
- ❑ Member of several risk committees in Brazil (Card ecosystem, Open Banking, Instant Payments)
- ❑ Zero FIFA World Cup titles

Gustavo

- ❑ 8 Years of Payments / Payments Fraud
  - ❑ 3 Years at Dafiti Group
  - ❑ 5 years at Netflix
- ❑ Former member of card risk committee in Brazil
- ❑ Member of US Faster Payments Council Fraud WG
- ❑ Zero FIFA World Cup titles

PIX Timeline

Source: labsnews.com

Pix – Brazil Instant Payment

Concept

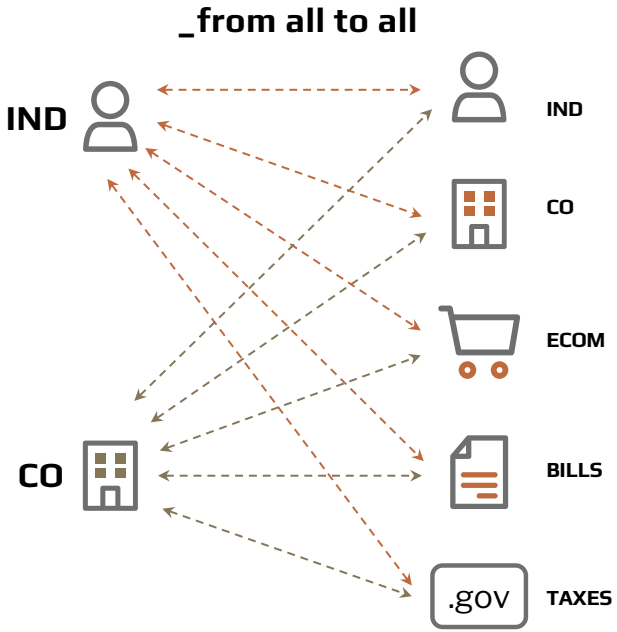
real-time fund transfers, available 24/7/365, without intermediation

- costs
the absence of financial intermediation reduces the transactional cost structure

+ easiness
funds available in a few seconds, 24/7/365.

+ inclusion
allows payments of any type and amount between any party (IND/CO/GOV)

+ competition
flexible and open structure



Simple

Different ways to engage with a payment:
_QR code (static, dynamic, pagador)
_Key (Personal Tax ID, Corporate Tax ID, Mobile Number, Email, Random Hash)
_NFC
_Ability to schedule
_PIX link

