

DECENTRALIZATION 101

Meaning of decentralization and token economy

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DECENTRALIZATION

Decentralization

Confusion

“Token economy is fraud”

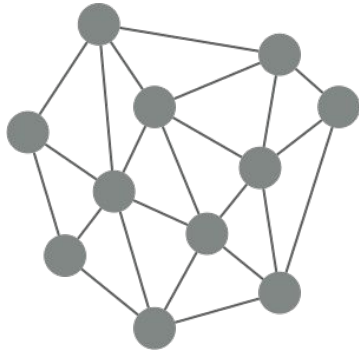
“Blockchain is revolutionary,
but cryptocurrency is useless”

“Decentralization is inefficient”

“Anti-censorship is the only value
that decentralization provide”

Decentralization

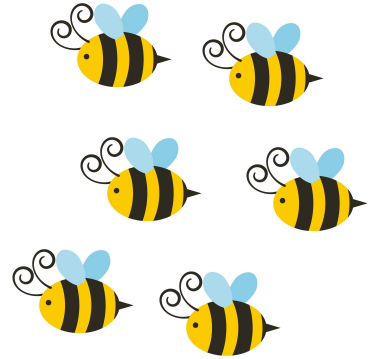
Vitalik Buterin's decentralization



Architectural

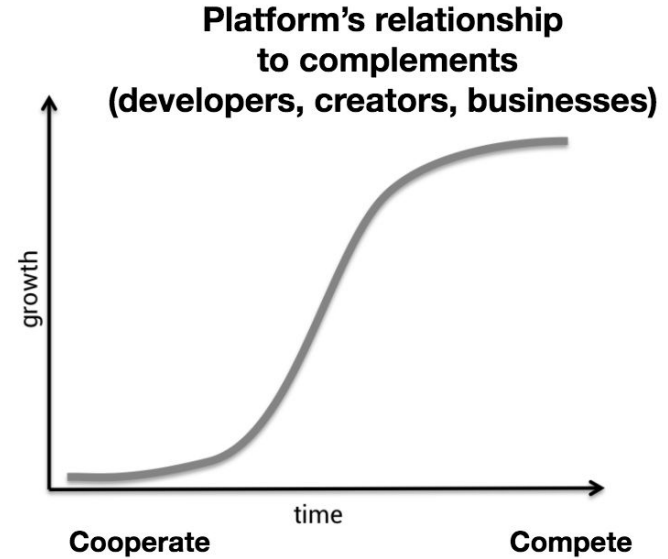
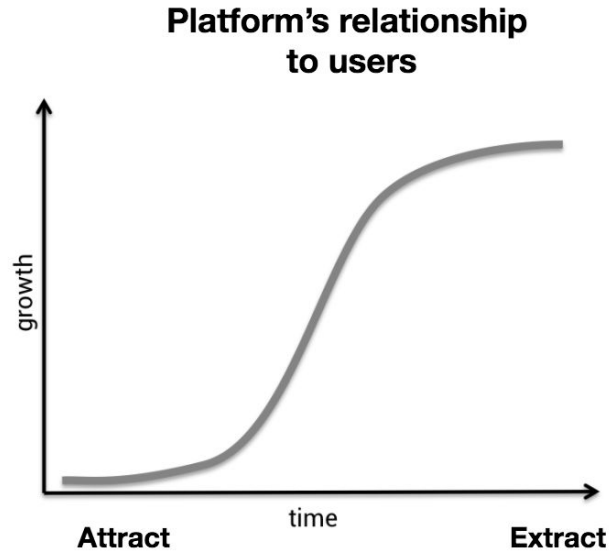


Political



Logical

Chris dixon's decentralization



All about consensus

Alice gave
1 BTC to Bob

Fact

Mining reward
should be 0.1 BTC

Norm

Checklist

- Open source & Data
- No central authority
- 3rd parties
- Operation incentive
- Permission vs Cost
- Community: Investors, developers and users

