

Trust in crypto-currencies?

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Trust in crypto-currencies?

What is trust in money based on?

Trust in crypto-currencies?

What is money?

Trust in crypto-currencies?

For an answer, turn to economics!

Trust in crypto-currencies?

For an answer, turn to economics?

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Standard (macro)economics:
Functions of money.

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Standard (macro)economics:

Functions of money:

- Medium of exchange
- Unit of account
- Store of value

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Standard (macro)economics:

Functions of money:

- Medium of exchange
- Unit of account
- Store of value
- Means of deferred payment

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Related question:

What is the function of banks?

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Banks invent new forms of money.

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But so do non-banks: shadow banking system.

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Banking system, new forms of money, shadow banking system: competition, supervision, trust.

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Standard (macro)economics:

Arbitrage between money as medium of exchange and as store of value (Hicks 1935, portfolio approach).

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Standard (macro)economics:

Arbitrage between money as medium of exchange and as store of value (Hicks 1935, portfolio approach).

Portfolio decisions both influence and are influenced by inflation/deflation.

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Standard (macro)economics:

Effects of inflation and deflation:

- distributional: money as store of value
- transactional: money as means of exchange and unit of account

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Bitcoin:

- deflationary bias

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Bitcoin:

- deflationary bias: stimulates hoarding

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Bitcoin:

- deflationary bias: stimulates hoarding
- high volatility

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Bitcoin:

- deflationary bias: stimulates hoarding
- high volatility: due to hoarding

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Bitcoin's volatility is bounded on the down side by the cost of mining, which is technology dependent.

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Hoarding may be discouraged by incorporating an inflationary bias (demurrage: deliberately reducing the value of stock of money): Freicoin.

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Trust in crypto-currencies depends on these and similar features, balanced against safety aspects.

Trust in crypto-currencies?

Trust in crypto-currencies also depends on the ease with which they can be converted into traditional currencies.

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Advanced (micro)economics:

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Advanced (micro)economics:
General Equilibrium Theory (GET)

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Advanced (micro)economics:

General Equilibrium Theory (GET),

or rather, as money involves time (store of value, means of deferred payment):

Intertemporal General Equilibrium Theory (IGET)

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IGET is the most sophisticated theory in all of economics.

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IGET, some presuppositions:

- decision makers have full information
- instantaneous adaptation to changed circumstances
- etc.

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- decision makers have full information
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A perfect world.

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IGET cannot account for money except as a unit of account. Even the Central Banks' general equilibrium models have no money in it!

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Why can't IGET account for money in the functions that matter?

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Money is about social relations (exchange!)

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Money is about social relations, and these are rarely perfect or frictionless.

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Money is about social relations, and these are rarely perfect or frictionless.

In addition, IGET does not contain a model of the structure of communication and interaction.

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This leaves IGET causally incomplete.

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This leaves IGET causally incomplete, unless a model of the network of interaction and communication between agents is added to it (Alan Kirman*).

*Kirman used Agent Based Models for studying interaction networks.

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In order for IGET to be able to deal with *money*, that network model has to allow for *imperfections* in the interactions between agents.

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Ronald Coase: transaction costs, or costs of using the price mechanism.

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Ronald Coase: transaction costs, or costs of using the price mechanism:

- search and information costs
- bargaining costs
- costs of monitoring and enforcing contracts

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IGET describes a barter economy (goods exchanged against goods).

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IGET describes a barter economy (goods exchanged against goods) and barter involves very high search, information and bargaining costs.

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IGET describes a barter economy (goods exchanged against goods) and barter involves very high search, information and bargaining costs. Money reduces these costs.

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So, money is a lubricant of the economy.

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Different question: Is money a good?

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It is not in the ordinary sense: you cannot eat money or dress in it.

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But what if money were a good?

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But what if money were a good?

Goods are what economists are relatively good at!

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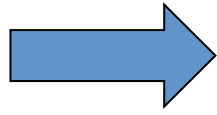
Different meaning of good: opposite of bad.

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Different meaning of good: opposite of bad.

