The Secondary Market for Cryptos and Other Digital Assets: Regulatory and Technical Issues
THE BUILDING BLOCKS
OF SECONDARY MARKET REGULATION

cryptographic consensus technology (CCTech)

Syren Johnstone
Executive Director, LLM (Compliance & Regulation) Programme
University of Hong Kong
wanting to be regulated is not the same as being able to be regulated
traditional choke points of regulation: products, venues and acts

can be collapsed into the operation of code
"We are witnessing a time of significant innovation in the securities markets with the use and application of distributed ledger technology ... But to protect investors, this innovation necessitates the SEC's thoughtful oversight of digital markets and enforcement of existing laws."

8 Nov 2018, Steven Peikin, Co-Director of the SEC's Enforcement Division
“We are not yet sure that virtual asset trading platforms are in fact suitable for regulation. They are technically, structurally and qualitatively different from traditional stock and futures exchanges. Our aim here is to explore how they might be regulated and then form a more definitive view after this exploratory stage.”

1 Nov 2018, Ashley Alder, CEO of the SFC
regulatory building blocks are a precursor for effective granular regulation to develop

- integrity of ownership
- integrity of transactions
- issues related to account management
- proof of ownership to public audit standards
- custody and segregation
- how record keeping is to be undertaken
- how exchange regulation might work
- ability to assert market transparency and market abuse protections
- how money laundering risks are to be addressed
- other minimum standards
the best way to establish effective regulatory oversight may be to make it attractive

Regulating Cryptographic Consensus Technology: Oxymoron or Necessity?”
https://ssrn.com/abstract=3264556

(short version) How can blockchain and other consensus driven cryptographic technology be regulated?
https://ssrn.com/abstract=3278403

syrenj@hku.hk
09:30-09:40  syren johnstone: opening remarks

09:40-10:30  pindar wong: technical issues & opportunities
panel: andrew davidson, antony lewis, henri arslanian

10:40-11:30  dave chapman: crypto exchanges
panel: pindar wong, andrew davidson, tony lai

11:40-12:45  bénédicte nolens: regulating a secondary market
panel: henri arslanian, paul li, antony lewis

12:45  closing remarks
CHATHAM HOUSE RULE

You may not quote or cite speakers or panellists by name or affiliation except with the express permission of that person.
CCTech Asset Markets

Technical Issues and Opportunities:
A New Financial Architecture for Transnational Trading?

The Secondary Market for Crypto and Other Digital Assets
Regulatory And Technical Issues
The University of Hong Kong
Slides here: https://tinyurl.com/cryptomarkets

pindar.wong@gmail.com
November 27, 2018
cc by nc 4.0
What are these?

Policy

Technology
Regulation of CryptoCurrencies
Initial Coin Offering (ICO)
Utility Tokens
Security Tokens
Tokenization of 'Everything' etc.

Take The Duck Test

1. Does it have a beak?
2. Does it have webbed feet?
3. Does it live in water?
Cryptowinter? CryptoCurrencies 2081 vs 180

‘Irrational Exuberance’  
Now an opportunity for a thoughtful pause …  
E.g. What is  
- Better,  
- Faster,  
- Cheaper,  
- Safer or  
- Not possible … 
in the existing financial architecture and ecology of intermediaries?

15,687 markets ... online!

Irony: Crypto Complexity -> More Intermediaries?

Source = Coinmarketcap.com  
...and better metrics than marketcap
Imagine

Every Company’s a ‘Public Company’

1. Real-time Audit
2. Micro-shares
   Crypto-Capitalization Table
3. Dividend ‘Streaming’

Using

Decentralized Exchange Protocols
Source: Union Square Ventures ‘Fat Protocols’:
http://www.usv.com/blog/fat-protocols
Post-Internet Era: Rise of the ‘STUPID Network’

Post-Bitcoin Era: Rise of the ‘SLOW Network’
The Technical Issue(s):

Scaling

The Technical Opportunity:

UX
Digital Cash: Layer 2: Off-Chain Payment Channels
Lightning Network (500 tps / channel)
32,000 Channels = 6 million tps! (1 terabyte block equivalent)

Digital Gold: Layer 1: On-Chain and Consensus Critical
Bitcoin (3-7 tps -> now with segwit = 14-15 tps)

Scaling and Standardization on Layer 2: Non-Consensus Critical
Basis of Lightning Technology (BOLT), tps = transaction per section
https://github.com/lightningnetwork/lightning-rfc/blob/master/00-introduction.md
Law and Borders

The Limits of International Law

1. Effective and
2. Credible Enforcement

Problem = Lack of Cross-Border Trusted 3rd Party
Solution = Blockchain Technology
Topology Over Geography
Legal Certainty “Rule of Law”