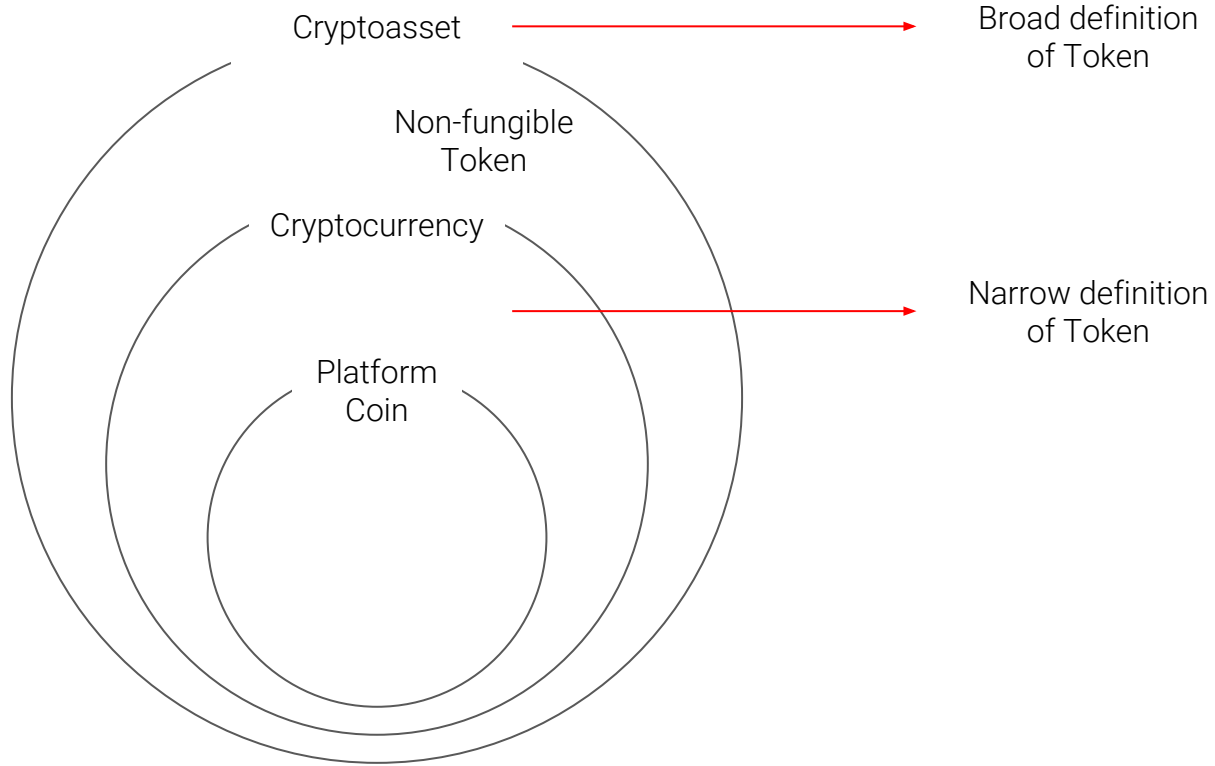
TOKEN ECONOMICS

Token economics

What is a token



Token category



What's the difference?