Good for payers

_Fast
_Low cost
_Safe
_Simple

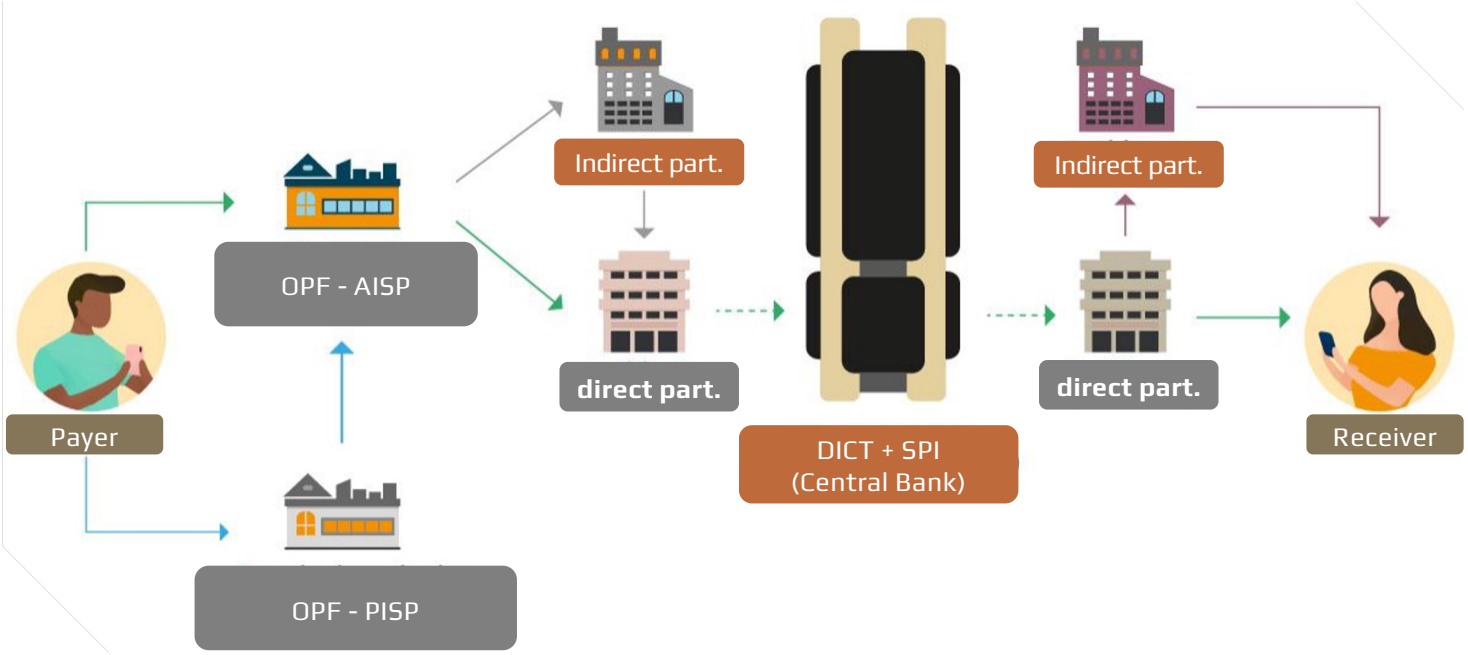
Good for receivers

_Lower acceptance cost
_Immediate availability of funds
_Payment automation and reconciliation
_Quick checkout experience

Good for the market

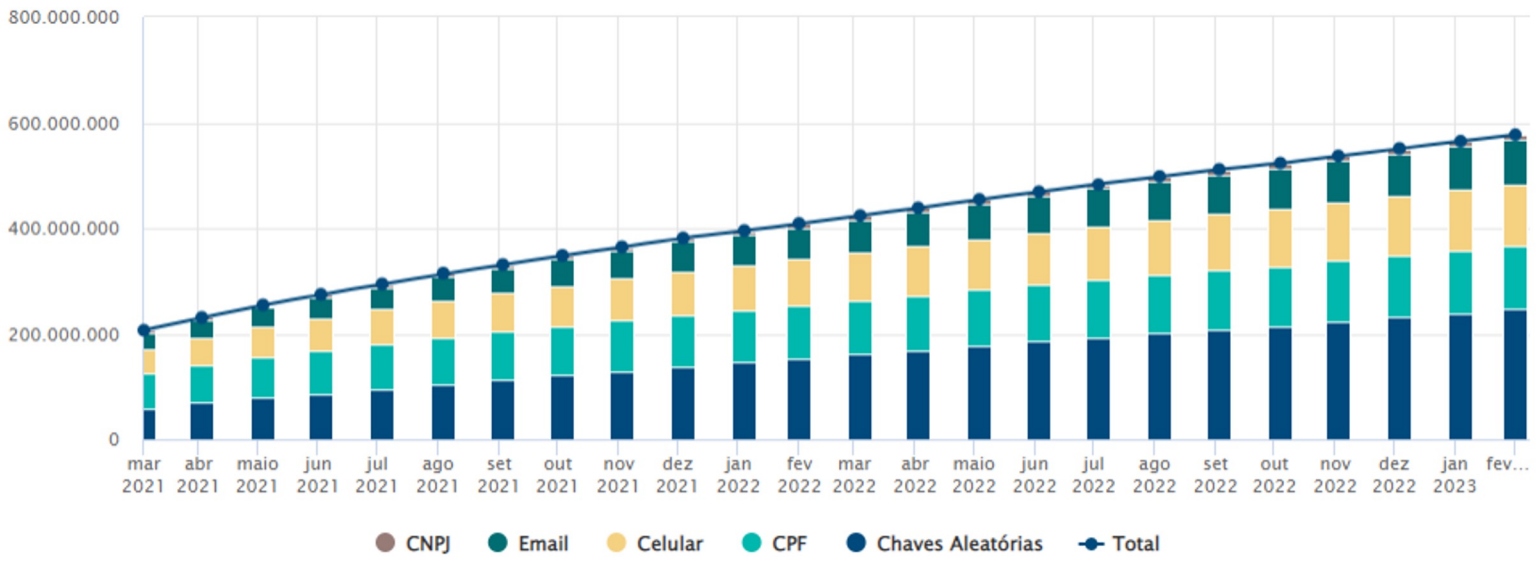
_Digitalization
_Financial inclusion
_More competition