Cryptographic Certainty “Rule of Code”

The Opportunity:
- Liquidity + Stability
- Cross-Border / Transnational Trade + Automated Dispute Resolution
- Code Audit and Security Review
- Cryptographic Custody Mindset: The Key is the Key
Remember ... What are these*?
Technical Resources

Bitcoinedge.org

- [https://www.youtube.com/channel/UCywSzG1WWcUG1sTnp45YdPUQ/videos](https://www.youtube.com/channel/UCywSzG1WWcUG1sTnp45YdPUQ/videos)

- [https://scalingbitcoin.org/](https://scalingbitcoin.org/)
10 min break
About Myself

Dave Chapman
Founder of OAX Foundation, Executive Chairman of OSL & Chief Executive Officer of ANXONE

14+ years of experience managing large global teams at HSBC, Credit Suisse, Barclays Capital, ABN AMRO and Bear Stearns

OAX
OAX Foundation exists to develop and promote collaboration and participation in digital asset exchange.

OSL
Asia’s leading digital asset brokerage, providing a suite of institutional products and services including OTC trading, systematic RFQ trading, bespoke token services and a growing range of institutional trading solutions.

ANXONE
A leading full service provider of white label digital assets trading platforms with best-in-class infrastructure, services and technology.
CONTENT

1. Introduction to Crypto Exchanges
2. Different Exchange Models
3. Regulations
4. Barrier to Entry
5. Investor Perspective
Overview of Crypto Exchange Operations

Customers

1. Operation Bank Accounts
2. Digital Wallets

Deposit / Withdrawal Layer

3. Ledger Update

Trading Layer

Buyers / Sellers matched.
Ideally exchange has no market risk position.

Strictly private and confidential
The History of Crypto Exchange and the Hacks

- **2008**: Satoshi Nakamoto released whitepaper of Bitcoin
- **2009**: First decentralized cryptocurrency released
- **2010**: Bitcoin market cap exceeded USD 1 million
- **2011**: The Mt. Gox Hack with 500,000 BTC
- **2014**: The Mt. Gox Hack with 850,000 BTC
- **2018**: USD 1.7 Billion-worth of cryptocurrencies lost to hacks and scams between 2011 and 2018
Comparison of Different Exchange Models

Centralized Exchange

Pros
- High credit risk transparency
- Open source software
- High dispute resolution and competitiveness

Cons
- Hold customers’ private keys increasing counterparty risk
- Fragmented liquidity
- Lack of operational and financial transparencies
- Comprising a huge loss from hacks

Decentralized Exchange

Pros
- High liquidity and price discovery
- Good user experience
- Support on legal framework
- High dispute resolution and competitiveness

Cons
- Limited ability to batch trade
- Trade volumes comprise less than 0.1% of global exchange amount
- No integration of fiat settlement
Regulations

The exchange venues are now maturing, global regulatory opinions have evolved with the majority of relevant authorities working towards legitimizing and regulating digital assets going forward.

<table>
<thead>
<tr>
<th>Country</th>
<th>Regulation Framework</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York - BitLicense</td>
<td>BitLicense, the first crypto asset regulation framework, came into effect on Aug 8, 2015. All NY based crypto related businesses are under the regime and comply with AML/KYC regulations.</td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Hong Kong has provided support for Fintech, blockchain and crypto businesses and have even launched a blockchain sandbox.</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Japan, as the most crypto-friendly country, accepts bitcoin as a legal currency and regulates all digital currencies. Exchange owners are required to register and be licensed with the JFSA.</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Digital currency exchanges are required to register and comply with AML &amp; CFTF Act. Politicians from major parties suggested the Reserve Banks of Australia to recognize bitcoin and other digital currencies as official forms of currency.</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Regulators are regulating cryptocurrencies with a “regulate-and-embrace” approach mainly focusing on AML. Lawmakers in Quebec and Ontario have approved ICO trials and launched sandboxes.</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>Cryptocurrencies have been recognized as legal financial instruments under the law of Germany. Bitcoin Group SE (ADE:GR) and NAGA Group AG (N4G:GR) are both listing on German exchanges.</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>Singapore is positioning itself as a hub for cryptocurrencies with favorable regulation. The MAS has issued guidelines on ICO’s and has proposed regulation for cryptos and other payment innovations.</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Lawmakers are discussing amendments to the AML regulation to include and legitimizing cryptocurrency exchanges, custodians and wallet providers.</td>
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</table>
Barrier to Entry

01 Lack of crypto custodian

02 Lack of regulatory clarity

03 Volatility
Thank you.

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10 min break
closing remarks

for questions related to the conference

syrenj@hku.hk