

Insurer Blockchain Strategy

Insurance has problems to solve... Can Blockchain do it?

Warning: speculative!

Say You Wanted to 'Do Some Blockchain'

- Adapt open source code and deploy your own chain.
 - Examples in insurance:
 - R3 – developer of Corda, a blockchain for insurers.
 - Risk Block – insurer consortium developing a blockchain.
 - Need to get nodes to run the code and incentivize miners to mine for nonces.
- Deploy a Smart Contract on an existing network (Ethereum).
 - Nodes (who process transactions) and Miners (who validate) are in place.
 - Code up your system with in a Turing complete programming language.
 - Fundamental tech research taking place on Ethereum.

So What Would You Get?

- A database..
 - List of transactions or variables and bytecode.
- ..designed to **prevent** central governance.
- To execute transaction (or change software), 'every' participant/node needs to agree.
 - The genius of bitcoin is that a majority consensus of compute power can produce a stable, reliable arbiter of truth
- This feature doesn't come for free:
 - Every node stores all data.
 - Every node runs every program.
 - Validation by mining is very, very expensive...

Speed and Cost of transactions

- Steve's laptop runs about 600,000 hashes per second.
- Bitcoin network hash rate is about 5×10^{19} hashes per second.
- Meaning bitcoin uses about 82,000 billion laptops of compute power
- To send about 7 transactions per second.
- So bitcoin uses about 1.4×10^{-19} of its compute power to actually do *the computational work*
 - *Bitcoin: validate and communicate transactions*
 - *Databases/ smart contracts: execute the code*

So, you just..

- Take a database..
- Slow it down..
- Duplicate the data 100x,1,000x,10,000x...
- Make it impossible to upgrade.

- **Why would anyone do this?**

Who Wants a Terrible Database Technology?

- Calling it a database is wrong. Blockchain is different.
- It is what it uses all that compute power for.
- Blockchain is a governance innovation. **A social innovation.**
- “You only need a blockchain if you don’t trust the Database”
--Britecore founder Phil Reynolds

Who Doesn't Trust The Database?

- When existing central authorities abuse their power:
 - Venezuela hyperinflation
 - Zimbabwe hyperinflation
- When you disagree with the policy choices of the authority:
 - Pegged currencies and capital controls (China, others..)
 - In 2016 India declared certain bank notes would no longer be legal tender
- Blockchain allows you to create a system and lock it in place.

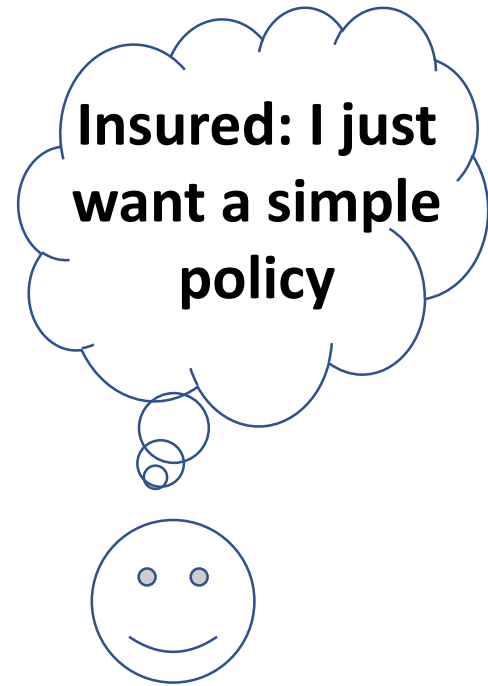
Worst Time to Invent Blockchain?

- Societal evolution = de-risking life.
- How often do we not trust a central authority? We live in an enormously high-trust society. 'things will be ok'.
- We develop institutions to solve trust problems as they emerge.

