

# **Complementary currencies and the global economy**

Complementary currencies and deflationary crisis  
approach of a neutralised EURO currency area

## **Complementary currencies and deflationary crisis**

Complementary currencies are alternative currencies to the legal tender. Except from foreign reference currencies which sometimes rule out national currencies in some very small countries or suffering emergency economies, complementary currencies are distinguished from the legal tender by different behaviour. Countless approaches

are possible to design market exchange by alternative monetary systems but most of them can be roughly subdivided into

- 1) interest free money (Freigeld)
- 2) local exchange time systems (LETS)
- 3) barter trade (electronic market places)

Our current monetary system of the legal tender is interest based and interest compound is the most powerful mean to collect money, the so called mass gravity behaviour of interest based money. In a long term consideration led the concentration of money capital to an accelerated concentration of productive capital. Due to this, business cycles have shifted more and more from local to global dimensions and local business cycles disappearing slowly.<sup>1)</sup>

Complementary currencies are a contrary scheme and mainly used on bounded markets or by delimited social groups or communities. It can be seen as a mean to support local business cycles. But the globalization detracts most of the business and leads subsequently to strong reduction of capabilities for transactions in local business cycles. It is more convenient for market participants to use the legal tender and makes it doubtful that in times of non-crisis globalization can be inverted by the mean of these complementary currencies. The capitalized world of west Europe and North America smile at citizen initiatives which run or try to implement these alternative monetary systems. However, the ignorant capitalized world goes wrong as usual.

In times of deflationary crisis complementary currencies are the best mean to relieve the distress. If expectation of gains decline, legal money will be hoarded or attempts to escape into offshore financial places. Money gets narrow in business cycles, business activities decline, supply increases and prices decreases, what we call deflation. Most approaches of complementary currencies are designed to enable transactions which would not take place by the use of legal tender and almost all of these approaches are not focused on the earning of money by money. As consequence, in times of narrow money complementary currencies can replace parts of the legal tender and speculative transactions will be kept out of the business cycle. The more deflationary crisis will destroy business the more complementary currencies come up and will be appreciated.

Complementary currencies can be seen as emergency monetary systems

But globalization and global business cycles have destroyed great parts of local production and local barter will get more and more ineffective. This endangers also the efficiency of emergency money. We must assume that examples such as Woergl or stamped scripts cannot be repeated in the same way. We might have to think bigger.

The greatest hindrance to think bigger is that the exchange rates of complementary currencies are mostly linked to the legal tender and money creation will be done by the exchange from the legal tender into complementary currencies. If alternative money is not linked society must create a second price formation for the exchange and tends to give up acceptance into this money. As consequence, complementary currencies keep in strong dependence of the legal tender or a current global reference currency and must follow the price formation of the conventional monetary system. It restricts the potentialities of complementary currencies to be only a reactive system and does not allow the prevention of deflationary crisis in advance.

In a long term consideration we must assume that the current global monetary system based on credit creation and interest rates tends to be increasingly unstable<sup>1)</sup>. Complementary currencies in a more global scale which will stabilize business cycles, which do not need a second price formation and which can be used independent from the legal tender are possible and can be designed by the approach of monetary superneutralisation<sup>2)</sup>.

## **The principle of monetary superneutralisation**

Money plays an important role in our daily life. To accept money as payment is an accomplishment of the society which renders division of labour feasible and is therewith absolutely essential for modern life. Among others is it a medium of exchange and allows for the setting of prices and the comparison of values of different goods. It also allows the comparison of currencies by exchange rates.

Superneutralisation means that the money supply growth in the real economy has no effect on the activities of the production of goods. While the prices changes, does not change the productivity in response to supply and demand. The orthodox economics insists on the neutrality of money, but likes to conceal the variable velocity of circulation in their quantity equations. The statement of these equations can be hardly overbid in meaninglessness. It completely contradicts our individual experiences completely, that money should have no impact on our daily decisions.

Let's change the perspective from the side of money capital to the side of real life, of the side of productivity, services and the production of goods. The main target is to balance demand and supply, to keep our life human. It can be seen as the main target of economy respectively the main target of homo reciprocans. Life is the irrevocably value to act. Values which results from our productivity and production of goods are relative and variable values, because they are transient. Life as an absolute value is discrete and eternal. To be or not to be, nothing is in between.

Relative or variable values mean that the corresponding prices are negotiable, An absolute value cannot be negotiated.

As a unit of account refers our current money to these relative or variable values and thus is money in his assessment related to this relativity. It interacts with the reality and is therefore probably not a neutral medium.

Can we charge the absolute value of our life with money? The answer is subjected to ethical and philosophical questions and more related to our belief and faith than rational reasons. If it will get common agreement, money will be creates that reflects the absolute value of life. It is simple a never changing amount of money, simplest one monetary unit is one world.

