



# Open Source or Peer-to-Peer Money Can we have the last laugh with funny money?

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## Motivation

- In der Ankündigung steht noch „hatten wir bis jetzt nicht nur den zweitgrößten US Bankencrash“ – Lehmann war der grösste
- Freddy Mac und Fanny Mae wären auch gecrasht
- die Geschichte beginnt eigentlich schon in den 70ern mit Aufkündigung der Goldbindung
- ... oder noch früher ...



## Bugs

- inefficient and unfair „I've got the money, so you have to work for me“
- controlled by „them“ not us → Exkurs Fed
- tries to be both: commodity (Wertaufbewahrung) vs. means of exchange (Tauschmittel)
- crashes completely from time to time  
exponential function don't work in the long run in the real world  
→ „Pyramidenspiel“  
→ **Anlagesysteme mit Schneeballcharakter**



## Federal Reserve

- 12 privately-owned banks
- seven-member Board of Governors is the main governing body of the Federal Reserve System → they serve 14 years!
- As an independent institution, the Federal Reserve has the authority to act on its own without prior approval from Congress or the President.
- The term „elastic currency“ in the Federal Reserve Act doesn't just mean the ability to expand the money supply, but also to contract it.



## History

- **Silivo Gesell**: „Freigeld“ „umlaufgesichert“
- **Wörgl in Tirol**: Freigeldexperiment 1932–33: 170 Gemeinden wollten sich anschließen, Experiment wurde von der Nationalbank beendet.
- Heute: Experimente mit Komplementärwährungen z.B. Chiemgauer:
  - Chiemgauer im Umlauf: 180,000 (85,000 elektronisch)
  - Zirkulation (2007): 2,300,000 Euro (2006: 1,450,000 Euro)



## Examples of Money systems

- **Local Exchange Trading Systems (LETS)** see also **Wikipedia-entry**  
No interest rate!
- **Time Banks**
- **Barter networks (Tauschkreise)**
- Mutual Credit
- Reputation tracking systems
- Business loyalty programs, Incentive Systems



## Examples of Money systems

- Carbon-emissions trading programs
- baby-sitting co-ops
- **Community Currencies (CC) Regiogeld**
  - **WIR Bank Switzerland**: Founded 1934, has Interest rates since 1952, 62000 Members, trade 1.65 billion swiss francs per year. Also used for Credit (!)
  - **Chiemgauer**
  - **Waldviertler**



## Money: Parameters

- consent
  - no dept collection (non-redeemable)
  - reputation
- interest rates, no interest, negative interest
- supply/control: who issues a currency
- units dependent on (some) national currency?
- units bound to other (real-world) unit, e.g. work-time (time bank)



## Money: Parameters

- „supplementary“ to cash or trying to replace it
- anonymous money or open accounts (e.g., LETS)
- rural/urban – seems not to be a factor
- local / global „Regio“ vs Fair Trade
- community based
- commodity (Wertaufbewahrung) vs. means of exchange (Tauschmittel)
- b2b vs b2c vs p2p



## Open Money Project

### From Open Money Manifesto

- Japan Open Money Project JOMP
- Supply: Who controls the amount of money that circulates?
- Distribution: Who/Where – is the money where it should be?
- Cost: creation, security, operations/accounting, interest, courts



## Open Money Project

- Disastrous effects on society and global environment
- claim this can all be fixed with a better design
- scarce and expensive vs. sufficient and free
- created by central banks vs. by us
- circulates better, doesn't „flow in and out of communities“



## Money: Reputation

### From Open Money Manifesto

- must be earned to be respected
- your money is your word
- you're obliged to redeem it
- it's a matter of reputation
- when you have your own money you cannot be bought or sold easily
- not all „moneys“ will work



## Money: Software

### openmoney.org

- build a semantic model of money
- namespaces
- Accounts, currencies, flows
- currency specification language
- centralized server approach (web accounting)
- use their own system for tracking contributions
- Community Currency Service Provider CCSP



## Cryptography

Six properties of an ideal digital cash system (Kazuo Ohta cited after Bruce Schneier):

1. Independence: Security independent of location – transferrable via network
2. Security: cannot be copied and reused
3. Privacy (Untraceability): No one can trace relationship between user and purchases
4. Off-line Payment: Protocol between user and merchant is executed offline: Shop doesn't need a network link



## Cryptography

5. Transferability: cash can be transferred to other users
6. Divisibility: A piece of cash can be subdivided
  - 1, 2, 3, 4 but not 5, 6 is easy
  - all except 4 (online) by several systems



## P2P Design?

### Shortcomings of current implementations

- Untraceability
- Use crypto
- Truly peer-to-peer: No central server?
- Everybody should be a merchant and customer (p2p not b2b or b2c)
- Need reputation tracking: Widely implemented for filesharing



## Future

„Money has to change. It was created to serve us, not the other way around. It needs to change so that it meets our needs instead of exploiting them. To do this I believe money itself needs to go open source. We need to crack open the black box we call money and start experimenting with it.“ [p2pfoundation](http://p2pfoundation.org)

Users should act as though this is all a game, and be prepared for some of it to become real.  
So let's start the game. [openmoney.org](http://openmoney.org)