Does Electronic Money Increase the Freedom of Choice?

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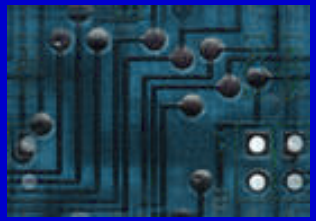


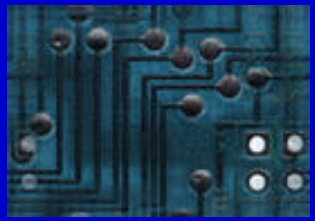
Definition of Money

The common definition of money:

Money is a *generally accepted means of payment*.

Such a definition is useless for our purpose. Therefore we have to prepare definitions more suitable for our purpose.

We will define three interrelated terms: currency, monetary asset and transaction media.



Currency

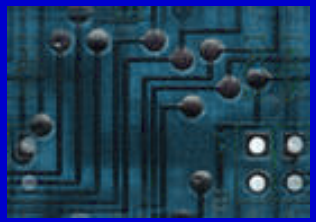
Currency is a *symbolic brand name*, like US dollars or Czech crown. There is just one *base money* for each currency (e. g. gold or governmental fiat bank notes).

Monetary Asset

Monetary asset is *any liquid asset denominated in some currency that is either generally accepted at par a compensation in a transaction or can be simply translated to it at par*.

Transaction Media

Transaction media is *any tool used to make a payment*.



Electronic Money

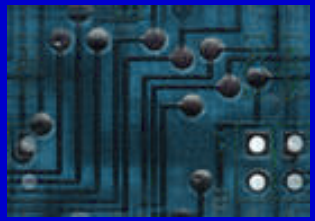
Definition

Electronic money is *any type of money not existing in a physical but only in an electronic form and transferred as electronic impulses*.

Where Electronic Money Fits?

Electronic money can fit in every sub-category mentioned above.

Most time it is a new transaction media, sometimes it is a new monetary asset. But it can possibly be even a new private currency, not convertible to any governmental currency at par.

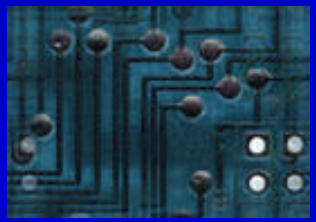


How Money Is Chosen?

Before we can address the question what electronic money changes in our world, we have to say how money is chosen by an agent.

Every agent holds portfolios of distinct currencies, distinct monetary assets and distinct transaction media. The size and the structure of the portfolios is set to minimize the expected cost of making desirable payments.

The transaction cost consists of the following major components: 1) the interest cost, 2) transaction fees paid for the transaction and money-conversions and for the use of a transaction media, 3) the cost of instability of the purchasing power of a currency, and 4) the cost of other risks associated with the use and holding of money.



Interest Cost

The interest cost is an inevitable result of the fact that money is more liquid and less risky than other assets. It is the opportunity cost of holding money.

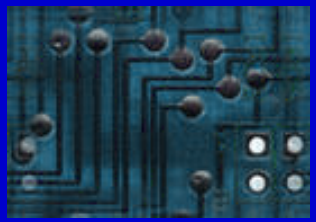
The cost can be decreased either with holding lower money balances or with holding monetary assets bearing higher nominal interest.

Transaction Fees

Transaction fees are paid for using the transaction media.

The cost can be reduces either with the use of a cheaper transaction media, or with lower frequency of larger-scale payments.

The interest cost and the transaction-fees cost are contrary.



Instability of Purchasing Power of Currency

There are two types of this cost: the trend one (expected inflation/deflation), and the stochastic one (unexpected purchasing power volatility).

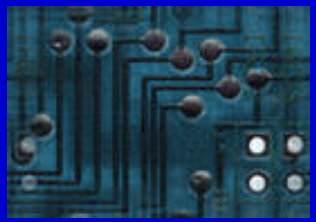
The cost can be lowered either with holding more stable currencies or holding better-diversified portfolio of currencies.

The cost is often in contrary with the transaction cost.

Other risks

It covers the risk of a money provider's bankruptcy, forgery, . . .

As CAPM theory is not applicable (no agent can diversify his or her money portfolios well), this risk is undesirable.



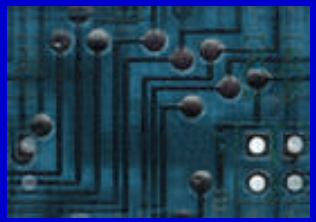
What Electronic Money Changes?

In principle, electronic money rises the *efficiency* of transaction. In other words, it lowers the cost of transactions and allows agents to diversify their money portfolios better.

The most important result of this fact is *a rise of competition among distinct currencies*—both governmental and private.

The competition cannot be perfect, but it will be strong enough to punish the central bank issuing inflationary currency.

Government must either outlaw the competition (what may be hard to do given the present state of financial and computer technology), or issue currency with a stable purchasing power. Otherwise the competition could make big troubles to the governmental central bank.



And that’s all folks!

Many thanks for your kind attention.