**Conclusion: Superneutralisation does not arise from the interaction of money and the real world, it will be created by definition.**

This superneutralisation can be implemented as a complementary currency, described in the essay "model of a neutralised currency and exchange system for central banks"<sup>2)</sup>. In practical use would it be a global reference currency and exchange rate system for central banks. The name of this global reference currency is ANNA. Like other proposals of global reference currencies is it not based on a leading national currency and therefore independent from the interests of the country which own the leading national currency. This superneutralised global reference currency will stabilize the global monetary system and the global trading due to the effect of reconciliation. It balances trading imbalances and could be used at least as a tool to reduce or even avoid inequitable exploitation for the 99% of world citizens which will be underprivileged by the current system. It is a system of crossrating

against the superneutralised global reference currency which leads to a very accurate and direct correlation between all national currencies. ANNA is an exchange rate regime which allows flexible exchange rates to fulfil the requirements of each participating national economies. The speculative up and downs through the deregulated financial markets will be better absorbed and becalmed. Speculative trading based on the spread of exchange rates disappear. The introduction of superneutralisation will improve our monetary system in its best sense to lead its function back to the social accomplishment as a medium of exchange. Money will get neutral.

Attempts to generate profits, which we still experience on the financial markets, which also led to the current crisis, attempts like leveraging and multiple lending money creation to earn money by increasing the money supply, will be punished in a superneutralised monetary system by a reactive change in exchange rates. In a long term consideration the financial markets would have to say goodbye to this way of business and would have to learn to make profits in a real economy in a much more modest way. Markets of the real economy follow other laws than the financial markets, where growth cannot be reached by multiple money creation.

**Conclusion: The superneutralisation of our monetary system would change the focus from a abstract and virtual world of financial markets to the economy of reality of goods and services for a human world.**

Speculative attacks against the Euro zone, as we experience at this time, could be avoided in a superneutralised monetary system. It would make no sense. But we must be aware that all ideas which stabilize economic and social life will limit profit expectations. It seems that the society and therefore also the markets choose these earning expectations against a stable system. So it is implausible that ideas which could stabilise the economy, will establishing themselves, also not the idea to superneutralise our monetary system.

Financial markets and the current money capital are not limited in growth. The real world will show those limits very well. Sooner or later we will face the need to recognize these limits. Therefore it makes sense to think about a change in our economical thinking, even if the realisation remains unrealistic. More and more we perceive that our money system will be immanent for this change.

Superneutralisation is the mean to transfer the knowledge gained from the development of regional complementary currencies onto national and international levels, to pave the way for monetary systems, serving the needs of humans in a better quality.

The essay „model of a protected currency area for developing countries”<sup>3)</sup> shows that it is not necessary to implement superneutralisation on a global level. It can also be transferred to a national level, but gives much stronger advantages to common currency areas. Indeed, superneutralisation would be a tailor-made solution for the common currency area of the Euro zone and the current Euro crisis.

## Superneutralisation of the EURO

The equations are quite simple to set the global monetary system into superneutralisation.

### First step – determination of world money supply

- 1) World money supply is the sum of all national money supplies

$$WMS = \sum_{x=1}^{x=n} NMS_x$$

*WMS* = world money supply as sum of all national money supply described in a leading reference currency f. e. Dollar [\$]  
*NMS<sub>x</sub>* = national money supply of currency x described in a leading reference currency f. e. Dollar [\$]

$$NMS_x = m_x \times \text{exr}\left(\frac{x}{\$}\right)$$

*m<sub>x</sub>* = national money supply described in the own unit of currency x  
*exr* $\left(\frac{x}{\$}\right)$  = exchange rates to the leading reference currency f. e. Dollar [\$] in the moment of transformation  
based on the central bank reference exchange rate for interbank trading

Figure 1) equations for superneutralisation - step one – determination of World Money Supply WMS

Money supply is the main item in a superneutralised monetary system. It is the legal tender, official and valid money as mean of payment in a country or currency area. It means the money itself but not any other kind of assets which must be exchanged to be money. We can assume that central banks are able to determine and to supply the right values or at least to estimate money supply quite well, also as part of fractional reserve banking. Important is the highest value, usually is it M3. It is not necessary to have exact values of world money supply, the important characteristic is that the exchange of all money in one moment into the superneutralised reference currency ANNA must be less or equal 1 [ANNA] – ever. Less than 1 is allowed and means that the calculated WMS can be higher than the real one. This is

- helpful to compensate errors in the determination
- allows a security shift to influence the response time of exchange rates from fast and reactive to slow and active

## Second step – fixation of the share

- 2) The share of a currency is national money supply divided by world money supply - The fixation of the currency is a picture of the situation in the moment of participation - a settlement of society – like to accept money as a mean of payment or ANNA as a equivalent to the total of world money supply

The calculation of step one and two are only one time necessary. It is the step into superneutralisation.

$$S_x = NMS_x \div WMS$$

$S_x$  = share of currency x onto world money supply.

