

## **Can alternative currencies benefit from IT?**

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*The outcome of new technology combined with revolutionary monetary ideas could be a paradigm change in monetary history. Electronic money stored on chipcard and pc could be the next step in monetary evolution.*

Market place and supervisors are still confused by the new technology driven e-money products. Historians will probably indicate the second part of the nineties of the last century as start of the next revolutionary step in monetary evolution. New virtual money driven by IT next to the old and grey traditional money (cash and book money). What happened since 1995?

### **Pioneers invent cybermoney**

There were two pioneers: David Chaum invented ecash and his company Digicash piloted his cyberbucks worldwide between 10,000 internet users. Anonymous electronic cash created and issued by a non-bank without legal redeemability in the old real cash of the banks. The second pioneer Mondex – a former initiative of some banks in the UK – invented the real electronic purse, ecash on chipcards with the possibility to make payments between cardholders without the necessity of clearing and settlement in old money between the banks. E-Money was born.

### **E-money's main features**

What is new about e-money compared to real cash? E-money is monetary value electronic stored on a technical device. The value can be stored on a chipcard, a hard disk or other devices like chip in watches or a car body. The monetary value is like traditional cash in the „hand“ (usually card or pc) of the owner and not on an account at the banks like book money. It is a digital bearer instrument and not a deposit. From legal point of view the basic difference to other media of exchange like cheque, debit or credit card is the claim only against the issuer. The payee of e-money has no claim against the payer. So e-money is a non-personal and not account-based claim of the owner against the issuer or a pool of issuers.

A digital exchange unit is a basic monetary innovation and the temporary end of monetary evolution. From historical point of view basic innovation always changed the monetary order.

## **Could e-money induce the end of central banking?**

The invention of banknotes by London's goldsmiths by issuing receipts for treasuring gold a few centuries ago for example started the beginning of central bank monopoly in money issuance. Will e-money induce the end of central banking? What happens if non-banks would issue e-money without regulation of central banks? What about e-money not denominated in the national unit of account, like dollar or euro? It would be the rebirth of private currencies and free banking.

E-money was born. The early birth of e-money embryos by Digicash and Mondex was directly picked up by serious monetary reformers and cranks in the nineties, worldwide fierce discussed in internet chat rooms. Decentralization and privatization of money will start an innovation process which will generate improved forms of exchange based on real reciprocity between economic subjects, so the reformers expect. Lack of inflation and interest seems to be a realistic outcome of the competitive evolution process and will turn money from evil to server of mankind. These high expectations were nurtured by the (just in the same time worldwide arising) local money movement called LETS (Local Exchange Trading Systems) and other so called MFA (Micro Financial Alternatives) based on private currencies. People and small businesses - often supported by local communities - started to buy and sell services and commodities in a self-made local currency. It is not a return to archaic barter, but rather a high sophisticated cashless micro monetary system. Every LETS-participant has his own account started at zero with a certain overdraft facility. Trade between the participants is settled cashless in the local currency which is not redeemable in national currency. The money supply is endogenous adjusted by trade volume. No monetary policy by something like a central bank is necessary. Additional purchasing power within a closed loop will stimulate local economy and that is the main reason for these local or regional currency initiatives.

## **Reaction of central banks**

The outcome of new payment technology combined with revolutionary monetary ideas could be a paradigm change in monetary history. You can imagine what happened in the boardrooms of the central banks, especially in Europe. Anxious about their monopoly position and their control over the money supply they started to domesticate these monetary faux pas by regulation. In Europe some central banks and supervisory offices have already started with regulation of e-money in the marketplace based on

chipcards. E-Money issuance in open three-party systems (acceptance not only by issuer) should only be allowed to traditional banks. Non-banks who were the e-money forerunners and very early adopters of this technology could only issue prepaid cards in a closed two-party system, where the issuer is identical with the service provider and acceptor (like the traditional prepaid callcards of telcos). In Germany the restriction was extended to software based e-money for e-commerce in the internet by 6<sup>th</sup> amendment of the German Banking Act in 1998. But not all central banks in Europe had the same „angst“ like the Bundesbank. Especially the regulators in the UK and Scandinavia decided to wait and see. They joined the laissez-faire position of their colleagues in the USA. Premature regulation would limit competition and stifle innovation, so the American statement.