Pix – Brazil Instant Payment - Scheme



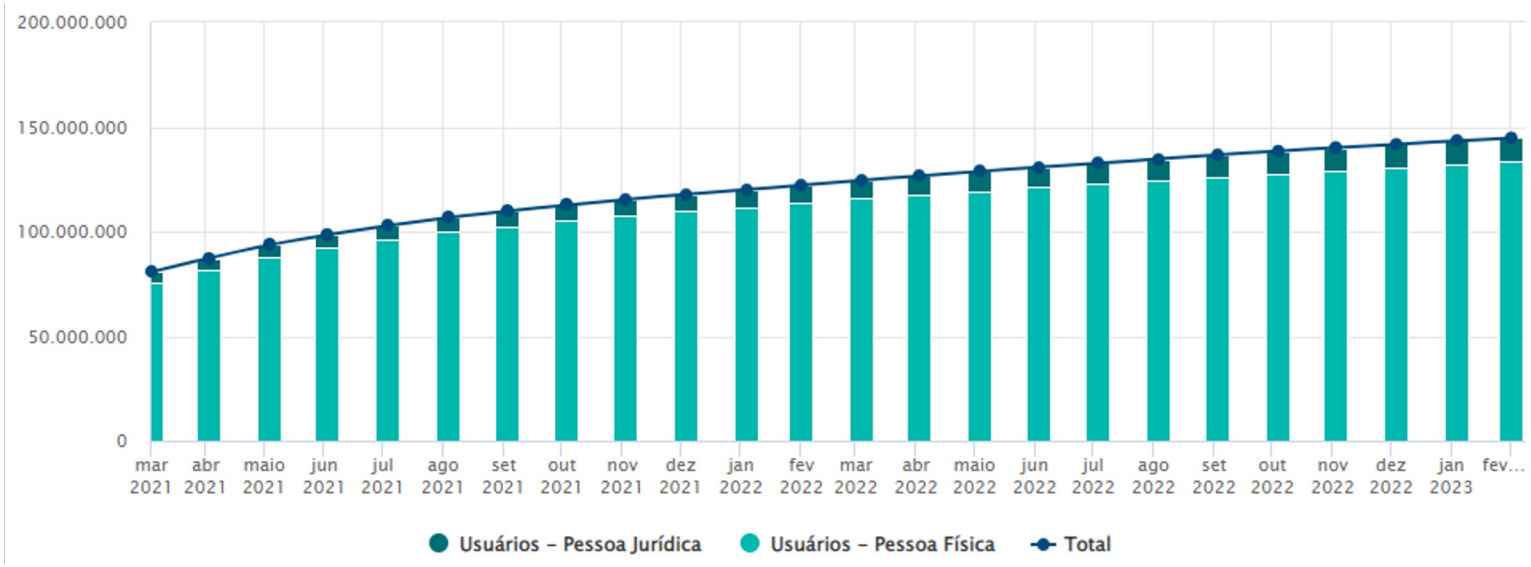

BANCO CENTRAL DO BRASIL
BANCO CENTRAL DO BRASIL

Pix – Big Numbers - # Keys/Id's



