Seminar on Mobile Banking
The work of the CPMI in the field of mobile payments*

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* Views expressed are those of the author and not necessarily those of the BIS or CPMI

The Bank for International Settlements (BIS)

- World’s oldest international financial institution (founded 1930)
- Owned entirely by central banks (60 members)
- BIS headquarters in Basel, representative office for Asia in Hong Kong and for the Americas in Mexico City

The BIS pursues its mission by:
- promoting discussion and facilitating collaboration among central banks and with other authorities responsible for promoting financial stability
- conducting research on policy issues confronting central banks and financial supervisory authorities and providing statistics
- hosting committees and secretariats of regulatory bodies
- acting as “bank for central banks”
The Committee on Payments and Market Infrastructures

- The CPMI is a global **standard setting body** in the field of payments, clearing and settlement arrangements and related activities.

- It also serves as a forum for central banks to **monitor and analyse developments** in large value and retail payment, clearing, settlement and related arrangements, schemes and instruments, both within and across jurisdictions.

- Establishment in 1990 as Committee on Payments and Settlement Systems (until August 2014)
- Hosted by the Bank for International Settlements in Basel
- 25 member central banks

Selected CPMI activities in the field of retail payments

- **Descriptions and statistics** – Red Books (not only retail)
- **Guidelines, principles, best practices**
  - General Principles for international remittance services (2007)
- **Reports**
  - Retail payment systems in selected countries: a comparative study (1999)
  - Clearing and settlement arrangements for retail payments in selected countries (2000)
  - Policy issues for central banks in retail payments (2003)
  - Innovations in retail payments (2012)
  - Non-banks in retail payments (2014)
- CPMI-World Bank **Forum on retail payments**
- CPMI-World Bank work on **Payments aspects of financial inclusion**
Introduction

- The **payment environment is changing dramatically** (disappearance of physical presence of the payer in a bank branch, filling in and signing paper)
- **User expectations and demand have shifted**: payments to be made at any time, day or night, on week-ends, from home or abroad, at low costs with high security
- **New technologies and services** such as pay with a card, a computer, a tablet or a mobile) with **new providers** entering the market (mobile network operators, e-money issuers, aggregators...)

⇒ However, irrespective of the technological layers, payments are still a set of debits and credits of the accounts of customers in the books of a trusted institution

General developments in the field of retail

- **Complexity on the supply side**:
  - Increasing number of (non-bank) providers
    - Both front-end and back-end
    - Both cooperating and competing with banks
  - **Innovations**, mainly in the customer interface
    - Diversity of access channels and devices
  - Closed-loop schemes vs. traditional open networks
  - Completely new alternatives (eg decentralised virtual currency schemes)
  - Growing concerns on security and operational risk
General developments in the field of retail

- The demand side is becoming very "demanding":
  - Increasing expectation to be able pay anywhere, anytime...
  - ... almost instantly...
  - ... and securely...
  - ... but cheaply or even for free!
  - Increasing commoditisation of payments
  - Financial inclusion a priority in many countries

Innovations in Retail Payments

- CPMI Report on Innovations in Retail Payments (May 2012):
  - Stocktaking exercise and analysis, based on a comprehensive survey in which some 122 innovations were reported by 30 central banks (including some non-CPMI central banks)

- Trends:
  - Dynamic market, but few innovations have significant impact (so far), regional differences are likely to persist
  - Most innovations are domestic (role of standardisation?)
  - Speed is gaining importance in retail payments processing
  - Financial inclusion is one of the driving forces for
  - Role of non-banks is significantly increasing
  - Security issues become ever more critical
Innovations in retail payments

Classification of innovations:

- **Process oriented**: improvements or changes in the way retail payments are processed (back-office perspective)
  - Payment initiation (50%) *(e.g. new access channels or devices)*
  - Overall payment process (33%) *(e.g. EBPP solutions)*
  - Payment reception (around 10%) *(e.g. reconciliation solutions)*
  - Totally new scheme (25%) *(e.g. e-money or virtual currency schemes)*

- **Product oriented**: improvements or changes in the way the product is perceived by the customer
  - Innovations in the use of card payments (25%)
  - Internet payments (20%)
  - Mobile payments (25%)
  - EBPP (10%)
  - Improvements in infrastructure/security (25%)

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Innovations

What are the **drivers** for **or barriers** to innovation?

- **Availability of new technology** *(e.g. mobile phones)*
- **User behavior** *(e.g. demand for real-time processing)*
- **Cooperation** among stakeholders to lower deployment costs
- **Outsourcing**
- **Standardization** *(if standards are open and up-to-date)*
- **Pricing** *(if competitive and sustainable)*
- **Complexity of market** *(competition, network effects, regulatory influence, two-sided market...)*
- **Security issues** *(if innovations are (in real terms or just perceived as) or are not sufficiently secure)*
- **Regulation** *(either a driver or a barrier; either proactive – e.g. financial inclusion motivated - or reactive)*
Role of non-bank services providers in retail payments

⇒ CPMI Report on **Non-banks in retail payments** (September 2014):
  ● Based on a fact finding exercise in CPMI jurisdictions
  ● **Functional definition**: “any entity involved in the provision of retail payment services whose main business is not related to taking deposits from the public and using these deposits to make loans”
  ● **Classification**:
    - *Front-end providers* (interface between customer and bank / traditional clearing and settlement process)
    - *Back-end providers* (e.g., IT service providers, entities that provide back-office operations in cooperation with banks)
    - *Operators of retail infrastructures* (e.g., card networks,ACH operators)
    - *End-to-end providers* (combination of previous categories)