Token Economy

Token Economics

Token Model

Crypto Economics

Utility and Scarcity

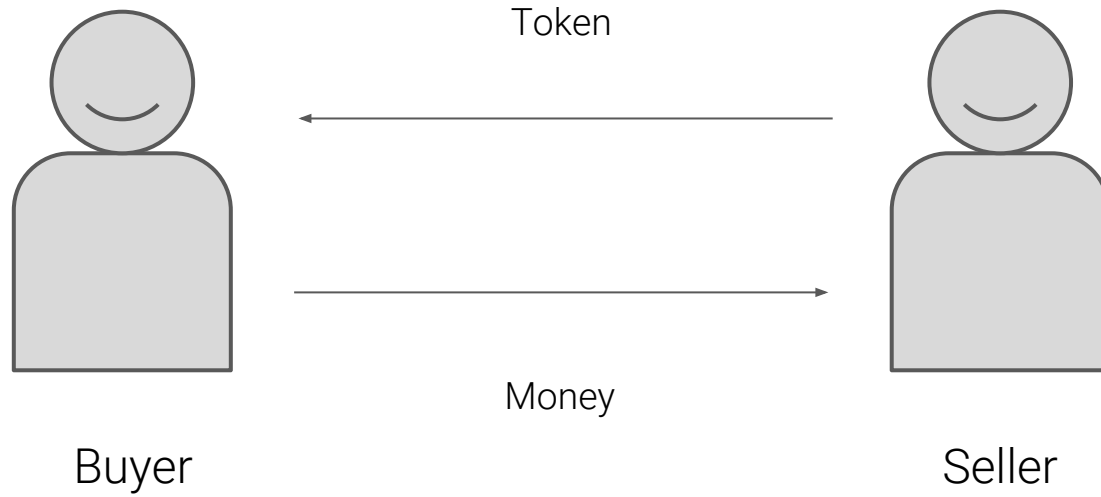


Utility
Scarcity

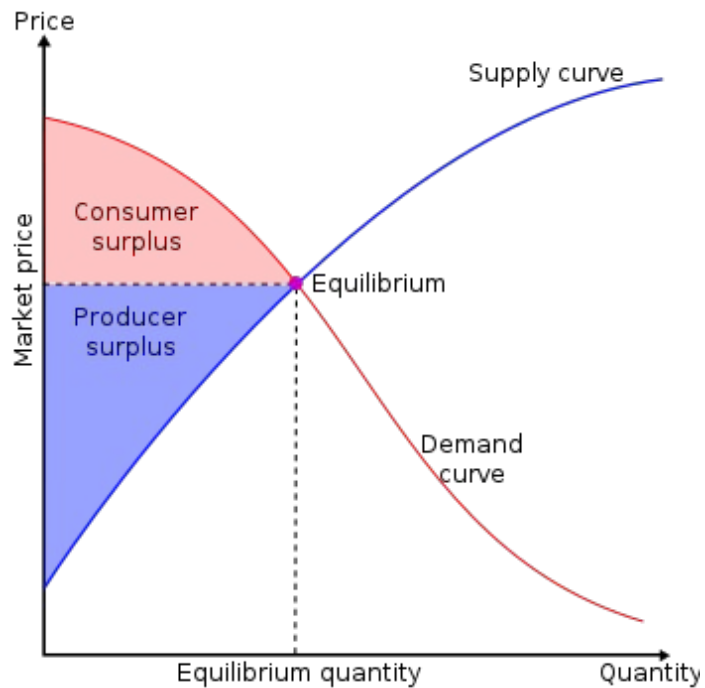


Scarcity
Utility

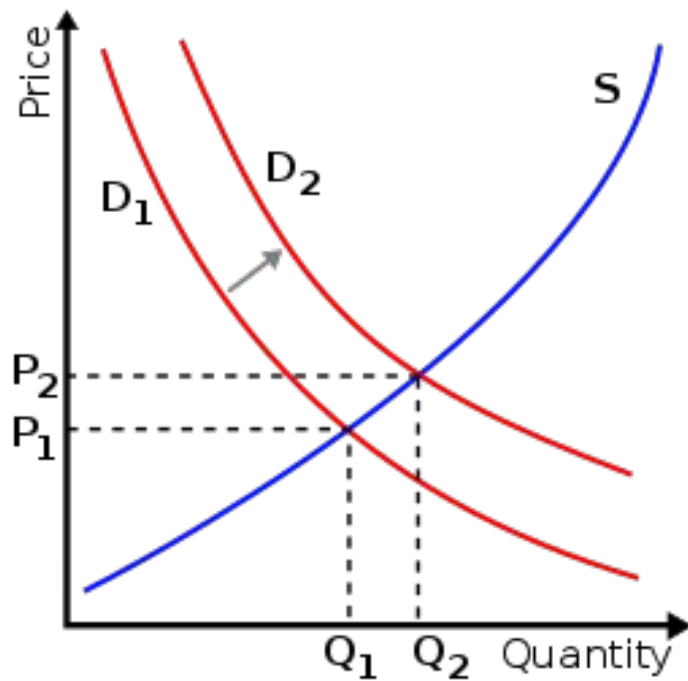
Gains from trade



Economic surplus



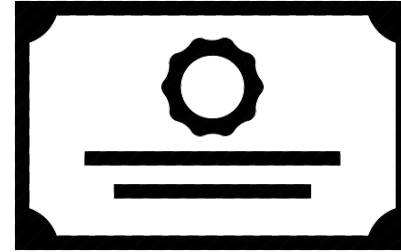
Supply and Demand



Type of token: easy version



Utility token



Security
token

NETWORK EFFECT

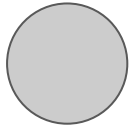
Network effect

Direction of effect

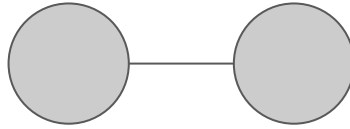
Positive: Having more friends in messenger