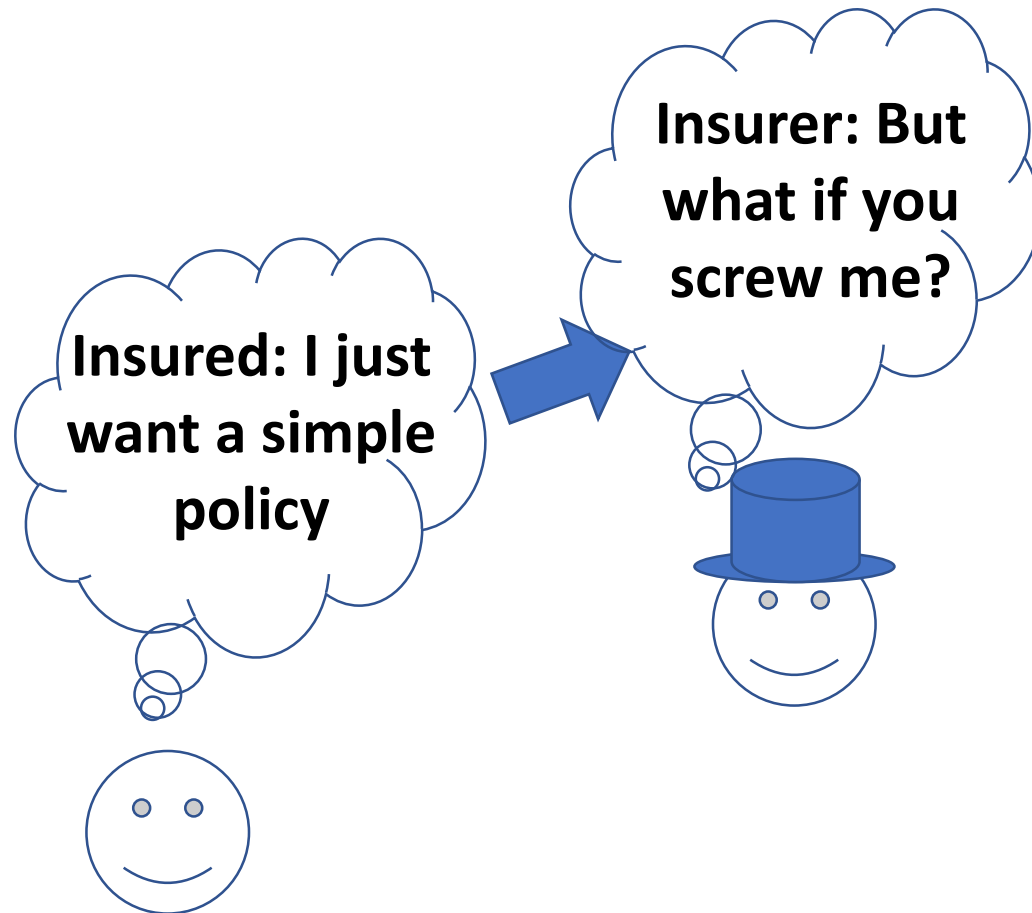
What About Insurance?

- A product produced and delivered in cooperation between:
 - Insurer
 - Insured
 - Agent
- Let's get together and promise to not screw each other over.
- SO much scope for lying in insurance.