The share of  $S_x$  must be fixed  
to join the superneutralised currency area of ANNA

$$e_x = S_x \div m_x$$

$e_x$  = exchange rate of currency x to the superneutralised reference currency ANNA

Figure 2) equations for superneutralisation - step two and three – fixation of share and determination of exchange rates

## Third step – independent determination of exchange rates

- 3) The exchange rate is the share of the currency divided by the money supply in the own currency unit - In this equation the calculation of exchange rate will become independent from the figures of other currencies. The national money supply  $m_x$  is the flexible item in this equations and allows to keep the exchange rates flexibles. Also foreign liabilities and receivables will be seen as part of the money supply and added or subtracted from national money supply  $m_x$ . The exchange rates  $e_x$  in this system are always correct, it means that there is no spread in the exchange of currencies, is it possible to transform foreign money into the national currency instead to keep them as foreign currency reserves at the central banks in case of receivables or to issue treasury bonds in case of liabilities.

If we consider  $NMS_x$  as the money supply of a currency area like the EURO, then NMS could be seen as the sum of all complementary currencies in this area. In the case of Europe are complementary currencies the former national currencies like DM, France, Lira etc. but also new national inventions of currencies with different functionalities for example like LINA's and TINA's <sup>3)</sup>.

The transformation to a superneutralised European currency area would be similar to transformation of the global monetary system into a superneutralised system. Only the total world money supply must be substituted by the money supply of all Euro States  $\text{€MR}$ . We can assume that the European central banks knows the amount of the European money supply quite well <sup>4)</sup>.

$$\text{€MS} = \sum_{x\text{€}=1}^{x\text{€}=n} m_{x\text{€}}$$

$\text{€MS}$  = money supply of the currency EURO as sum of all national money supply in EURO  
 $m_{x\text{€}}$  = national money supply of on country in the currency area of EURO described in EURO

$$S_{xN\text{€NA}} = m_{xN\text{€NA}} \div \text{€MS}$$

$S_{xN\text{€NA}}$  = share of the new currency of one country onto the currency EURO.  
 $m_{xN\text{€NA}}$  = national money supply of on participating country onto the EURO zone described in the new currency unit.

The share of  $S_{xN\text{€NA}}$  must be fixed  
to join the superneutralised currency area of the EURO zone

$$e_{xN\text{€NA}} = S_{xN\text{€NA}} \div m_{xN\text{€NA}}$$

$e_{xN\text{€NA}}$  = exchange rate to EURO of the new currency of the participating country onto EURO zone

Figure 3) equations for the superneutralisation of the EURO zone

Sense of this exercise is it to re-establish national currencies  $N\text{€NA}$ 's in the common currency area of the EURO zone. Domestic trading would be done in the new national currencies  $N\text{€NA}$ 's and foreign trading would be kept in EURO. In this sense a superneutralised European currency incorporates the advantages of a common currency with the advantages of national currencies. The problems with inner European trading imbalances could be minimized due to the flexible exchange rates of this system.

The concept of a superneutralised EURO differs from the concept of a protected currency area for developing countries so far that an additional complementary currency for the foreign trading  $F\text{€NA}$  <sup>3)</sup> would be not used. The EURO as a strong currency would still be traded on the FOREX. Due to this, the EURO is not really superneutralised, but the method will be used to re-establish the new national currencies.



## Consideration of inner European trading imbalances

At the start exchange rates between Euro and the new European national currencies N€NA's are 1:1. The different measures for growth and employment and the imbalance of trading would lead to a different growth of the money supply between N€NA's. Imbalance of trading should then be considered by additional parameters in the divider of the equation to determine the exchange rates. One important assumption is that foreign N€NA's of the inter European trading will be exchanged and not longer kept as foreign liabilities and receivables in stock of the national central bank. The equation for the determination of the inner European exchange rates  $e_{xN€NA}$  would get the additional parameters:

- Addition of money lent from other countries, exchanged into the target currency = foreign liabilities
- Subtraction of money lent to other countries, exchanged into the target currency = foreign receivables

It would lead to the following effects

- Additional money supply => decrease of exchange rate
- Deficit in foreign trading => decrease of exchange rate
- Surplus in foreign trading => increase of exchange rate
- and vice versa

$$e_{xN€NA} = \frac{S_{xN€NA}}{(m_{xN€NA} + l_{xN€NA} - r_{xN€NA})}$$

$l_{xN€NA}$  = foreign liabilities described in the new currency unit which will be added to money supply of the new currency

$r_{xN€NA}$  = foreign receivables described in the new currency unit which will be subtracted from the money supply of the new currency

transaction	increase	decrease
money supply $m_{xN€NA}$	↓	↑
foreign liabilities $l_{xN€NA}$	↓	↑
foreign receivables $r_{xN€NA}$	↑	↓

Figure 4) consideration of inner European trading imbalances

Trading imbalances will be considered and compensated by exchange rates e€ between the national currencies of the European Union. The problem of trading imbalances between the inner European countries would disappear and every country could follow the own economical demands without the race of wages to the bottom. The race of wages to bottom transliterated into political discussion is named improvement of competitiveness.