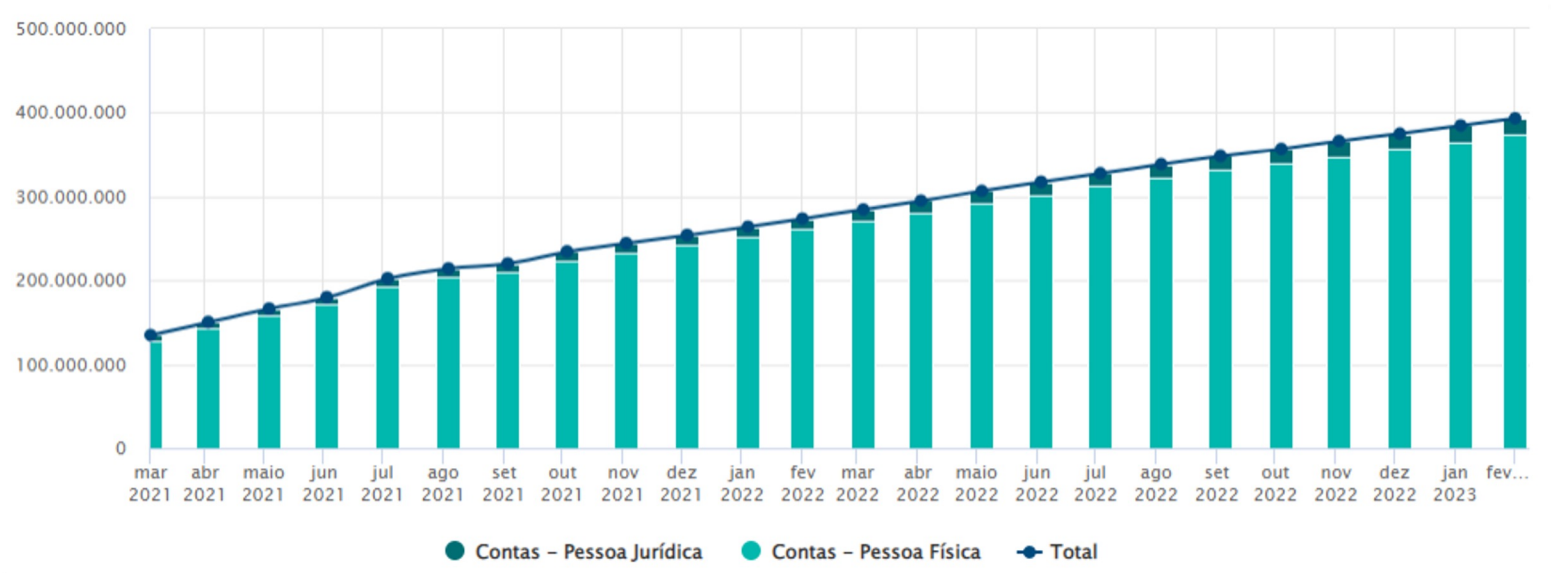
Source: Brazil Central Bank

Pix – Big Numbers - # Single Users



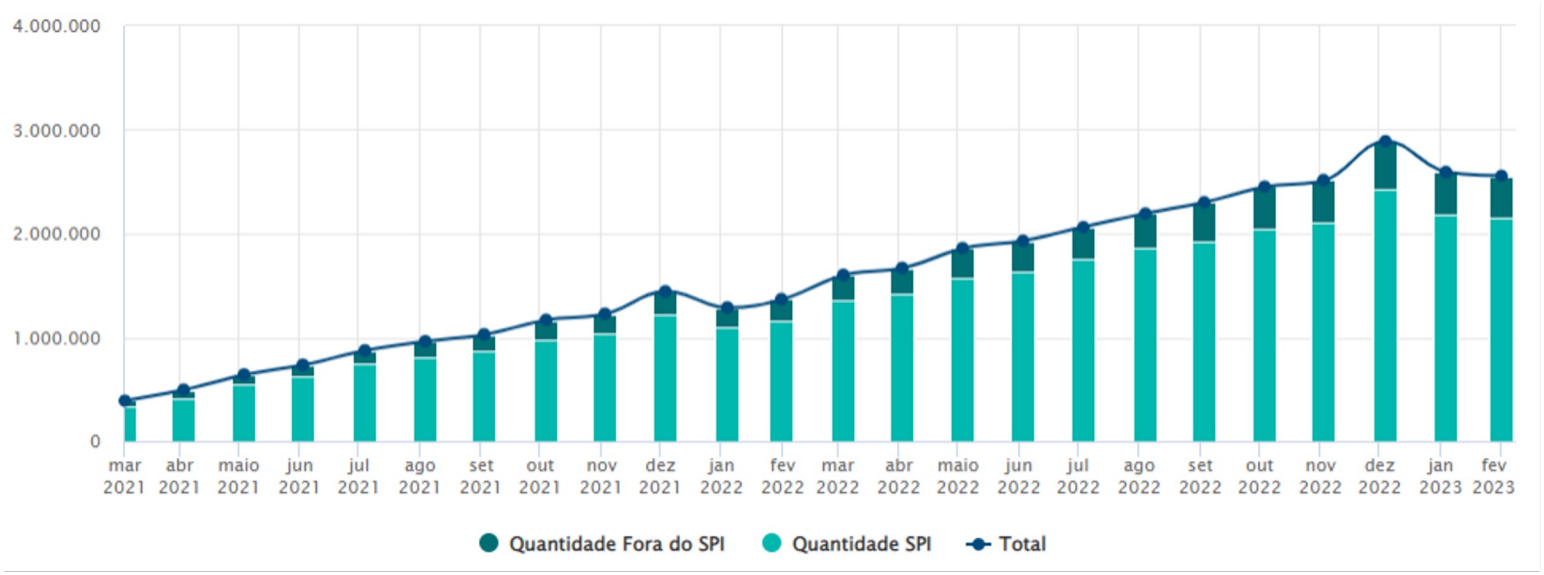