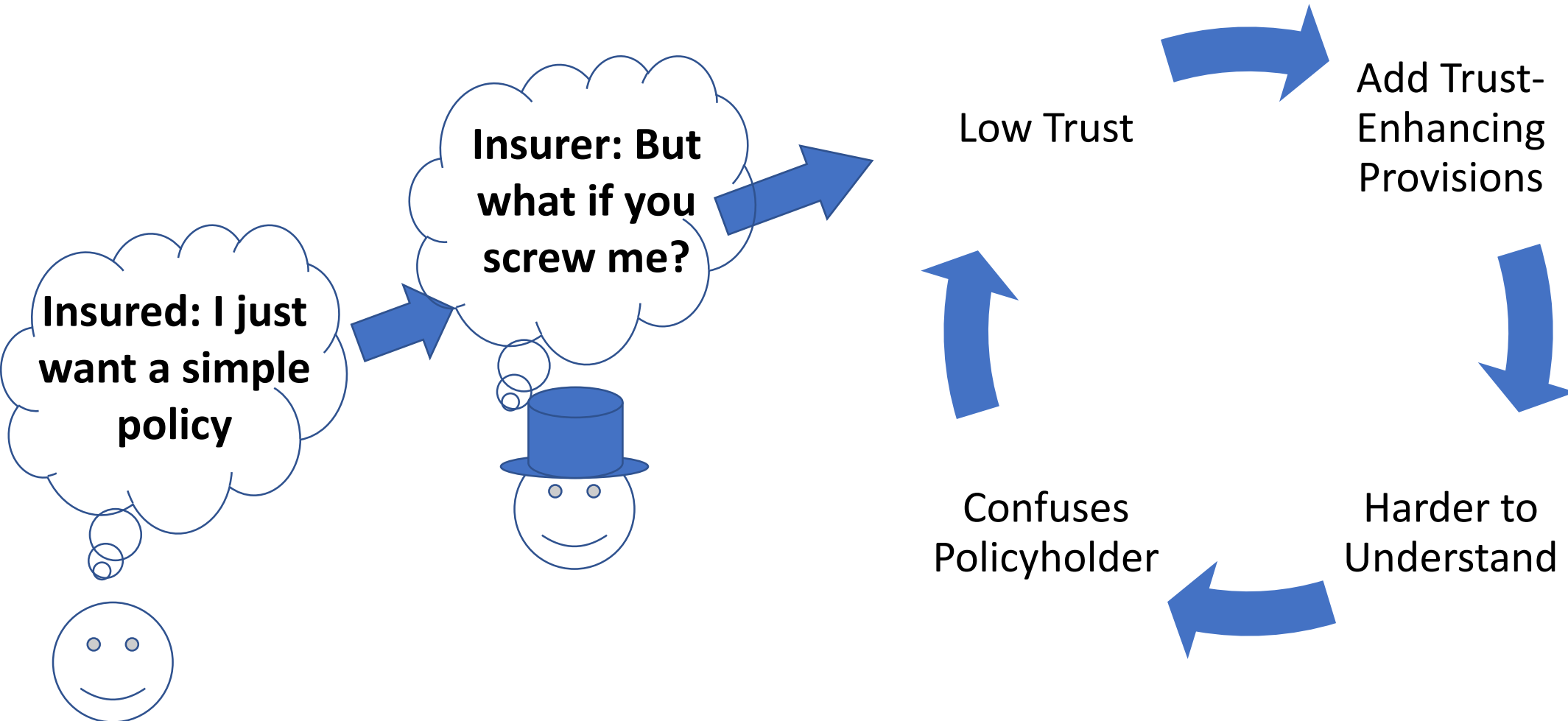
Where The Insurance Trust Problem Starts



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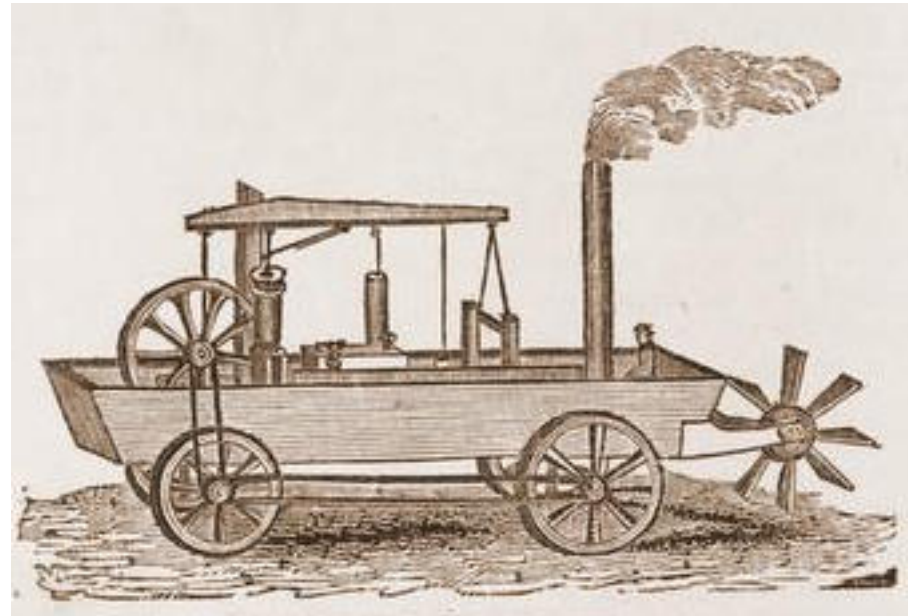
Insurance Trust-Enhancing Measures