Negative: Having higher latency in messenger

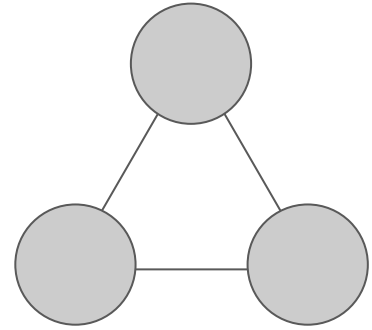
Definition



$N = 1$

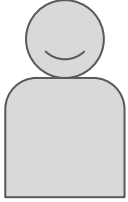
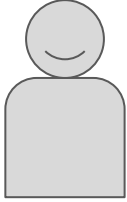












$N = 2$



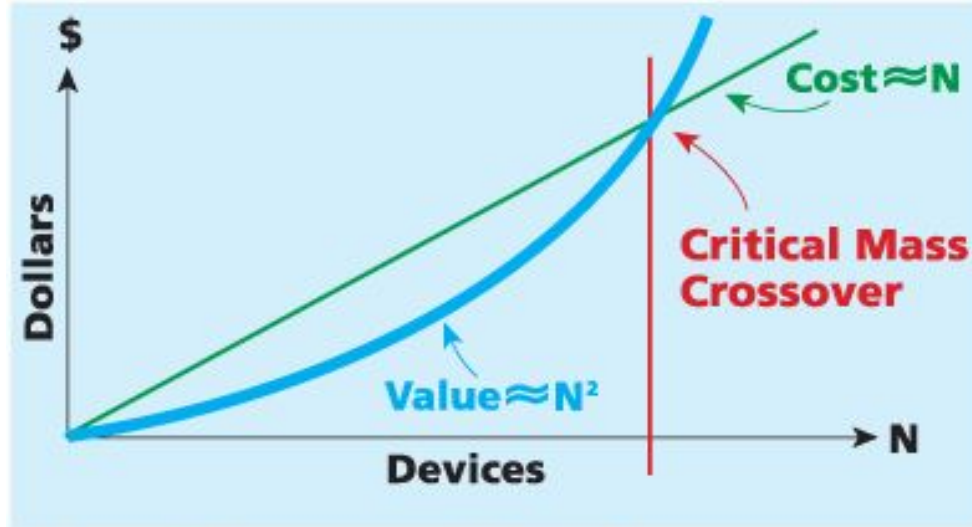
$N = 3$

Network effect in MoE

					Utility of 1 token	Network Value
Scenario 1	 X 4				v	$4v$
Scenario 2					$v' > 4v$	$4v' > 16v$

Network effect

Metcalfe's law



Criticism of Metcalfe's law

Per-user utility added by user growth

	100,000 to 10m	100m to 1b	990m to 1b
Multiplier	100x	100x	1.01x
N x N	Around 10m	900m	10m
NlogN	2	2	0.004

