

Cryptocurrencies & traditional financial services

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What are we talking about?

Token Coin

Bitcoin, and many other
cryptocurrencies (50+)
Focus on Bitcoin for now

New business model
Way to incentivize
technology development
A way to promote
innovation to create value

Protocol

Way to carry value,
information, intellectual
property, assets
Ethereum, Ripple,
Mastercoin, Coloured Coins

Potential next generation
technology in new finance
SWIFT 2.0, FIX 2.0, new
contracts, issues etc
Distributed public ledgers,
decentralized asset registers

How are Bitcoins traded today and what are the challenges?

State of Markets

- Traded at a variety of venues; exchanges all over the world, between individuals at cafes etc.
- Mostly traded between: individuals, miners, merchants, merchant services providers
- Traded mostly for speculative reasons

Challenges

- Relatively limited participation
- No consumer protection rules / Limited regulatory clarity
- Limited ability / desire to leverage existing infrastructures
- Limited products
- Limited understanding of use cases – distributed public ledger
- Ongoing understanding of open source, decentralized development
- Home-grown approach to workflows

Focusing on market capitalization, trading volumes and volatility is not as relevant as the developing the ecosystem

Better Market Structures – Basic Principles

Route from markets at infancy to more developed markets

Marketplaces

Infrastructures
Clearing & Settlement
Intermediaries, Market
Participants
Uniform Governance & Rules
Products

Shared Infrastructures
Better Access Mechanisms
Choices in Market Models
Diverse set of Clients
Competitive Fee Structures

LSE - coffee shops
NYSE – Buttonwood Tree
Bitcoin – Early Exchanges

Clearing Houses, Central
Settlement Depositories
Data providers
Brokers
Regulation, OTC rules
Derivatives, Lending

Smart Order Routers
Block Trading Facilities
Transaction Cost Analysis
HFTS, Retail, Institutions
More Trading Strategies

Reduced frictions, more choices, better risk management

Near term improvements to Bitcoin markets

- Auditable governance – decentralized!
- Seek clarity in regulatory infrastructure/build market best practices
- Improved custody/wallet/escrow services
- Institutional products: Spot, derivatives marketplaces to service institutions, miners, merchants, and high net worth individuals
- Leverage existing network infrastructures/STP flows
- Leverage existing know-how of controls: AML/KYC/Credit/Custody/Security
- Leverage existing know-how of platform management

What do I see at the Bitcoin technology? (nevermind B & b)

- Financial Services is built on ledgers - change of ownership, AML/KYC etc
- Bitcoin protocol provides transparency! – good for regulators but also clients
- Fits well with existing decentralized markets networks – e.g. FX markets, OTC derivatives
- Notion of “trustless” is very similar to “neutral” – like in markets
- Resilience and security are key requirements in financial markets



Cryptocurrency technologies are likely to be the future infrastructure for financial services

What makes me think that this is possible?

