

Smart Contracts in Practice

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

About me

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

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 loan conditions
- Needs to be a debt based instrument
 - Equity is unsaleable in HK
 - Manufacturing firms need working capital
 - Regulatory issues
- Need mechanism to be able to package loans for resale
- Need borrower to understand the terms of the loan

Build the car before you build the road

- I can't wait for a platform. The companies need the money now
- The contracts have to be usable independent of the platform

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?

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
- 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!!!!
- 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
 - Lawyers see their role as moderators and not cheerleaders
 - 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

Grumpy comments on smart contract platforms

- This slide is unnecessary for this audience!!!!!!
- A platform based business model will not work as a substitute for ordinary commercial agreements
- One reason that smart contracts have not taken off is that they are not addressing real issues
 - Contract law is not complicated or inefficient
 - Contract enforcement does not depend on governments
 - Overuse of automation
 - Restrictions that make the contracts unusable – i.e. escrow
- Reinventing the wheel
 - DAO's already exist. They are called SPV's and were critical in the creating the 2008 financial crisis

Complete automation increases inefficiency

- This is also an unnecessary slide!!!!
- Vending machine problem
- Breach of contract calculations
- Overspecifying irrelevant details.
Underspecifying important ones.

What next

- Think through insolvency and near insolvency issues
- Resolve regulatory issues
- Beta testing and bug fixing
- Work on user interface
- Find funders and people to use this technology
- Change the culture!!!!
- MAKE MONEY!!!!

Hong Kong is going to lead in smart contract technology

- Very strong legal/finance background
 - Manufacturing
 - Maritime law
- ****Extremely**** favourable regulations
- Cross cultural/cross border issues
- Near centers of technology