Externality



Network effect

Assumption



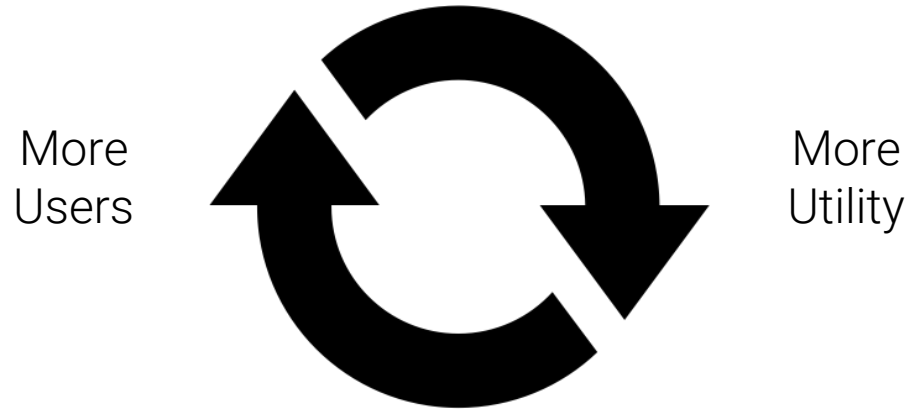
Network effect

Good token model

“ Internalize externalities
to maximize total utility of the network ”