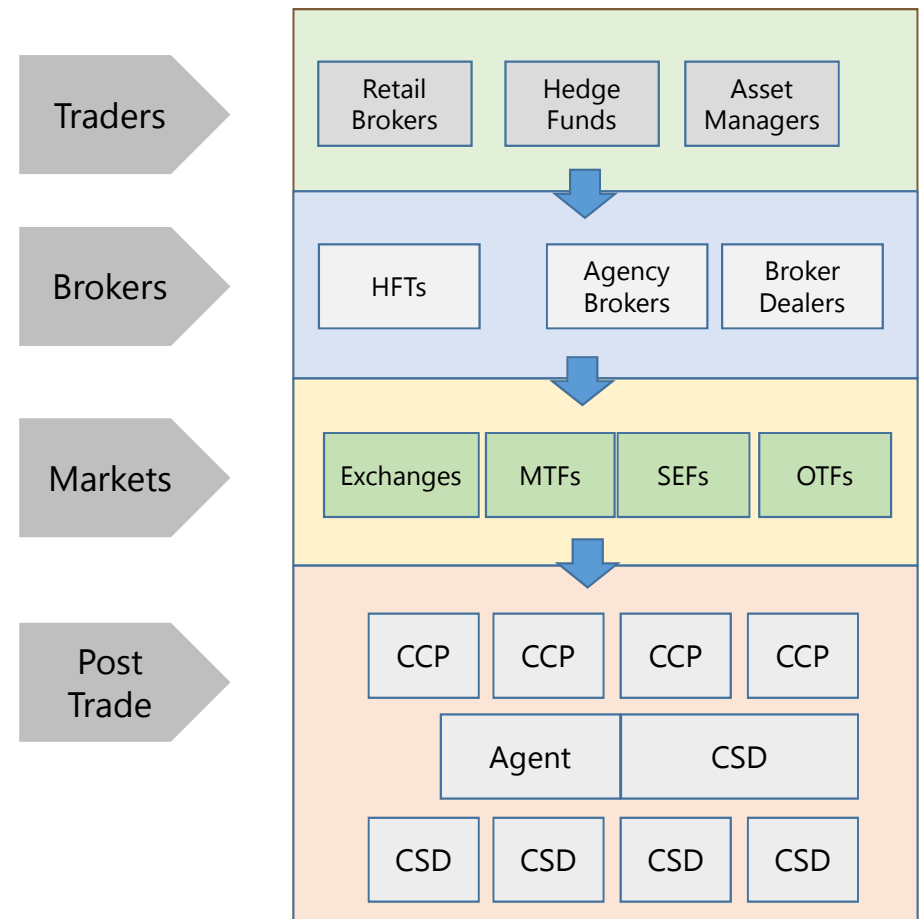
- This has been done before! We will not be re-inventing the wheel
- Financial services has built major infrastructures and drastically improved them later with new technologies, ways of doing things
- And it is the right time!

What do I mean? Introduction of electronic trading

- Late 60s, institutions started trading between each other through automated systems in the US
- Late 70s, NYSE Stock prices were visible on electronic screens
- In 80s, clients could access US markets electronically, new market models, such as crossing at certain times were introduced. Similarly in the UK with Big Bang markets became electronic
- In 90s, more electronic systems and new markets were introduced – with that came FIX messaging protocol
- Automation/electronification of markets expanded globally and across asset classes
- Similarly, markets had a variety of new regulations; including order handling rules, Regulation NMS and MiFID; were introduced to regulate these developments
- These developments resulted in new businesses like electronic, algorithmic trading, high frequency trading; introduction of competition to traditional exchanges, new analytical tools

Some of these markets look like this

- They are interconnected
- Decentralized, but controlled by institutions
- Communicate through standards such as FIX and SWIFT
- They store, transmit, match "information"
- Developed based on introduction of technology to our lives
- At the time of point to point systems, trust is with banks, brokers, CCPs
- Replaced segregated, disconnected systems, monopolies, and telephone



What about other areas?

- Companies raise funds through listing their stocks, bonds etc at public markets
- Access to information about the companies is important for investors; research, data etc
- Access to a wide variety of products is important; e.g. ETFs, derivatives, custom indices etc
- And of course, there are many more areas in financial services; like payments systems but these are out of scope here

What is next generation in financial services?

- New peer-to-peer structures are emerging, e.g. alternative lending
 - New distribution mechanisms are emerging, e.g. financial inclusion
 - Unnecessary intermediaries are being removed through new processes via leveraging technology
 - Capital is scarce and effective capital management is a must
 - Extension to existing businesses, distribution mechanisms are emerging, e.g. crowdfunding
 - Regulators and clients are demanding transparency
- ➔ Bitcoin/cryptocurrency technologies is an excellent candidate to be the infrastructure of future

What is the challenge for Bitcoin protocol here?

- Some of the transactions/processes in financial services need to be rather fast
 - Some of the transactions/processes in financial services need to be very accurately time-stamped
 - Some of the financial services organizations may need to control their own networks, or know who is in the network
 - Regulatory framework for all the innovative solutions may not be in place or may not be global
 - Financial infrastructures have many interfaces and gateways
 - Risk management is key, from operational risk to counterparty risk
 - Some of the transactions/processes in financial services may need significant storage or bandwidth
- ➔ Bitcoin protocol needs to improve and until then we should look at a limited area for applications in financial services

Further Innovation?

- Start fully leveraging protocol's capabilities for redesign, drastic improvement of workflows, e.g. Contracts, signatures, issues
- Develop more shared global infrastructures
- Sophisticated multi-asset class strategies
- More sophisticated risk management products
- Creation of new markets