

How do private digital currencies affect
government policy?
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Discussion by Gur Huberman
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Agenda

- The model's background vision & relevance
- Digital currency governance & its implications
 - Single/streamlined control
Vs
Protocol guided/controlled
- The model's main findings

Context

- A corrupt regime
- Presumably W/O much credibility

Creates (?)

Welcomes (?)

Tolerates (?)

PRIVATE DIGITAL CURRENCY

Territory, Time Frames

- Single period
- Territorially, political & monetary regimes identical

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Typology

**Private Decentralized
Digital Currency**



**Private Centralized
Digital Currency**



**Public Decentralized
Digital Currency**



**Public Centralized
Digital Currency**



Private Digital Currencies

- Control? Regulation?
 - Who controls balances/transfers? Identities? Disputes?
- Territorial relevance? Is it an international currency?
- Temporal relevance?
 - How do you start the digital currency?
 - How do you stop it?
- If used to evade capital controls, is it welfare enhancing?
- The mechanism that confers credibility & value on the digital currency?
- Bitcoin is one model.

If a Trusted Party is Necessary...

- It has some control/discretion

=>

- Can extract rents
- Can adapt to changing circumstances

Economics of the Bitcoin Payment System

Gur Huberman, Columbia Business School

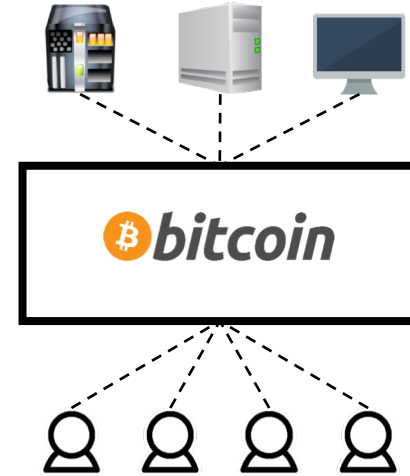
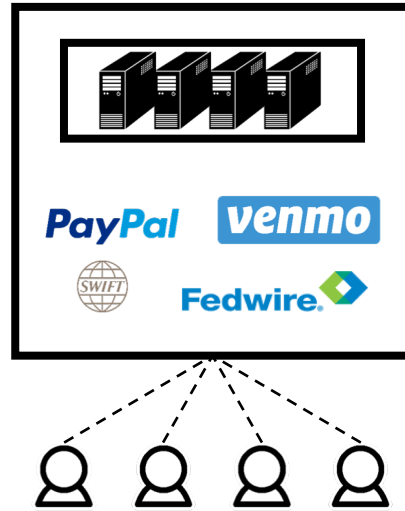
Jacob D. Leshno, Chicago Booth

Ciamac Moallemi, Columbia Business School

Cryptocurrencies

- Decentralized Electronic payment systems
 - Bitcoin being the first, many other followed and offer different functions
- Decentralized, two-sided markets
 - Users receive similar services to PayPal, Fedwire; Miners provide infrastructure
 - Security and Market design enabled by blockchain protocol
- Novel economic structure
 - Owned by no one
 - Rules fixed by a protocol
 - Participants are price-takers

Traditional Payment Systems vs. Bitcoin



Rules	Set by firm/org	Fixed by protocol
Infrastructure	Procured by firm/org	<i>Revenue, entry/exit</i>
Revenue	Fees set by firm/org	<i>Equilibrium congestion pricing, all agents served</i>

Protocol Rules, No Policy Discretion

- Even when circumstances change

Two & a Half Constituencies

- Users – send TXs
- Miners – provide computing infrastructure
- TX recipients – confer value on the coin

Miners are Crucial

- Must be compensated – in native coin
- Native coin loses value => miners quit => system collapses
- Should the model incorporate this possibility?

No Trusted Party

=> Crypto, or Protocol-governed

- =>
- Commitment to rules
- Rules are hard to change even when circumstances change

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Main Finding 1:

Digital currencies enhance citizen welfare

- **Risk Reduction**
Non-positive correlation with local economic risks provides investors with a diversification opportunity
 - Who is supplying the digital currency & is on the other side of the diversification position?
 - Is the digital currency the issuer's liability?
- **Restrained Monetary Policy**
The difficulty of excluding digital currencies from the market reduces gains from seigniorage, thereby inducing lower inflation
- Difficulty of exclusion?
- E.g., Outlaw wiring money into/from exchanges

Main Finding 2:

Digital currencies encourage local investment

- **Diversification**
Digital currencies serve as a hedge asset, thereby facilitating investment in high-risk economies
- In what sense are currencies an asset? If we make more, are we wealthier?
- **Credible Commitment**
Digital currencies facilitate a credible commitment to disciplined monetary policy, thereby enhancing expected returns from local investment
- Can terms of digital currencies adapt as circumstances change?

Main Finding 3:

Digital currencies may be desirable for corrupt sovereigns

Desirable also for non-corrupt sovereigns?

Who is corrupt? Who is to say who is corrupt?

Where's corruption in the model?

- **Local Investment**

Increased local investment yields higher tax revenue (holding tax rates constant)

- **Higher revenue to the corrupt is good?**

- **Welfare Gains**

Digital & original money side by side?

Foregone network benefits of a single money?

Model: Assets

- **Local productive capital**
 - Taxable
 - Proxy for local investment
- **Private digital currency**
 - Untaxable (reflects enforcement difficulty)
 - Non-positively correlated with local economy

Source of (negative) correlation?

Source of value fluctuations?

- **Unproductive capital**
 - Zero real return

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The Stuff Dreams Are Made Of

- A small sliver of the population understands blockchain technology well enough to engage in fierce, esoteric debate over the meaning and relative importance of various ideas and terms.
- At the highest levels, everyone practices a kind of obscurantism, unwitting or otherwise.
- Elsewhere, people fake it.