## **Market failure and success stories**

The market development of e-money justifies the laissez-faire position. Worldwide you still will not find worth mentioning e-money volume (denominated in national currency within a three party environment) in the market place. No e-money issuer can show you the business case. A morning-after feeling for most e-purses rolls out in Europe. Even in Germany with a free mass distribution of e-purses on chipcards by the banks (more than 50 m. GeldKarten) the volume loaded is stagnating at a level of a negligible 0.01% of the total money supply M1. For software-based e-money products like ecash we see in spite of booming e-commerce worldwide only a few pilot projects (e. g. Deutsche Bank). Banks are trying to keep non banks out of business by handling e-money within the traditional payment and settlement schemes. It seems to be that no market break-through, no business case and no real innovation would be the end of e-money issued by traditional banks.

The only success story of e-money until now is the issuance of digital value by non-banks within closed two-party systems like prepaid GSM cards. They load their prepaid cards in national currency or private tokens (e.g. time units), but these digital vouchers are not e-money in legal sense subject to regulation. Market researchers expected that another success story will be the issuance of electronic bonus points within multibranch loyalty schemes. Bonus points earned by one merchant, can be spent by another merchant. These bonus points are usually stored on the chipcard for shopping in the real world, but we see already the phenomenon of software-based electronic points, rewards or miles in the internet. The web´s currency „beenz“ (www.beenz.com) indicates the new trend of real virtual private currencies without counterpart in the real world. It is nothing else but e-money denominated in private currency issued by a non-bank. Not only from economic point of view, but also from legal point of view.

The no success story of e-money denominated in national currency and issued by the banks raises the question about the „USP“ of e-money. Until now

the issuers of e-money copied traditional cash as medium of exchange with 100% liquidity and acceptance. Therefore, it competes with all established payment schemes in the marketplace. Maybe it is the wrong strategy. The unique point of e-money is its programmability. You can program the bits and bytes of e-money. You can restrict its use to the issuer, to a closed group of merchants or consumers, to certain products or services. You can limit it to geographic areas or you program a time-limit of usage. The market indicates that success of e-money will depend on using this USP of e-money.

## **Consequences of EC Directive**

A clear regulatory framework for e-money issued banks and non-banks was proposed by the European Commission in summer 1998. It introduces the special bank status of „electronic money institution“ (ELMI) for non banks. This proposal for a EU directive is a clear invitation for non-banks as new market entrants and so greater competition and innovation in the e-money market. The business activities of non-banks with ELMI-status should be restricted to the issuance of e-money subjected to specific rules and prudential supervision. This EC proposal for the ELMI Directive flares up the controversial discussion about e-money. It is really difficult to define and regulate a phenomenon which is still only existent as embryo. We see not only different points of view between central banks in Europe but also between European Commission and European Central Bank about definition and regulation issues. One of the main demands of ECB is the minimum requirement for redeemability of e-money against central bank money at par. As Prof. Otmar Issing (ECB executive board member) pointed out 1999 in his speech at the Annual Hayek Memorial Lecture, that the real driver behind this requirement is the prevention of private currencies as promoted by the economist and Nobel prize winner Hayek in the seventies. It will defend one of the last remaining roles of central bank money as the sole unit of account and therefore, the legal dependence of private issued bankmoney on central bank money.

What would be the consequences of these regulative initiatives to e-money in three-party systems in Europe?

- E-money issuance would only be allowed to traditional banks and electronic money institutions.
- Multibranch loyalty schemes with electronic points stored in an electronic device issued by non-banks would be illegal.
- E-money should be denominated in central bank currency or in units with redeemability against central bank money at par.
- Regulation would prevent the emergence of real private currencies, issued by banks or non-banks with floating exchange rates to state money.


Monetary history proves that market driven innovation will beat and bypass (premature) regulation. Market and regulation are still two uncertain

parameters of the next evolution step of money. Both will decide whether the vision of Alan Greenspan of „the new private currency markets of the twenty-first century“ becomes reality.

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regulation of e-money  
 (three-party system)

	Trad. BANKS	ELMI	NON-BANKS
Denomination in national currency	✓	✓	STOP
Private token redeemable in real cash at par	✓	✓	STOP 
Private token with floating rates to nat. currency	STOP	STOP	STOP

# E-Money at the Marketplace

