

DC/EP and e-RMB in China for Payments Modernization in the Digital Era



01

Progress China Has Made on DC/EP

- DC/EP is a two-tier R&D and pilot program, not a payments product.
- There are a couple of e-RMB schemes as payments tool developed and belonging to the second tier institutions.

2012

PBC issued licenses to third-party payments agencies (first to Alipay).

2014

DC project group was founded by PBC.

2016

Digital Currency Institute of PBC was established, while new cash design project ended.

2017

Started the DC/EP research project; crypto asset trading and ICO banned.

2019

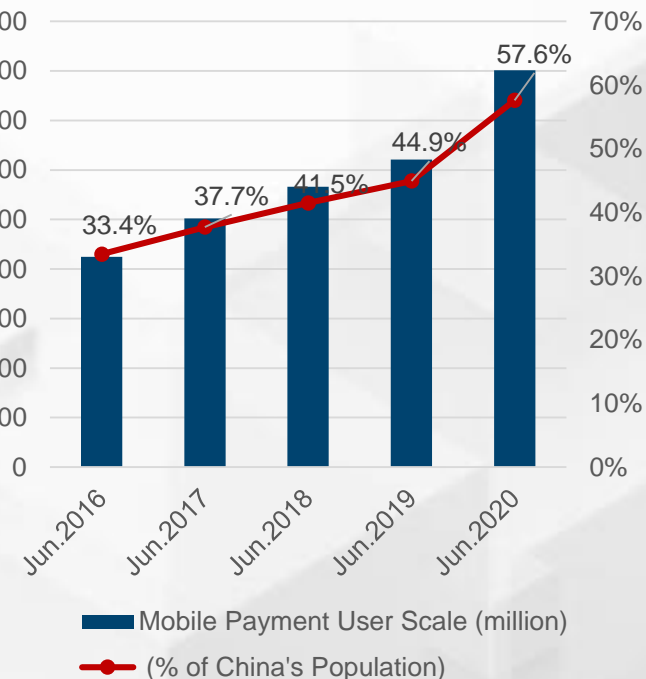
Announced starting pilots and tests.

2020

4+1 pilots:
Shenzhen(13M),
Suzhou (7.1M),
Xiongan(1M),
Chengdu(15M)
and the Winter Olympics.

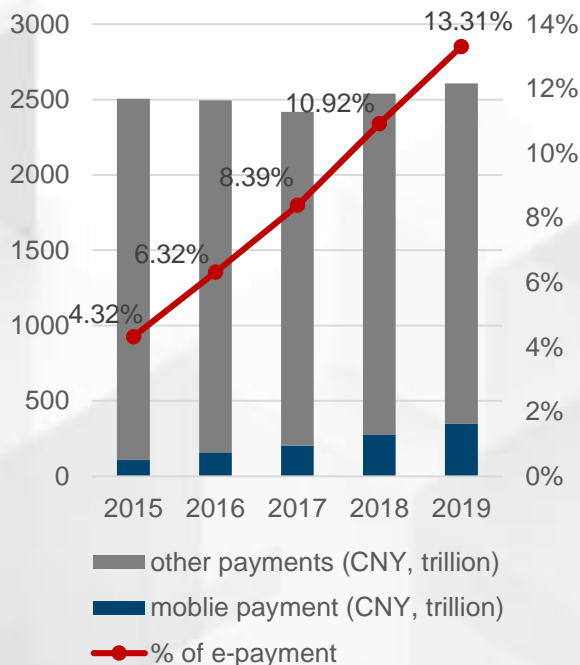
Popularization of Mobile payments in China

57.6% of Chinese use mobile payments in 2020



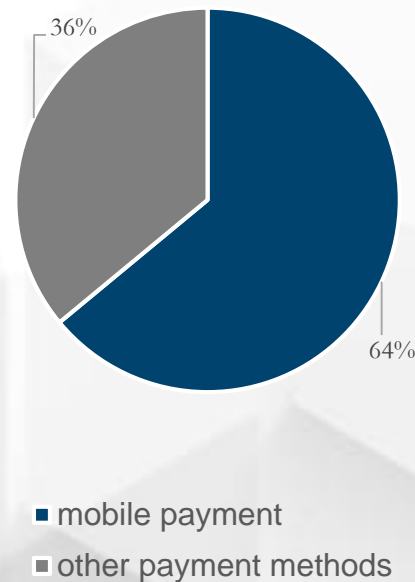
Source: The 46th China Statistical Report on Internet Development, CNNIC

Mobile Payments Accounted for 13.31% of e-payment in 2019



Source: Payment and Settlement Department, PBC

Mobile Payments Accounted for 64% of Personal Consumption Payment in 2019



Source: China UnionPay 2019 Mobile Payment Report

Driving forces and opportunities for DC/EP development

- Enhance efficiency of payments system (retail payments system in particular), to cut costs and better serve users.
- Chinese people prefer going out only with their mobile phones, which carry e-ID cards, digital wallets(cash ,credit card, e-bank), and keys, newspaper and magazines and entertainment applications.
- Retailers accept a variety of payments methods and the acquiring business of payments are all conducted through internet.
- As a backup facility, besides using cash, offline payments can be done through mobile phone to mobile phone by using NFC “touch&go” App, in forms of P2P(one side or both sides offline).
- Create Competition among commercial banks, telecom operators(mobile service providers) and payments platforms, without imposing specific technological schemes or influenced by these schemes in advance.
- Prevent financial disintermediation and subsequent risks, keeping distance with virtual assets trading.
- Emphasize on measures to protect individual data privacy and fight against telecom cheating and payments fraud.