Source: Brazil Central Bank

Pix – Big Numbers - # Accounts



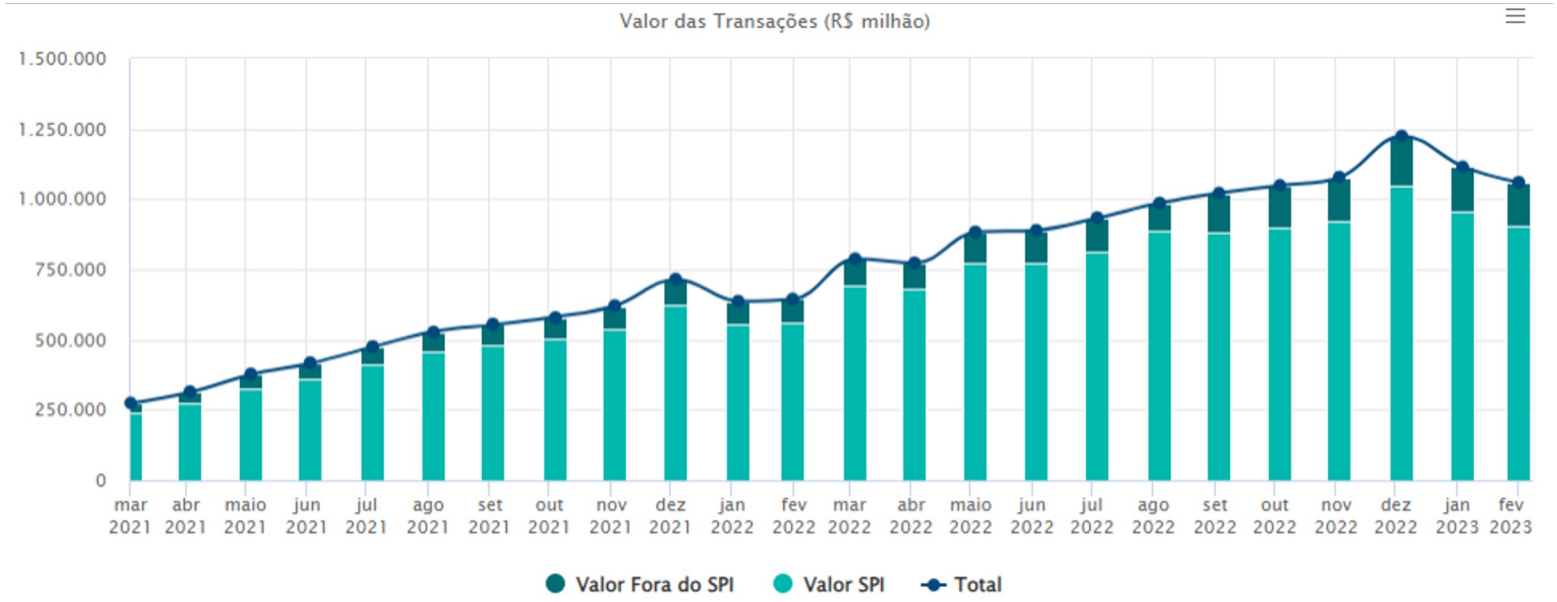
Source: Brazil Central Bank

Pix – Big Numbers - # Txn's ('000)