Like in a protected currency area national economies have to trade with the new national currencies, inner European and global trading must be done by the exchange of prices from national currencies into EURO. Only the EURO appears on the FOREX markets and treasury bonds will be traded on the global markets also only in EURO.

To reach the balance of trading is the main challenge to keep Europe political and economical common in the near future. And the above described measure would be that tool to reach this target. The EURO can still be considered as one of the most stable currencies on the global markets. We can assume that the economies and infrastructures in all European states are quite sophisticated and public debts in all European countries are moderate in relation to the global situation. So it is not very reasonable for actors on the global financial markets to speculate against the common European currency as one of the main factors which keep financial markets stable. The usual measures would let disappear the European Debt crisis, as

- to take over treasure bonds by the European central bank
- common treasure bonds
- lowering to negative interest rates for money which will be saved at the central bank
- economical politics of demand

The superneutralisation of the EURO currency area would not only let help to disappear the crisis, it additional would stabilize the European economies itself, due to the consideration of trading imbalances in the EURO zone. It would lead to benefits for European countries which are still not participating onto the common EURO to rethink their position and to move into the common currency area. If countries like Switzerland, Lichtenstein and UK are convinced to join the currency area, supports it the efforts to domesticate off-shore financial places in a kind that all parties will gain benefit.

The consideration of trading balances is part of the effect of reconciliation based on monetary superneutralisation. Another part of this reconciliation is the possibility to install low interest national currencies LINA's. It is a measure for heavily indebted poor countries and would in fact not be necessary for the sophisticated economies of Europe. But due to the prolonged speculations against the European countries in the south it will come closer to be an option. These low interest monetary systems could start to compete with the current interest based monetary system and allows to solve the problems of public debt crisis in a more reasonable and sustainable way, also for sophisticated economies like in Europe.