DC/EP is a dynamic Two-tier, Multi-Scheme Program with competitive R&D and operations

Two-tier system

- Central Bank stays at the first tier.
- The second tier comprises commercial banks and non-banks.
- 3 telecom operators and 2 internet platform payments service providers participated (sole or joint proprietors).
- Disintermediation is not encouraged.

Authorized Operators

- Commercial banks
- telecom operators
- payment platforms



DC/EP is a dynamic Two-tier, Multi-Scheme Program with competitive R&D and operations

Multi-Scheme & competitive R&D and test

- Assuming it is very hard for an authority to single out the optimal and sustainable technology for certain scenarios.
- China's vast market with 1.4 billion population allows for application of multiple technological schemes.

Major technology schemes

- Account-base e-wallet
- QR Code payments
- NFC (Apple Pay, Huawei Pay, Samsung Pay)
- Bank Cards in mobile phones (plastic card, Union Pay Quick Pass via POS, QR Code or NFC)
- Pre-paid accounts(enabling offline payments) integrated in mobile phones

Dynamic evolution mechanism

- Fintech technology develops faster than ever, payments industry needs to adapt to the evolution and upgrade its own system.
- Client-centered technology assessment and anti-monopoly measures are required.
- Application of blockchain and distributed ledger technology(DLT) is still under R&D.

Role of CB

- supervise and safeguard stability of currency value
- focus on clearing and settlement infrastructure
- promote interoperability and switching facility among different payments products (tolerating limited non-switchables)
- prepare contingent and emergency substitution plans.
- Not necessary for CB to choose or affirm a certain type of CBDC

eRMB under DC/EP is Different from CBDC

Differences



1

The second tier institutions licensed by CB possess the ownership of the eRMB and technology and its system.

2

CB endorses/backups the eRMB value, based on oversight and safeguard measures including reserve & capital adequacy ratio requirements.

3

The relationship between institutions at the two tiers is not like that between traditional wholesale and retail business.

4

eRMB is not/may not be claims on the CB.

5

The second tier is responsible for compliance on users' data privacy.

6

Payments data is backed up with CB.

Protection of data privacy and implementation of controllable anonymity

Objectives: emphasize on data privacy protection and absorb some rules of European GDPR; strike balance on maximizing the degree of anonymity and satisfying regulations. Data backup with CB for serving anti-money laundering and countering terrorist financing, anti-criminal cheating and fraud, as well as correcting operational errors and mistakes.

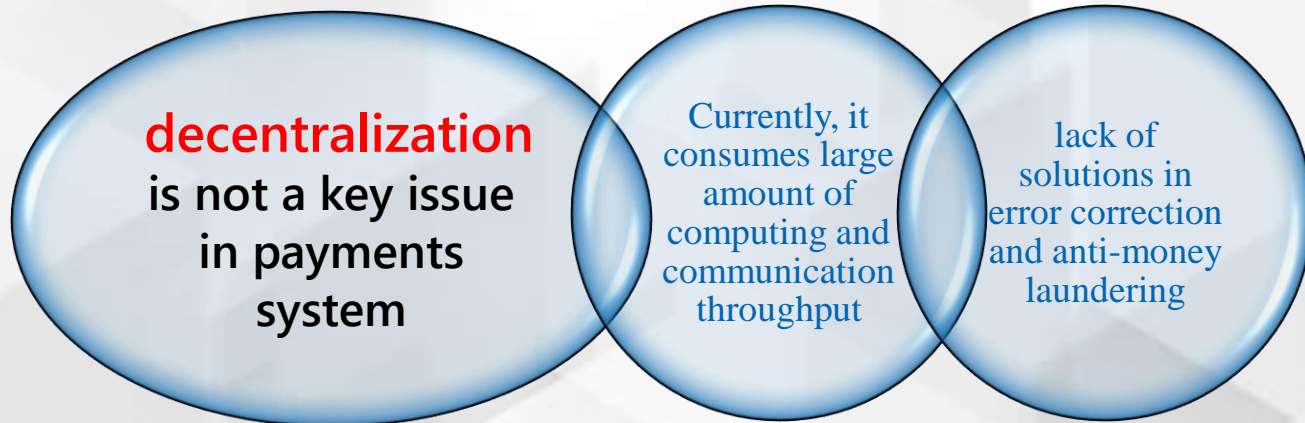


Approaches:

- ◆ Encryption and token mechanism adopted to upload transaction data to CB as the only exception, which is allowed to keep track of necessary data for the above mentioned regulation purpose. CB shall ensure data confidentiality.
- ◆ Operational errors must be considered and reversed, as the chargeback practice in credit card payments under certain legal or binding procedures.
- ◆ Payments providers are prohibited from copying, transferring, selling concerned data(not including backup with CB), and shall delete some type of data upon requests of users.
- ◆ Taking consideration of data leakage, and to better protect users, multilayer accounts and transaction limits are adopted for higher security protection, the higher the layer of the account, the larger the transaction limit.

On Application of Blockchain and Distributional Ledger Technology(DLT) in e-RMB design

- ◆ Can be adopted for one of the second tier choices. Now the technology is under further exploration and development.
- ◆ Not playing a dominant role at current phase:



Be clear of Demands of Cross-border Payments



Demands on cross-border payments

THE incumbent tech and system are ok for trade, investment and financial transactions; for tourists, internet shopping and remittances(current account transactions) need improvement.



Respect different policy regimes and regulations in destination countries

NEED to respect digital currency sovereignty, and exchange rate regimes and convertibility regulations in specific countries. NO technology difficulties if retail payments are widely available domestically.



Build up a solid base of retail payments domestically



Focus on current account payments such as tourist, etc.



Avoid dollarization and no push for use of RMB