Role of non-bank service providers in retail payments

- **Implications of non-banks** for **efficiency**: potential for increased competition and lowering of costs through cooperation, economies of scale and scope ...
  ... but might also lead to **concentration**

- **Risks** do not seem to differ materially between banks and non-banks in relation to retail payment activities, but:
  - potential increased **complexity** in the payment chain
  - concentration and outsourcing can impact **operational risk**
  - fraud and other risks related to **consumer protection issues**

- **Potential differences in regulation** may lead to different risk mitigation measures
Regulatory framework

- Service providers are very diverse, this diversity is reflected in the range of authorities that potentially or actually deal with them:
  - central banks, prudential supervisors, consumer protection authorities, competition authorities, telecom regulators and/or specialised bodies (e.g. for AML) within ministries of economy or finance

- Regulatory approaches vary within jurisdictions (different non-banks are regulated differently) and across jurisdictions (where the same non-bank might be subject to different regulations)
  - banking license, special license, registration, central bank oversight, indirectly through outsourcing agreements or no specific regulation or oversight at all

Mobile payments

Potential definitions:

- **Mobile banking**: provision of banking and financial services with the help of mobile telecommunication devices.
- **Mobile payments**: payment transactions with the help of mobile telecommunication devices.

- But:
  - what does it mean “with the help of”?
  - is it necessary that a bank provides the banking/payment services?
Mobile payments

- **... with the help of a mobile device?**
  - Any use of a mobile phone?
  - Is the mobile a distinct instrument (like a credit transfer or a card), is it just the communication device (for different instruments), or is it the communication channel that matters (mobile network, internet, ...)?

- **... who provides the account/payment services?**
  - Does it entail some sort of a payment account with an mobile operator or with a bank?
  - Does it entail e-money stored on a device?
  - What if I have a bitcoin mobile wallet in my phone and make a transfer of some bitcoins to other user from the phone (obviously through the internet). Would this be a mobile payment?

Mobile payments

- The CPMI has taken a **functional definition of mobile payments**: "payments initiated and transmitted by access devices that are connected to the mobile communication network using voice technology, text messaging (via either SMS or USSD technology) or NFC"

- Three main **categories**:
  - **Mobile payments using traditional bank accounts** - the mobile network is used to communicate with the bank
  - **Mobile payments using the mobile phone bill collection process** - payers pay the invoiced mobile payment amount as part of their mobile phone bill
  - **Mobile payments using prepaid accounts** (sometimes called "mobile money")
Mobile payments

- **Mobile payments**: rather than on how the communication is established (mobile device or mobile communication framework), the focus should be on (i) who do we communicate with (bank, non-bank such as a telecom provider) and (ii) where are the funds (bank account, account in a non-bank, prepaid account in a server or in the device...)
  - **Risks** may not materially differ between banks and non-banks in relation to retail payment activities, but **differences in regulation** could translate in differences in risk mitigation measures (cf Non-banks in retail payments report)
  - **New developments could disrupt** the landscape and foster disintermediation (affecting both incumbents and new non-bank providers)... e.g. the case of virtual currency schemes

Payments Aspects of Financial Inclusion

- In November 2013, CPMI and World Bank launched a **Joint task force on payments aspects of financial inclusion** (P4FI)
- Members are 14 CPMI central banks and a number of international institutions (**AfDB, CEMLA, EBRD, IADB** and IMF)
- **Issues** covered entail:
  - **legal and regulatory aspects**
  - The balance between payment systems policy objectives like stability and safety, and accessibility and inclusiveness
  - **supply and demand perspectives** (e.g. access to and usage of financial services, design and governance of the payments infrastructure, customer awareness and education)
  - the role of public sector (e.g. government payments)
- A **publication** is envisaged for 2015
Outlook for the retail payments area

- Reaction of the incumbents (such as banks and traditional ACHs) on innovations ("second round" effects), e.g., new services/products
  - Eg initiatives to improve processing speed ("instant/faster payments")
- Impact of disruptive innovations such as virtual currencies (especially decentralised virtual currency schemes such as Bitcoin)
  - Potential for money laundering and criminal activities, security concerns (theft, cyber attacks) and inherent instability and value fluctuations
  - But potential developments based on the embedded payment mechanism
- Promotion of cyber resilience (cf. 2014 CPMI report on cyber security):
  - Cyber-attacks pose challenges for all payment service providers
  - Regulatory action and other mitigation efforts conducted solely at the national level may not suffice
- Global standardisation (by standard-setters and industry bodies)
- Initiatives to enhance (cross-border) interoperability

Issues for central banks and other relevant authorities

Varying from country to country, but common issues and challenges persist:

- Importance to monitor and assess new developments (collection of relevant data, building expertise)

- Involvement of all relevant stakeholders (infrastructures, service providers, users), involving incumbents and new market entrants

- Formulating and communicating in a transparent way the objectives, views and analysis of the authorities

- Ensure a level playing field for all providers (similar conditions to apply to providers with a similar risk profile)

- Oversight and supervisory frameworks may have to be reviewed

- Need to foster (global) standardisation and interoperability

- Cooperation between all relevant authorities (at a national and international level) will have to be enhanced