- We have evolved norms and institutions to bolster trust:
 - Policy wordings and exclusions
 - Underwriting & Claims management
 - Regulators
 - Rate filings
 - Rating agencies
 - Reinsurance markets
- Trust is really between insureds and other insureds.
- Can blockchain really affect this trust problem? Open question

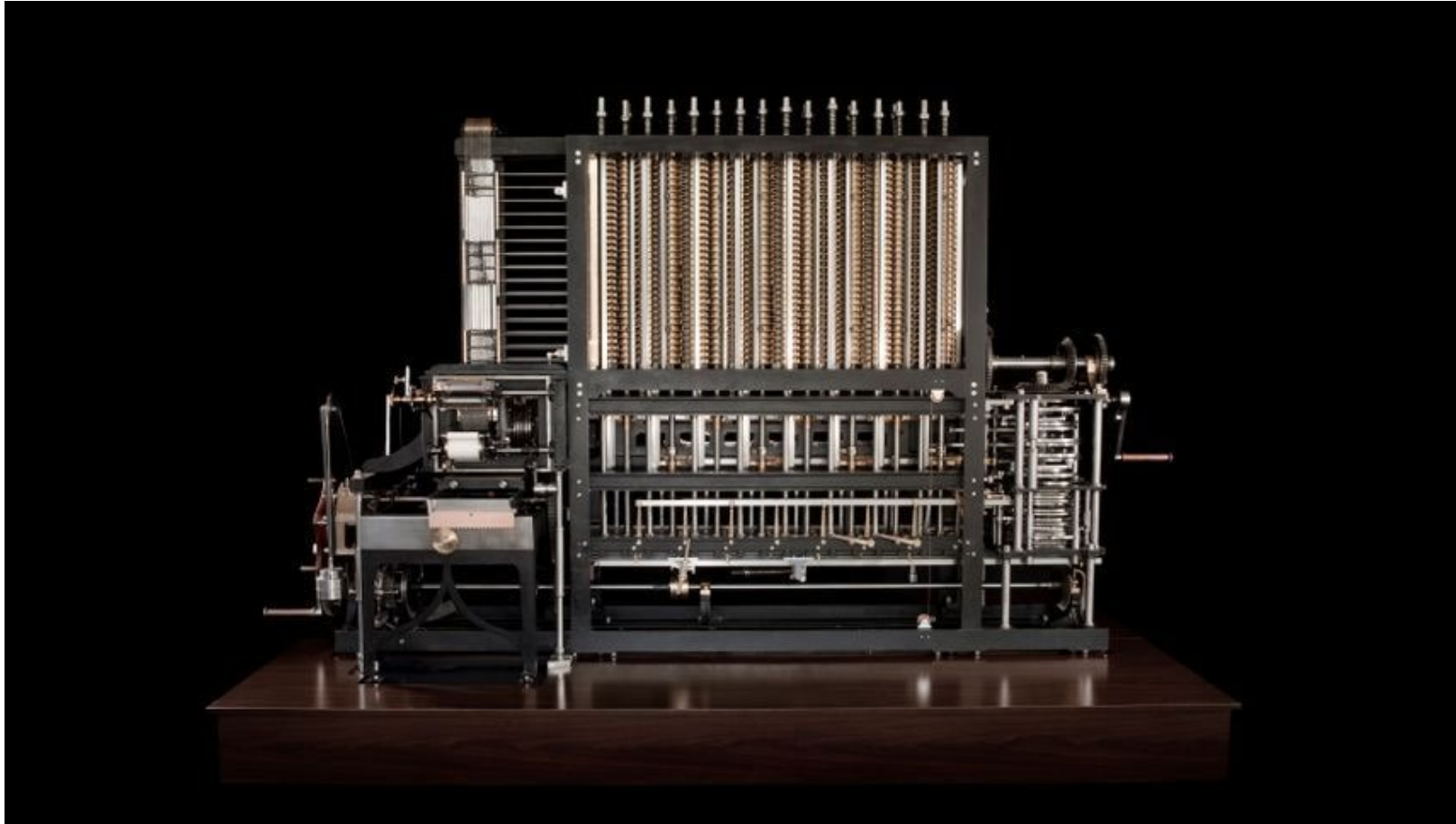
Some Insuretech Blockchain Businesses

- Etherisc – full insurance product development on Ethereum.
 - Policy and claims management systems
- Everledger – global diamond registry.
 - Database of exposures
- Teambrella – people insuring others with voting protocol on claims.
 - A governance innovation!
- B3i – industry-backed startup developing blockchain products.