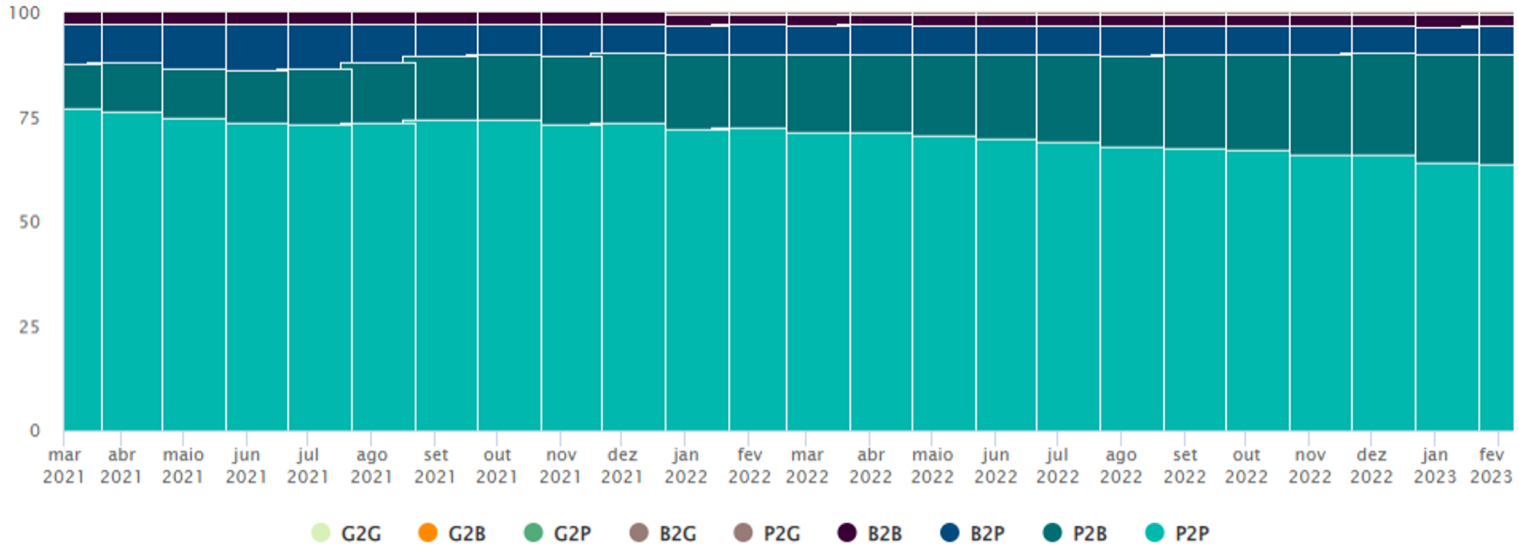
Source: Brazil Central Bank

Pix – Big Numbers - $ Amount transacted



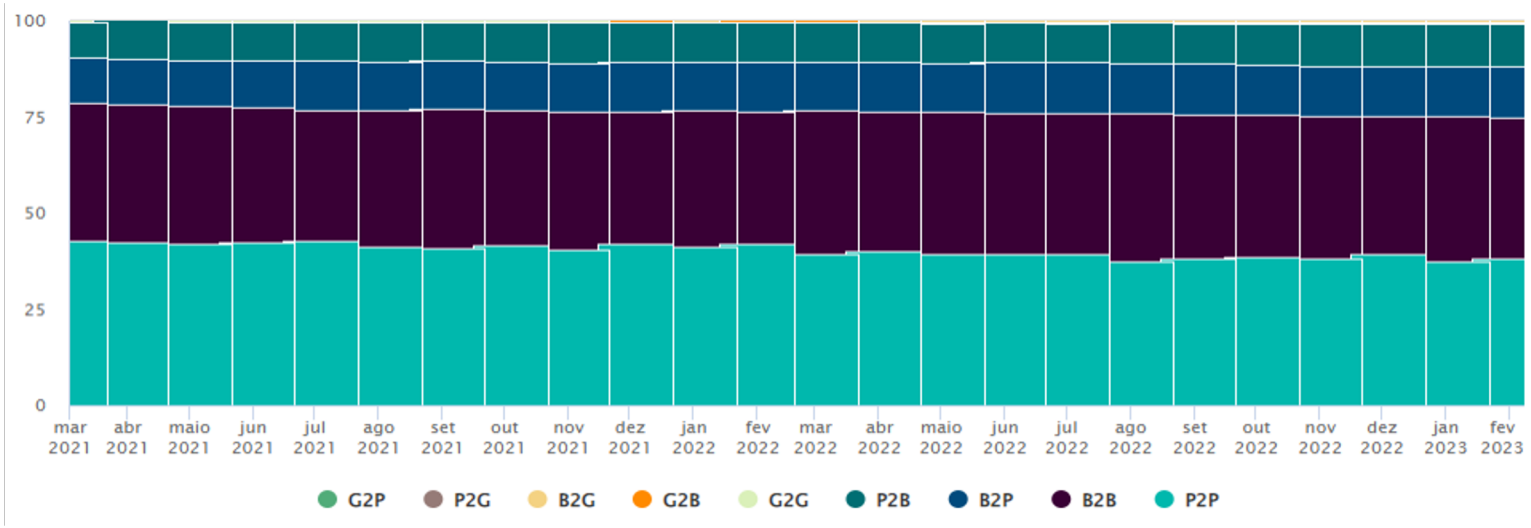
Source: Brazil Central Bank

Pix – Big Numbers - Volume mix, per type



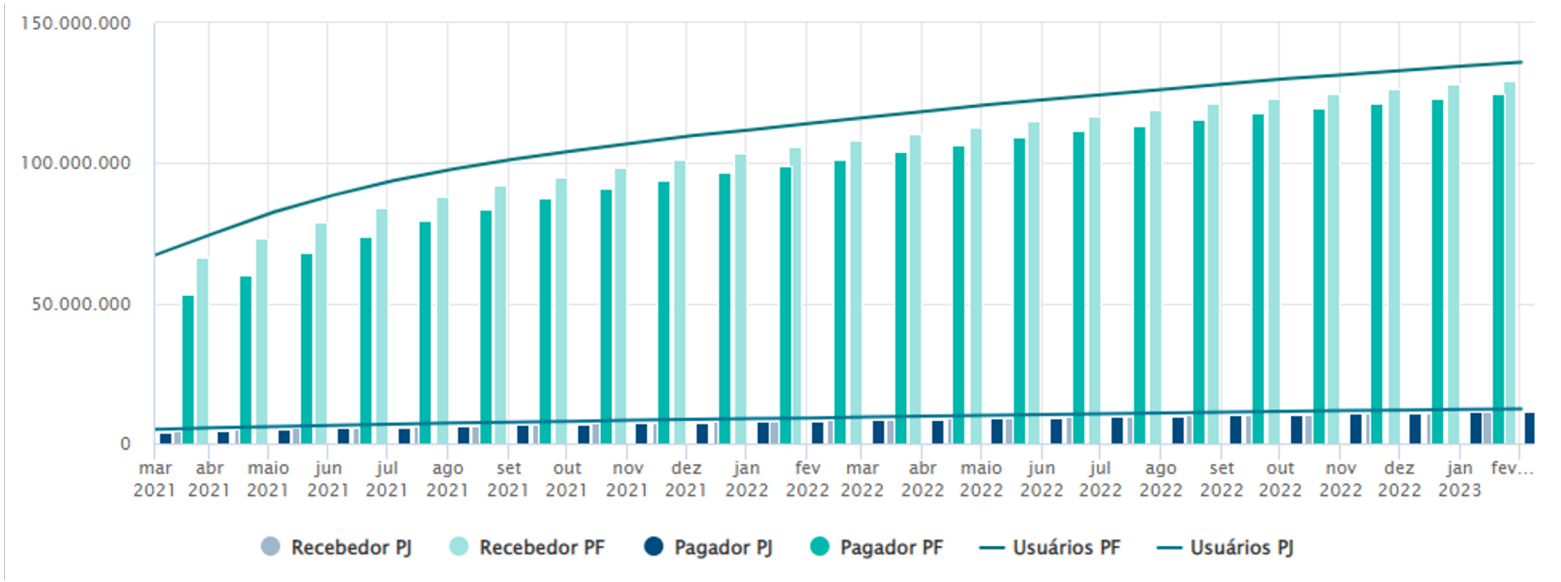
Source: Brazil Central Bank

Pix – Big Numbers - $ mix, per type



Source: Brazil Central Bank

Pix – Big Numbers - # Active users



Source: Brazil Central Bank

Pix – All numbers are public

PIX Statistics: https://www.bcb.gov.br/en/financialstability/pixstatistics

Pix – Brazil Instant Payment – Risk Overview

Attractiveness

- **Immediacy and 24x7x365**
- **Real-time gross settlement (RTGS)**
- **Similar transfer limits to other less popular payment types**
- Processing and settlement model centralized at the Central Bank (single point of failure)
- **Lack of knowledge of the end customer**
- Lack of risk management knowledge of Indirect PSPs and payment initiators
- Public payment 'keys' (Email and Mobile)
- Payment 'keys' portability and claim process
- Absence of security capability of the payments system arranger

Fraud Attacks