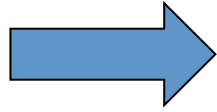
Good money vs. bad money.

bisogno — *Navigare secondo i venti, Far di necessità virtù — Pigliare il mondo come viene, Non affannarsi di che che sia.*



MONEAZZA, s. f. *Danaiaccio, Cattiva moneta.*

MONEÒLA, s. f. *Spiccioli, Moneta minuta. VORIA DE LA MONEÒLA, Vorrei de' spiccioli.*



MONEÒNA, s. f. *Moneta grande e bella.*

MONETÀRIO, s. m. *Falsamonete; Falso monetiere; Falsatore di monete. — Nel nostro Bergantini si trova anche Monetario per Falsatore di monete.*

MÒNICO, s. m. *Monaco — L'ABITO NO FA 'L MONICO, V. ABITO.*

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The financial crisis made us discover that money, instead of lubricating the system of economic transactions, obstructed it: bad money as a bad.

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The financial crisis made us discover that money, instead of lubricating the system of economic transactions, obstructed it: bad money as a bad, which, moreover, affects us all: a collective bad.

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But if bad money is a collective bad, isn't good money a collective (or public) good?

How economists distinguish goods

	excludable	non excludable
rivalrous or subtractable	PRIVATE GOODS food, clothes, bicycles	COMMON POOL GOODS or RESOURCES fish stock, clean water, crude oil
non rivalrous/ subtractable	CLUB GOODS theater shows, private parking lots	PUBLIC GOODS national defence, lighthouses

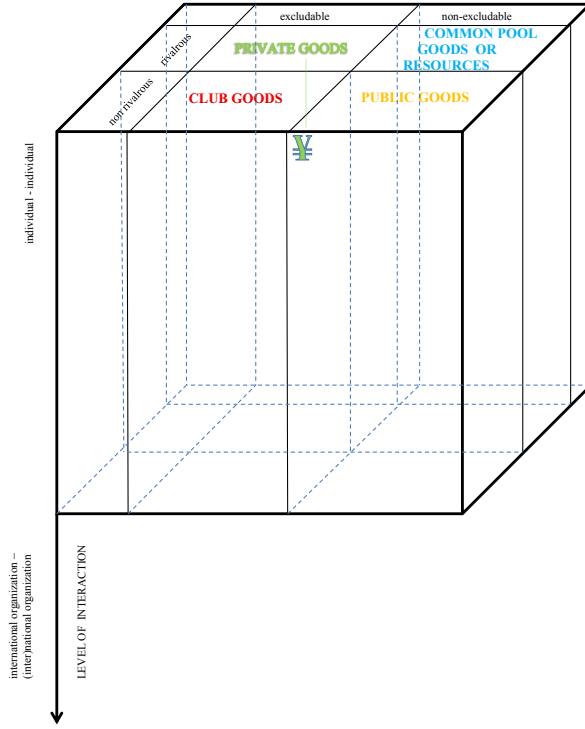
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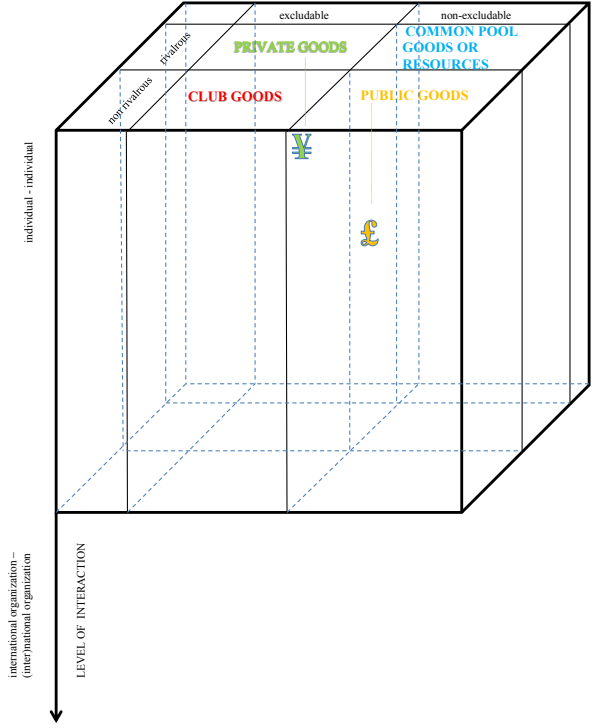
Money is heterogeneous: many *levels* of interaction:

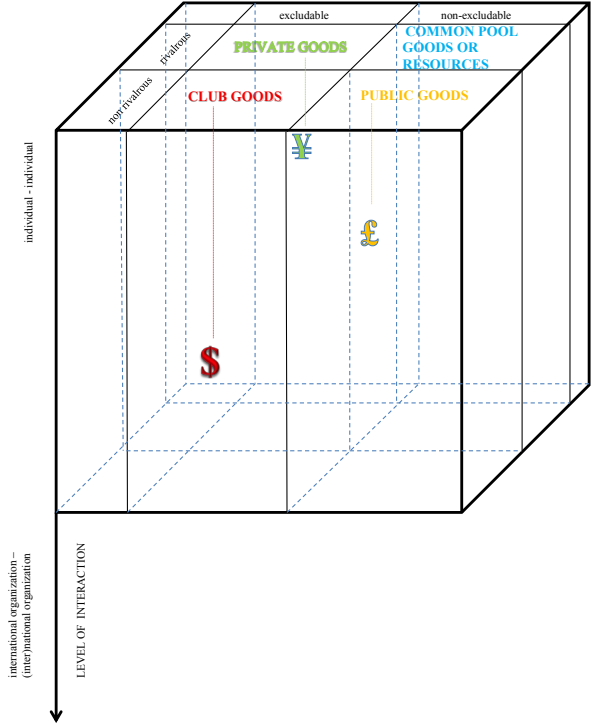
- individual – individual
- individual – bank
- bank – bank
- bank – national central bank (CB)
- ECB (Fed) – CBs of EMU member countries (federal states)
- national CBs – national governments
- ECB – national EMU state governments
- government – government
- CB – international monetary institutions
- international monetary institutions – national EMU-state governments
- etc.

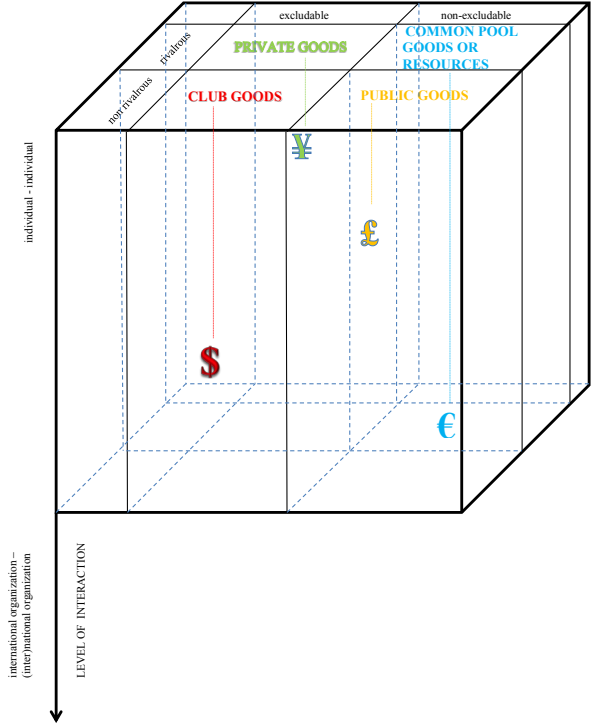
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According to the level of interaction at which it plays a role, money may have the characteristics of a private, club, common pool, or public good.









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Bitcoin: interaction between individuals. That suggests it is a private good.

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Bitcoin: interaction between individuals. That suggests it is a private good.

What about other (including future) crypto-currencies?

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By becoming involved in other levels of interaction, crypto-currencies may come to share the characteristics of club goods, common pool goods, or perhaps even public goods.

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All this leaves the question what the trust in money in general and in crypto-currencies in particular is based on.

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If money is considered as a common pool good, then we can look for an answer in the work of Elinor Ostrom (Nobel prize in economics 2009): stakeholderhood, systems of governance, property rights.

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Ostrom distinguishes different kinds of property rights or stakeholdership:

- access
- withdrawal
- management
- exclusion
- alienation

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Various mixes of the rights to accede, withdraw, manage, exclude and alienate define different governance structures.

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Various mixes of the rights to accede, withdraw, manage, exclude and alienate define different governance structures, and these co-determine trust.

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Various mixes of the rights to accede, withdraw, manage, exclude and alienate define different governance structures, and these co-determine trust.

That applies to traditional currencies (or rather, payment technologies – Curzio Giannini) but also to crypto-currencies.

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“Network effects” are crucial in the acceptance of, and trust in money.

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“Network effects” are crucial in the acceptance of, and trust in money. They are the opposite of the tragedy of the commons (“comedy - or opulence - of the commons”).

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Governance, mixes of property rights, network effects: suggest we reconsider if BTC and other crypto-currencies are private goods, or rather have more of the characteristics of club goods, common pool goods, or perhaps even collective goods.

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In economics, the argument what determines trust in currencies is waiting to be further developed.

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What does sociology have to say on trust?