 - Policy and claims management systems
- AAIS – developing openIDL for regulatory reporting.
 - Data exchange

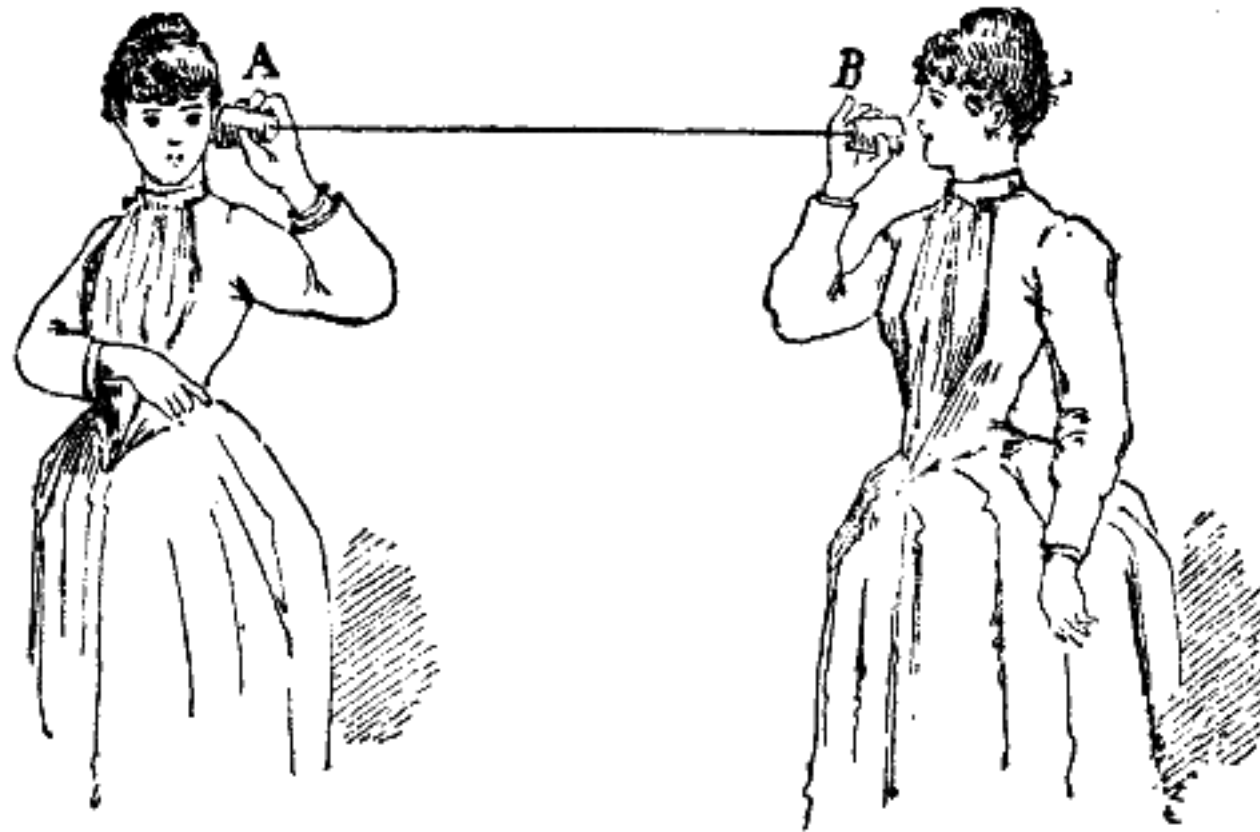
Automobile (1834)



Computer (Babbage Difference Engine-- designed 1853)



Telephone (1667 –Robert Hooke)



Smartphone (IBM “Simon” – 1994)



The Mutual (The first insurance innovation)

- Because the insured is part producer of the product, they should demand a cut of the profit.
- Mutual governance structure coordinates good behavior among insureds.
- Idea 1: Blockchains can improve governance!
 - Voting, immutable structure, constrained management.
- Teambrella is experimenting with insured operational control.

