

Smart Contracts In Practice

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About Bitquant

- Financial Research Laboratory consisting of me and my wife
- Business model – Think of cool things to do and play with technology. Make money to pay the rent
- I like new technology, but I've got to make money from the technology
- Bitcoin derivatives, Algo trading of HK options, Africa trading, Angel investing
- All online and open source – <http://www.bitquant.com.hk>

About me

- Background – Computational Astrophysics → Software Development → Quant at major bank → Angel investor
- Physicist of money

Cars and freeways

- Freeway – blockchain / etherium
- Cars – contracts
- I'm working on the car and driving over the old dirt roads

Use case

- Assets under management – HKD 3 million. Half in options trading. Half in angel investing
- Do not want to put it into banks or to buy property.
- Zero percent interest + pushes up the property bubble
- Want to move capital from property to SME's

Issues with SME lending in HK

- High transaction costs – Cannot recover costs with standard fixed interest rates
- SME's need flexible funding conditions
- Needs to be a debt based instrument
 - Private equity is hard to sell in HK
 - Manufacturing firms need working capital
 - Regulatory issues

Why smart contracts?

- Need to let borrower know the conditions of the contract
- Need allow efficient securitization and tracking
- Flexible financing – Alibaba problem

Smart contracts

- English common law
- Javascript
- Inspiration from
 - Derivatives technology in major banks
 - Islamic finance
- Legal issues
 - Where is the contract situated?
 - What is part of the contract?
 - How do you record the contract?
 - How do you execute the contract?
 - IP issues?

What the contract looks like

- The contract itself – series of payoffs in response to conditions
- The viewer – takes algorithm and displays it
- Explanatory notes – Explains the terms of the contract
- Execution
 - Digital fingerprint and two sheets of paper
 - Side agreement with borrower representing that explanatory notes are a good faith interpretation of contract

Loans issued

- Size of loan HKD 100k – All loans unsecured – Interest rates typically 15%
- Loan to holding company of startup who was finishing up degree. Interest only payment until employee was employed
- Loan to company to fund purchase and equipment from Shenzhen. Interest only with balloon payment
- Loan to company to fund Kickstarter campaign. Loan became due immediately if Kickstart campaign hit a certain level
- Cash advance against high technology grant from Hong Kong company

Regulatory issues

- SFO exemption – Private placement and private equity exemptions and not a structured product
- MLO exemption – Import and export transaction exemption
- Seeking money lenders license to allow advertising
 - Police objection – You working from a co-work space
 - Our counter-objection – Police policy does not take into account technology and social changes and as this impacts Hong Kong's role as international financial center, this is not valid under Basic Law 109
 - Case pending before Magistrate's Court

Regulatory Challenges

- Bank compliance for investors!!!!
- HK regulation is very, very good
- HK regulators are very, very good once you understand their mindset
- Big problem – Communications and cultural issues
 - Systems that work for big banks don't work for SME's
 - Bureaucracy sees their role as umpires and not cheerleaders / mentors
 - Lawyers see their role as moderators and not cheerleaders / mentors
 - SME's are timid and frightened of bureaucracy and there are no good lines of communication. Also very easily frustrated which turns into anger
- Case study – How the SFC unintentionally killed crowdfunding in HK with May 2014 circular
- Payments System Ordinance – improving communications

Communications issues

- Lawyers, regulators, and technologists need to find way of interacting
- Computer programmers often have odd ideas about how law works and why things are the way they are

What next

- Think through insolvency and near insolvency issues and amendment process
- Work on regulatory issues – MLO license / Payment systems ordinance / more discussion
- Beta testing and bug fixing
- Work on user interface
- Find funders and people to use this technology
- Change the culture!!!!
- MAKE MONEY!!!!