Improving Access to Credit in Property Markets using Blockchain

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Structure of Presentation

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Introduction

“Giving the poor access to credit allows them to immediately put into practice what they already know – to weave, to husk rice patty, raise cows, peddle a rickshaw. And the cash they earn is then a tool, a key that unlocks a host of other abilities and allows them to explore their own potential. Often borrows teach each other new techniques that allow them to better use their survival skills. They teach far better than we ever could.” - (Yunus, M, Banker to the Poor, p. 140 , 2003).

- Without the ability to use property as collateral for loans, the titles in owners’ hands still represent “dead capital” – assets that cannot be collateralised or sold.

Factors contributing to better property markets

Health of property markets = function $f$ (Appropriate regulation, property rights, access to credit, effective governance, rational dispute resolution, financial transparency)

where $f$ can

be defined as “health of property markets function” with the form based on knowledge of the parameters in the country.
Scope

Health of property markets = function $f$ (Appropriate regulation, property rights, access to credit, effective governance, rational dispute resolution, financial transparency) -- -- -- (1)

Access to credit = function $g$( access to banks, soundness of the banks, microlending of banks, credit bureau, Other sources including venture capitalists)

where $g$ can be defined as “access to credit function” with the form based on knowledge of the parameters in the country. -- -- -- (2)

source : international property markets scorecard
Scope

- Banks granting access to credit = function $h$ \((\text{access to banks, soundness of the banks, microlending})\)

- Venture capitalists and private index = function $j$ \((\text{economic activity, depth of capital markets, taxation, investor protection and corporate governance, human and social environment, entrepreneurial culture and deal opportunities})\) \((\text{Groh et al})\)

- Depth of capital markets = function $k$ \((\text{Size of the stock market, Stock market liquidity, IPO’s and public issuing activity, M&A Market activity, Debt and Credit market, Banks non performing loans and financial market sophistication})\)

- Entrepreneurial culture and deal opportunities = function $l$ \((\text{Innovation, Scientific and technical journal activities, ease of starting and running a business, simplicity of closing a business, corporate R&D})\)
Parameters of Access to Credit

The credit gap is very high in the regions Africa and Asia with over 59% requirement and this can be also correlated to lack of adequate number of credit bureaus in these regions (Stein, Peer et al 2010)
Banking crisis and impact @ Access to Credit

“Banking crisis is marked by bank runs that lead to the demise of financial institutions, or by the demise of a financial institution that starts a string of similar demises” (Reinhart 2009).

Figure 3: Frequency of Systemic Banking Crises Around the World, 1970–2011
Source: Laeven, Lu et al, 2012
“Developing and accelerating electronic merchant payments at the broader level can help countries advance financial access and financial inclusion…. Using basic payment or savings accounts can gradually lead to access to and usage of other financial services, such as credit, insurance or pensions. The three foundational enablers are also highly relevant levers for helping to improve the usage and adoption of electronic payments by merchants” (WorldBank, 2016).

Fig : Universal financial access to credit using Blockchain
Alternative Financing for access to credit?

- Crowdfunding powered by blockchain technology in short term can lead to a decentralized bitcoin ecosystem, and actually address scalability issues. ex: Kickstarter, Indiegogo.
- Crowdfunding platforms powered by blockchain 2.0 technology bypass the requirement of third party trust. They allow individuals in property markets to raise funds by custom made digital currencies and selling “cryptographic shares” to early backers - get tokens that represent shares of the property they support and can actually benefit from the token value appreciation.

![Fig: uses of market places loans, Source: (Stagars, 2016)]
Growth of e-wallets and blockchain users

Figure: Number of new wallets added each quarter. Source: Coindesk, 2017
Ghana - Bitland : strong correlation

- Land could be held as equity, as currently no banks are really willing to lend against unregistered lands. Bitland will be issuing a digital currency called Cadastrals. Price in Phase 1 will be 10,000 satoshi ($0.04 USD) Phase 2 it rise to 30,000 satoshi.

- The weaker access to credit can have improved access to credit if financial infrastructure and technology can be improved and thus becomes a case for use of Blockchain to improve the access of credit.