## Effect of reconciliation and dept crisis

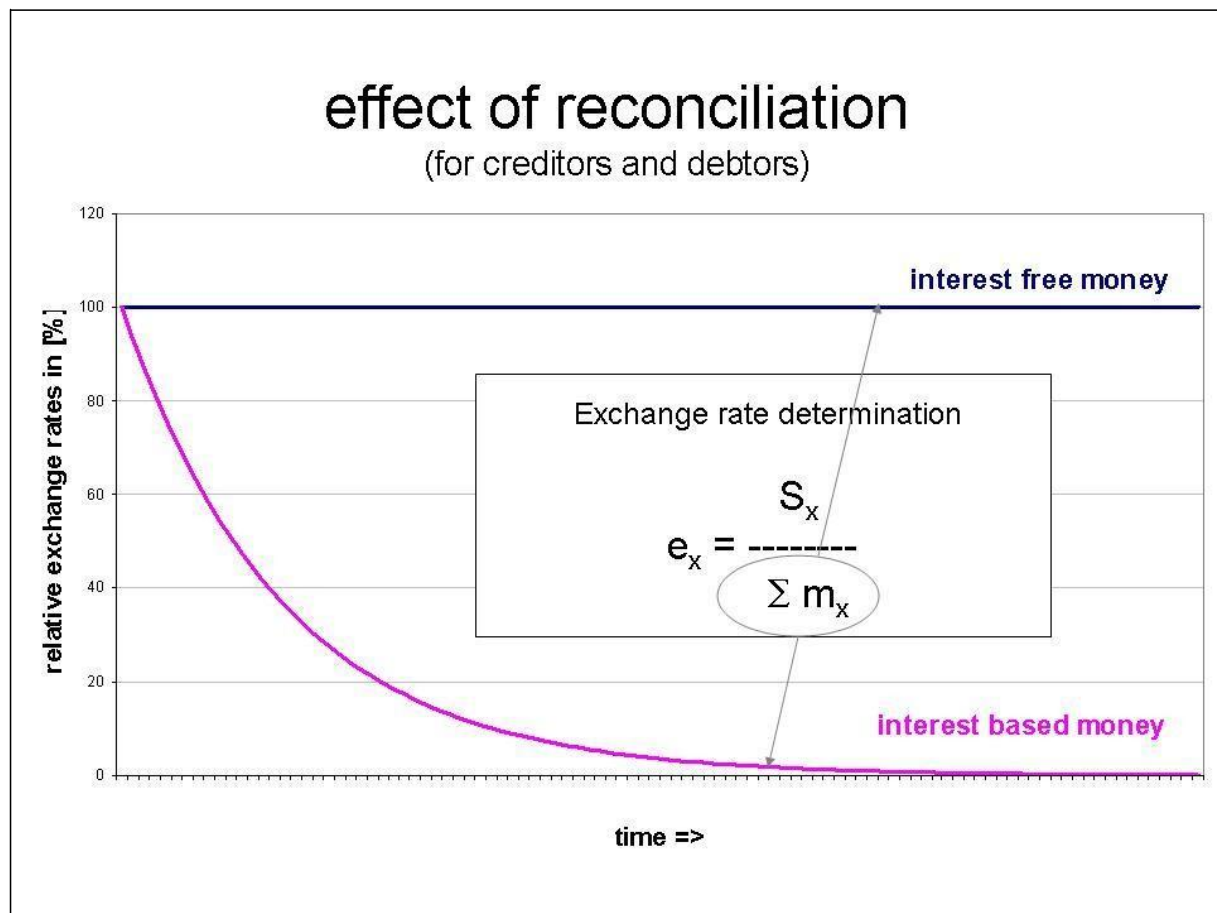


Figure 5) effect of reconciliation on the monetary time beam

The installation of a low interest national currency means the reconciliation between the exchange rates of debtor and creditor currencies.

The exchange rate of the interest based currency decreases in correlation to the exponential growth of money supply of this currency caused by the interest compound – purple red curve in figure 5. While the money supply and therewith the exchange rate of the interest free money keep more or less constant due to the absents of interest compound – blue curve in figure 5. A heavily indebted poor country which will run into insolvency and changes into a interest free national currency has only to wait for the decreasing exchange rate of the creditors currency.

Nevertheless - the Debtor still has to repay the liabilities, but only in the absolute value of the superneutralised global reference currency and the creditor get back the outstanding receivables, but only in absolute value of the superneutralised global reference currency. It is more than fair for the creditor and debtor - it is the reconciliation. It interrupts the helix of increasing receivables and debts and this helix of debts is probably the main issue or main cause for financial crisis, like the current debt crisis.

### **It is the most reasonable tool to solve the problems of public debts**

It is the unique solution to break out of the economical circulation and coercion of growth and ruination.

## Compatibleness of low interest and interest free money in a superneutralised currency area

superneutrality is the never changing value of money. It is the superneutrality of the superordinated complementary currency. It is a different theory to the quantity theory respectively neutrality of conventional money!

Superneutralisation is related to money and not to prices of visible commodities. The price of commodities are still related to conventional money and not affected by superneutralisation.

Creation of conventional money is not affected. Money supply and monetary policy remain in responsibility of the national central banks. Money supply and interest rates of Central bank are not restricted by superneutralisation. The interest based legal tender behaves in a superneutralised environment not different to the current situation.