Quick Detour: Cryptocurrencies

- What if the real innovation is cryptocurrency? Can crypto currencies be adapted to insurance?
- Most common application “programmable money”, which has two features:
 - Automate the payment triggers (claims adjusting!)
 - Payments clear in minutes rather than days
- Automating adjusting would be revolutionary but does it require a cryptocurrency?

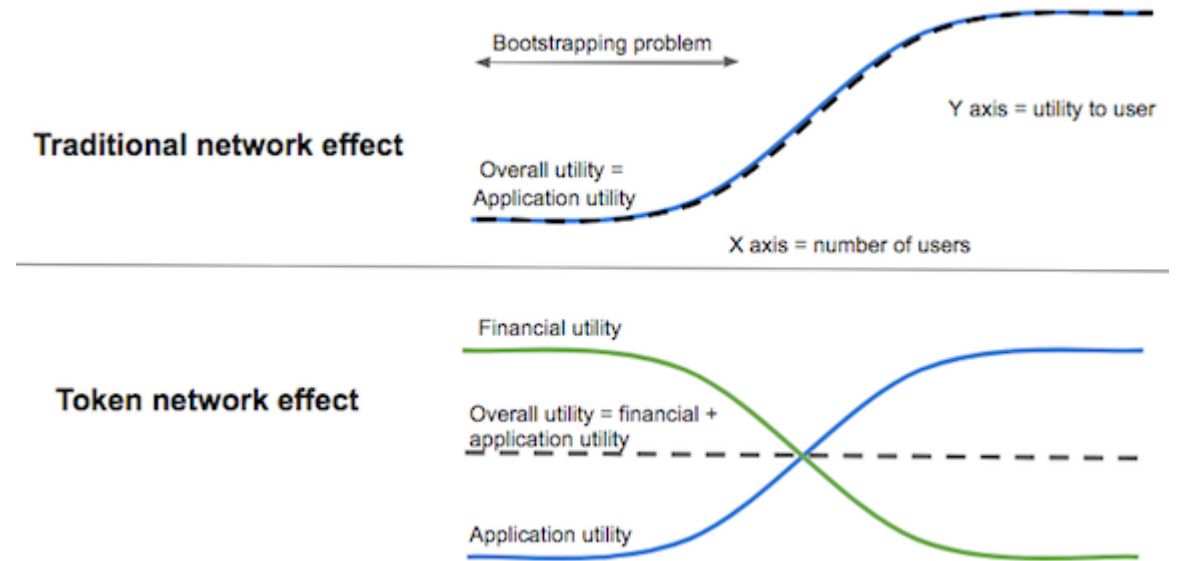
Coin Offerings Bootstrap A Network

- One model for currency valuations: supply and demand for network.

- Chris Dixon:

- “Token networks [incentivize] network participants to work together toward a common goal— the growth of the network and the appreciation of the token.”

- “Tokens are the natural funding mechanism for networks”



Insurers As a Network Technology

- Idea 2: insurers are networks (network = portfolio).
- Early on, insurer is small, has volatile losses and uncertain pricing.
- We already have a solution to network bootstrapping if you have appropriate pricing and distribution: reinsurance!
- Is a crypto-coin better than reinsurance for funding the network?

Bottom Line

- Insurance is a network product with trust problems.
- We have evolved norms and governance institutions to deal with these trust problems but they aren't perfect.
- Blockchain is a trust-focused technology, so could be highly disruptive.
- Two Blockchain ideas that *could* make sense:
 - improve governance of insurers by policyholders
 - Mutuels do this.. Isn't the problem just a lack of engagement?
 - Bootstrap a network via ICO
 - Better than reinsurance?