- Correlation of blockchain to access to credit is seen very strong in Africa and Asia as the financial infrastructure and Land title registration infrastructure is deemed to be less in these regions.

Figure: Bitland charts price and market cap variation since two months (as of Jan 2017)
Blockchain hacks: Need for ISO
Wannacry - Ransomware

source: Ransomware Infections by Region, January 2015 – April 2016

Figure 2. Percentage of New Families of Misleading Apps, Fake AV, Locker Ransomware, and Crypto-Ransomware identified Between 2005 and June 2016

United States 26%
2% Malaysia
2% Netherlands
2% Germany
3% United Kingdom
4% Italy
9% Japan
11% Australia
16% Canada
Other Regions 19%

Each separate transaction required an address (meaning 252 addresses)

Tumblers take numerous transactions, split them up into smaller ones, mix the transactions together, then split the money back out

860,000 bitcoin

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Standards Australia: ISO

Liaison Committees from ISO/TC 307

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Organizations in liaison

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<td>SWIFT</td>
<td>Society for Worldwide Interbank Financial Telecommunication</td>
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Standards Australia : ISO - FIG

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Risk management @ Access to credit

- Alternative financing portals should be encouraged to purchase professional liability insurance in addition to the bond.

- Elliptic is a London-based bitcoin company that offers a “vault” service, and Xapo also offers enterprise-level insured bitcoin storage that can be used by exchanges. In fact, Coinsetter offers insurance on 50% of all bitcoin deposits thanks to a partnership with Xapo.

- Investors should liaise for including insurance coverage available to cover: cyber liability, commercial crime, professional services; directors and officers, and commercial general liability for all those activities involving cryptocurrencies and/or distributed ledger technology.

- An insurance policy that can cover Crime policies that include bitcoin and other cryptocurrencies could back the risk of losing money due to hacks.
Conclusion and further research

● The scorecards from CIPE allow us to know the strength or weakness of contribution of access of credit to property markets, the exact correlation numbers are difficult to compute as the parameters of comparison is not normalised.

● Block chain’s consensus algorithms require more computing power and introduce delays. The distributed ledger system that protect blockchain and lead to transparency could also lower performance and limit scale due to wrong implementations.

● Developing adequate tools, including insurance policies, to deal with the risks is mandatory if involved in the secondary markets using crypto currencies although some time property markets use of block chain can just focus only on primary markets using blockchain

“one blockchain may not fit all so does the policyholder’s existing program”
References


Stagars, Manuel 2016. “when will marketplace lending platforms offer mortgages”


Yunus, Muhammad, and Alan Jolis. 2003. “Banker to the poor: micro-lending and the battle against world poverty

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Cadastre 4.0

Two generations of the digital network evolution:

- 2000 – 2010
  - Caring and Sharing
  - 1:1
  - Consumers to Consumers

- 2020 – 2030 (symbiotic web)
  - Web as an extension
  - M:1
  - Machines to consumers

Web 1.0 - Access
Web 2.0 - Sharing
Web 3.0 - Value
Web 4.0 - Immersion

1985 – 1999
- Access, Information, Ecommerce
- 1:1
- Business to Consumers

2010 – 2020
- Mobile network, Internet of Things and 3D printing
- M:M
- Machine to Machine

Fintech 1.0
- Emergence of peer-to-peer
- Funders and new payments
- Companies
- 2010-2014

Fintech 2.0
- Innovation Labs, Accelerators,
- Hackathon run by banks
- 2014 - onwards

Fintech 3.0

Cadastre 1.0 - Access
- Participatory
- Information sharing, interoperability and collaboration

Cadastre 2.0 - Sharing

Cadastre 3.0 - Value

Cadastre 4.0 - Partnership model
- Partnership model building coalitions/symbiosis
- Cadastre for people made by people

Identity
- Bigdata
- IOT
- AI
- Decentralised
- Distributed Ledger

2018-future

1.0

2.0

3.0

4.0

Infrastructure

Banks

E-banking

ATM

Credit scoring

Tech Fin

1800 - 1897

1898-2008

2009-now