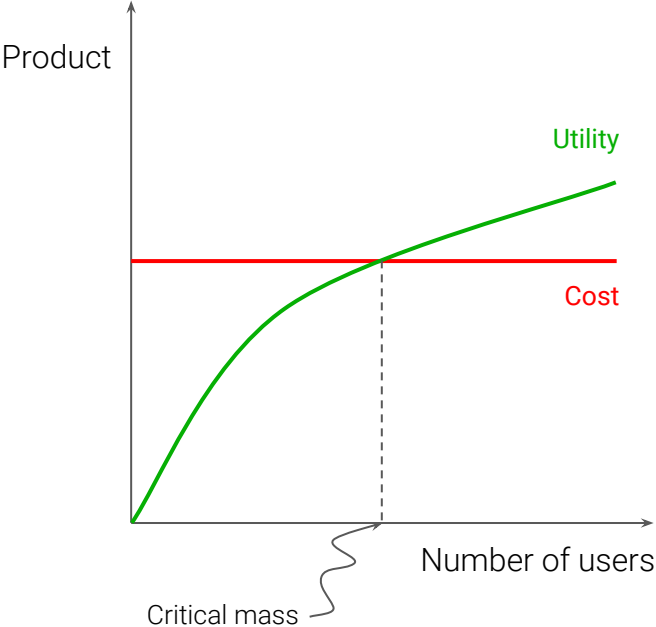
Network effect

Positive feedback loop

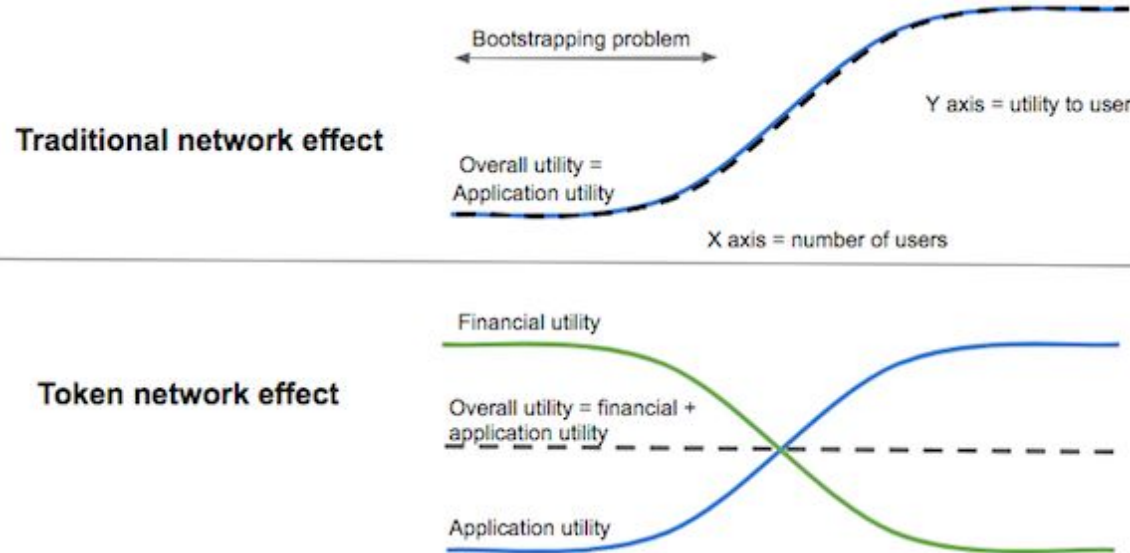


UTILITY TOKEN

Bootstrapping problem

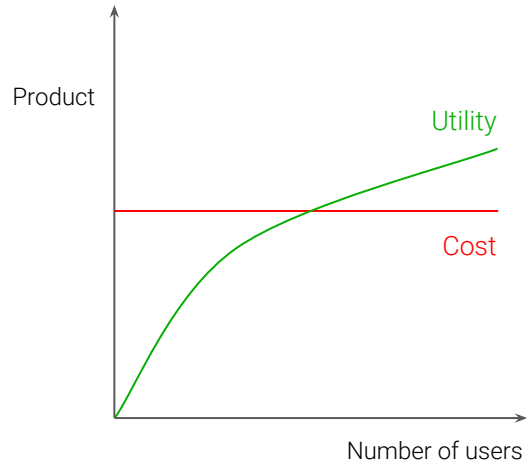


Bootstrapping in Token network

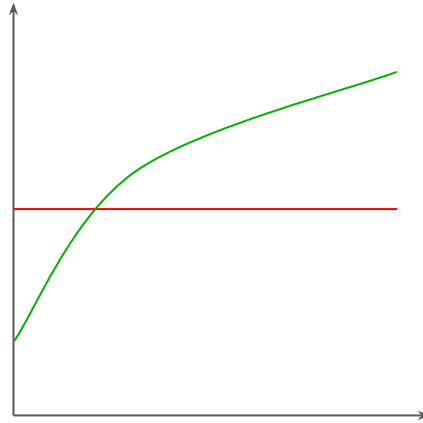


Utility token

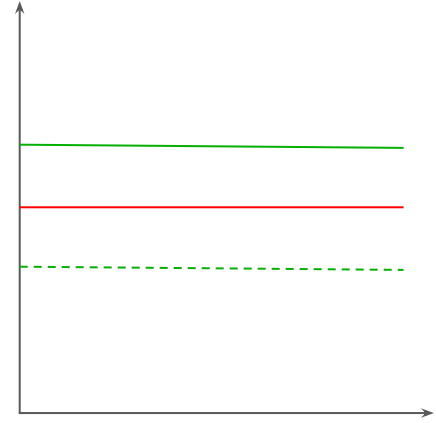
Microview on Bootstrapping



A. Traditional network model



B. A + intrinsic value



C. Token-based network model

Utility token

Quantity theory of money

$$MV = PQ$$

M = size of asset base = market cap

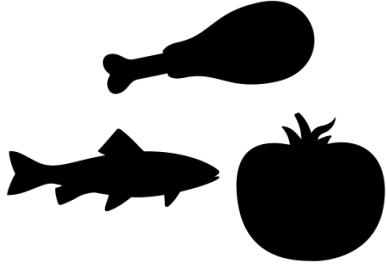
V = velocity of the asset

P = price of transaction

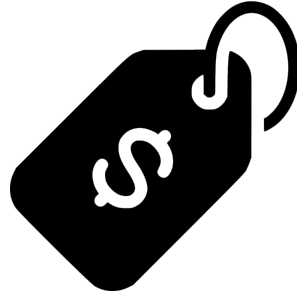
Q = quantity of transaction

Utility token

Maximize GDP of platform



Type of
transaction



Value of
transaction



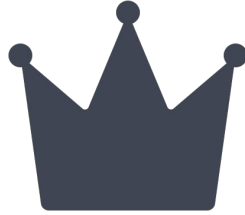
Frequency of
transaction

Utility token

Minimize velocity of token



Minimum level of
price appreciation



Royalty



Staking
mechanism