- **Account hacking and transfer between multiple accounts on different PSPs with 24x7x365 withdrawal**
- High-value transfers on non-working days / non-working hours
- Brute force attacks (DDoS) against the Central Bank and PSP's connected to the ecosystem
- **Social engineering and phishing to obtain payment credentials**
- Opening of mule accounts in PSP's that lack proper KYC processes
- Theft/transfer using 'keys' under the same ownership
- Creating new keys with newly/daily created emails and cell phones
- **"Lightning kidnapping", where people are forced to wire out their money. Targeted on non-working days and hours**

Mitigators

- **24x7x365 fraud prevention operation**
- **Real-time monitoring using machine learning models with the possibility of delaying and denying suspicious transactions**
- Definition of maximum exposure limits based on risk criteria
- Safety education campaign for customers
- **Strong authentication process on join and transaction (MFA)**
- Strong evaluation process for *indirect* PSP's to adhere to the arrangement, and strict fraud monitoring by sponsor
- Centralized market database to help validate credentials
- **Fraud Risk Committe sponsered by the Central Bank to develop security features with key market stakeholders**

Context

LGPD/GDPR

Current general understanding is that, for fraud prevention purposes, we have a legitimate interest in the collection and use of personal information.

FIDO

Itaú already using FIDO for some app-focused solutions.

WEB

Low level of confidence in the WEB channel due to several different types of attacks.

CORPORATE

Countless bank as a service initiatives are surfacing and we have the need to authenticate individuals in non-proprietary channels

HARD-TOKENS/YUBIKEYS

We already use hard tokens for corporate customers. We would like to stop using it, but can we?

BCB SECURITY GOVERNANCE

We have a permanent fraud prevention strategy committee in conjunction with the regulator to address the evolution of security protocols in PIX and Open Finance.

Hypothesis

Can we use SPC and FIDO2 to enable security for PIX P2M WEB transacions in Brazil?

Can we use SPC and FIDO2 to enable security for PIX corportate WEB/BaaS channels transacions in Brazil?

Thank You

Q&A