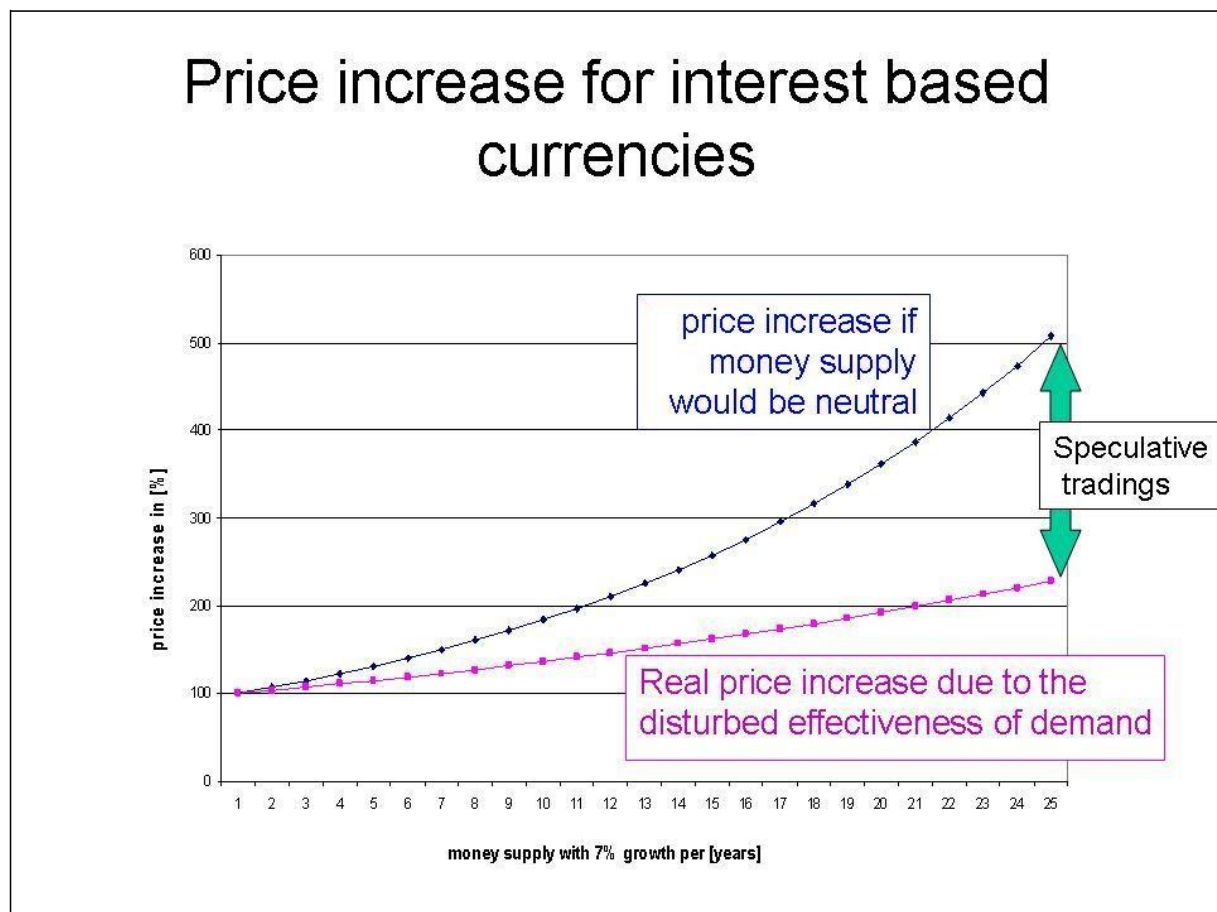


Figure 6) the non-neutrality of interest based money

Exchange rates e€ in a superneutralised currency area are affected, because their determination are based on money supply

Exchange rates of interest based national currencies decrease in correlation to the exponential growth of money supply caused by interest compound

If we assume that money is not neutral exchange rates related to the prices of a basket of commodities would decrease slower. The gap will be caused by the disturbed effectiveness of demand due to the concentration of money. The theory of Freigeld would have described it at hoarding of money. Nowadays we will name it speculative trading on the financial markets. Does this effect lead to a distortion in the price building?

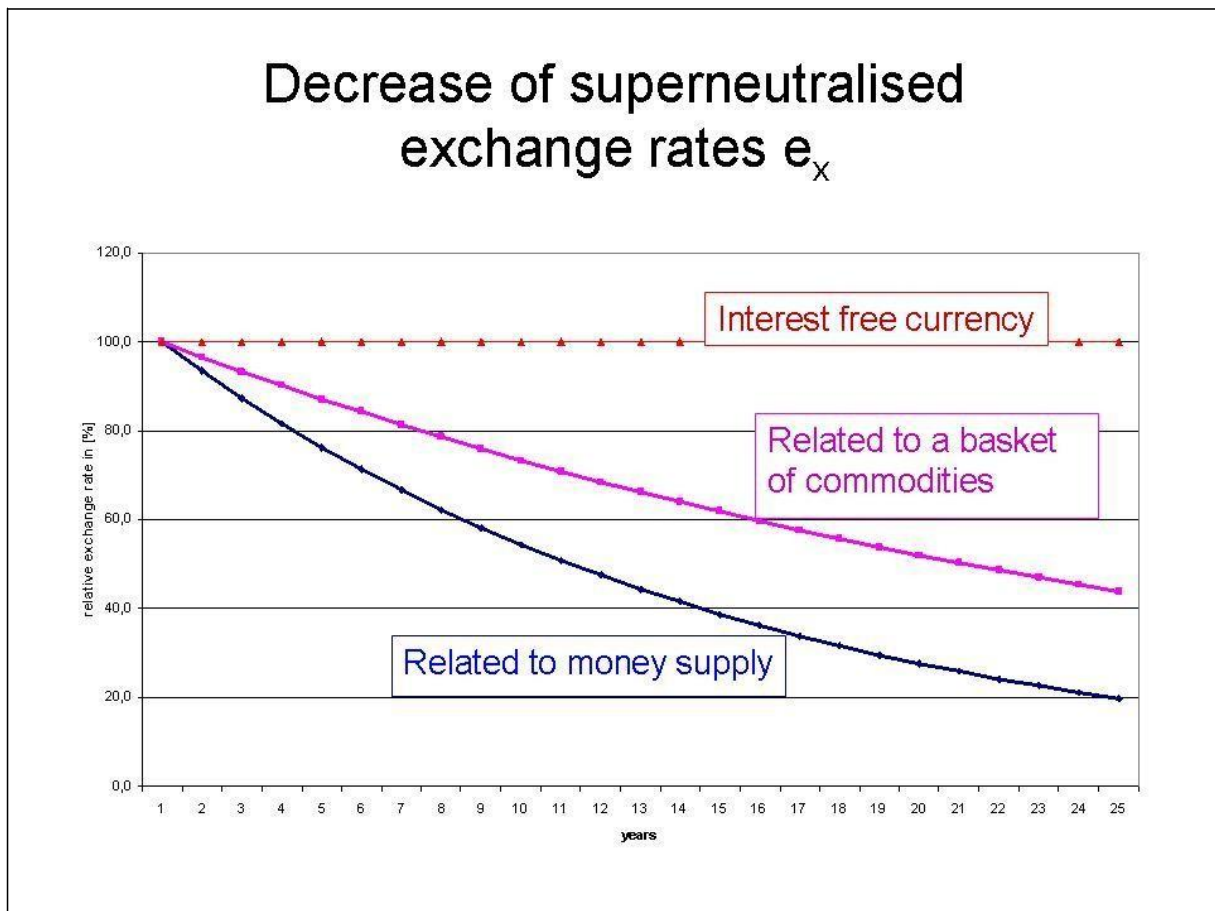


Figure 7) effect of money supply on price creation

We can assume that all interest based currencies must growth in a similar way. The exchange rates to the superneutralised superordinated complementary currency decreases but the relation between the exchange rate of the national currencies itself keeps more or less the same. Foreign trading is not affected, neither nor the domestic trading.

Also the different growth of currencies caused by trading imbalances will be considered in the equation for exchange rates  $e_x$ . Trading surpluses strengthen the exchange rate, trading deficit weaken the exchange rates and imbalances will be balanced. That it the advantage of a superneutralised currency area to consider the different economical situation of all involved countries.

The situation changes if the first country will change into a low interest national currency. Money creation of low interest money not effected by interest compound. Due to this, low interest money is closer to neutrality (see red curve in figure 7). In a long term consideration prices of foreign goods based on interest based money could decrease faster (see purple red curve in figure 7) due to the increasing exchange rate  $e_x$  of the low money creation of low interest currency.

Does it affect the trading balance between economies? The answer does maybe not convince, because it will keep a theoretical approach which cannot be validated!

But it can be assumed, that in a long term consideration the price formation in foreign trading will follow the exchange rates as it is doing currently. Also if the exchange rates  $e_x$  are related to the curve which indicates neutral money (see blue curve in figure 7). In the worst case it will be compensated by the consideration of trading imbalances in the equation for the calculation of the exchange rates  $e_x$ .

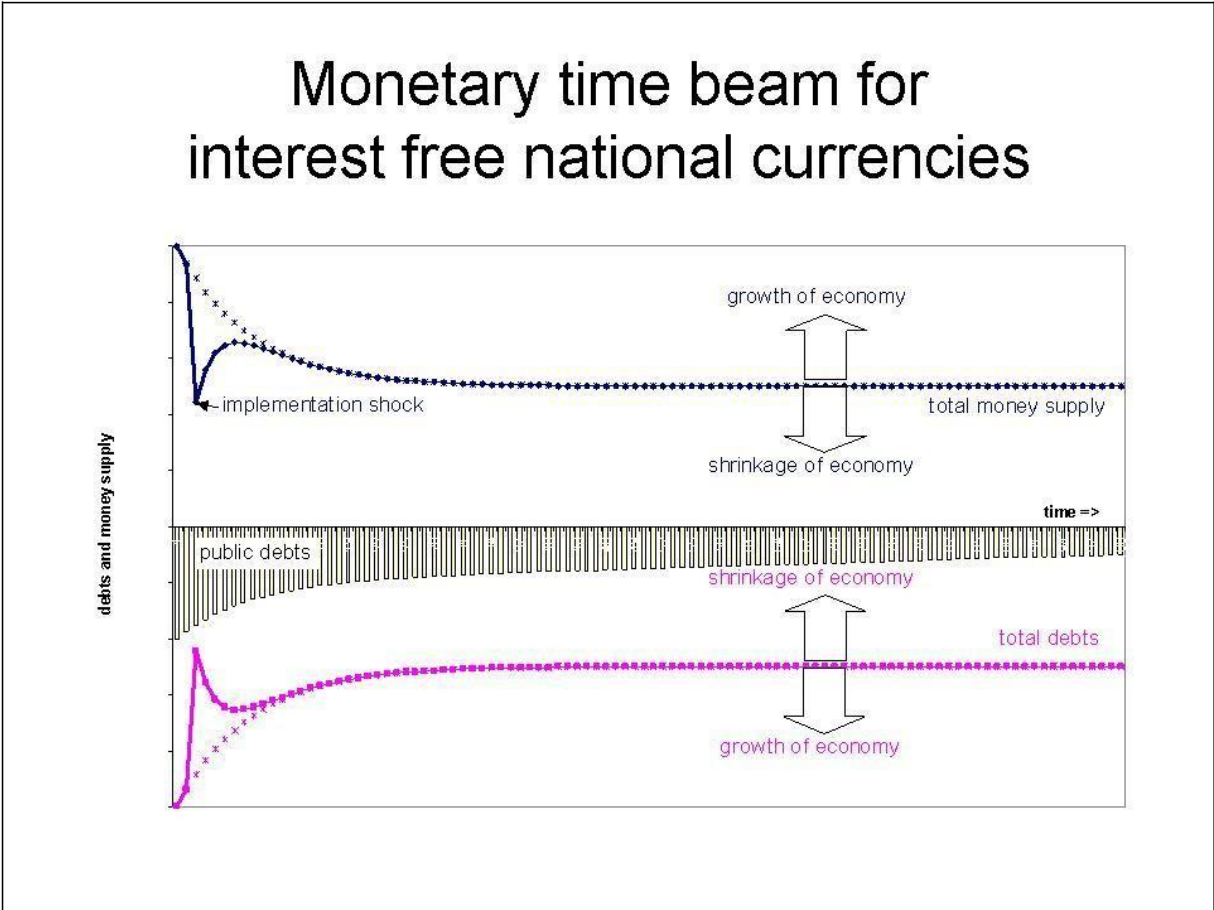


Figure 8) implementation shock and monetary time beam of a low interest national currency

Another effect will endanger national economies much more, which will change to low interest currencies. An implementation shock will appear. It is the flight of Money capital and money owners will try to by up all available real assets. It appears in deflationary crisis too, also without the implementation of a low interest currency.

For the implementation of low interest currencies are measures helpful to ease the shock, which are described in the essay “model of a protected currency area for developing countries”<sup>3)</sup>, like:

- To protect the properties of lower social classes – especially real estates
- And to introduce a national time account to reduce the gap cause by capital flight

Two effects will oppose to the implementation shock, because the effect of reconciliation increases exchange rate  $e_x$

- when capital leaves the country
- and the neutrality of low interest money - the so called bad money.  
It keeps local demand high and will strengthen local business cycles.

To strengthen local barter is the claim of community currencies. But as long as they are only in particular use, as long as they are not the legal tender and will compete with the legal tender, as long they will miss the claim.

It can be assumed that the aspects of reconciliation and the neutrality of low interest money will lead to a fast recovery of economies, which will change to these low interest currencies.

## **Summary**

Our current money is not neutral. It influences the decisions of our daily life strongly. Many people suffer by the success of homo economicus, who is able and willing to destroy the existence of humans and whole nations, if it is beneficial for himself.

Means, money is everything but not neutral.

I repeat myself if I predicate that it would be very useful to have a look onto our current monetary system, which is not perfect It can be improved and it should be improved to come closer to a monetary system which works neutral and benefits our life.

## Appendix

1. essay with the title “financial crisis explained by the theory of Freigeld“ available at [http://www.globethics.net/c/document\\_library/get\\_file?p\\_l\\_id=4343390&folderId=11218730&name=DLFE-18243.pdf](http://www.globethics.net/c/document_library/get_file?p_l_id=4343390&folderId=11218730&name=DLFE-18243.pdf)
2. availability of the essay “model of a neutralised currency and exchange system for central banks - part I introduction “ at <http://sdocument.ish-lyon.cnrs.fr/cc-conf/conferences.ish-lyon.cnrs.fr/index.php/cc-conf/2011/paper/viewFile/91/7.pdf>
3. availability of the essay “model of a protected currency area for developing countries - part II application“ at <http://sdocument.ish-lyon.cnrs.fr/cc-conf/conferences.ish-lyon.cnrs.fr/index.php/cc-conf/2011/paper/view/91.html>
4. money supply of the EURO zone - see <http://sdw.ecb.europa.eu/browse.do?node=2120793>
5. reference list of figures
  - a. figure 1) – equations for superneutralisation – step one – determination of world money supply
  - b. figure 2) – equations for superneutralisation – step two and three – fixation of share and determination of exchange rates
  - c. figure 3) equations for the superneutralisation of the Euro zone
  - d. figure 4) consideration of inner European trading imbalances
  - e. figure 5) effect of reconciliation on the monetary time beam
  - f. figure 6) the non-neutrality of interest based money
  - g. figure 7) effect of money supply on price creation
  - h. figure 8) implementation shock and monetary time beam of a low interest national currency
6. see also the following blog: <http://www.sehrglobal.blogspot.de/>