



The NEURO: Supplement to the EURO

State Parallel Money: an Alternative to Abandonment of the Euro

by Christian Gelleri, September 2012

The Existing Situation

"Interest rate reductions don't carry over into the real economy."

(Jörg Asmussen, ECB Chief Economist, in Die Welt, 4 September 2012)

Saving the Euro is looking more difficult than ever. All solutions proposed so far have stopped short of addressing root causes of the predicament, which stems from a congenital flaw of the Euro: The unified currency is blind to regional and structural differences among the member states. The legal tender issued into circulation in Southern Europe is weaker than its northern counterpart in three ways.

1. Private bank money creation lags considerably. The Southern European economies have less access to liquidity.
2. Money circulates much more slowly in the South.
3. Large quantities of liquidity leak out as payment for imports.

Witness the following empirical comparison between Germany and Greece:

2011 Data	Germany	Greece
Cash money per capita	2,701 euros	2,159 euros
Money Supply (M1) / Cash	6,3	4,5
Per capita money supply trend 2010 – 2011	+ 890 euros	-1,542 euros
Circulation velocity M1	1.87	2.25
Growth Rate GDP	+ 3.0 %	-6.5 %

Sources: Deutsche Bundesbank, Bank of Greece, Statistisches Bundesamt

The ratio of M1 liquidity supplied by private banks vis-à-vis legal tender reserves (the "money creation multiplier") is significantly smaller in Greece than in Germany. Although the European Central Bank has expanded the money supply and an increase might have been expected in all European countries, Greece in 2011 witnessed a massive outflow of money. And the remaining, smaller money supply circulates only very slow compared to the circulation velocity before the introduction of the Euro. The result of this threefold contraction of the economy is an overall shrinkage of 6.5% -- in other words, a collapse. This provides a dramatic confirmation of the textbook precept that a unitary currency adopted in a heterogeneous, strongly differentiated currency zone will lead to high economic costs (Braasch 2002, Krugman/Obstfeld 2004).

The continentally uniform money policy of the ECB can of course increase the volume of legal tender via interest rate reductions. But this expansion evaporates if the banks don't issue sufficient credit and money velocity declines. Most notably in the Southern Euro Zone, buying power has been steadily sinking. Investors hold back; loans sought from commercial banks have become unaffordable in spite of the central bank's minimal interest rates. In Greece unemployment has surged to over 20%, youth unemployment in fact to over 50%. The Greek economy is shrinking to a degree comparable to the 1931-32 climax of the great

depression in Germany. Monetary policy needs to take into account the causes and regional differences of these phenomena if economic costs are not to spin out of control, increasing the likelihood of the euro zone's disintegration.

The Rationale for Parallel Currencies

Parallel currencies are being selectively introduced to supplement the euro in countries and sub-national regions in order to confront the actual causes of the crisis. This approach is never undertaken in isolation, but always in conjunction with other debt reduction measures and structural reforms. Complementary currencies such as the Swiss WIR franc and the German Chiemgauer provide practical examples of how these currencies can function over a span of many years (Gelleri 2008). Parallel currencies provide a means to regain decentralized control over economic policy. They may be structured in various ways (Kennedy et. al. 2012). They can be introduced at the local, regional, and national levels. Issuance can be handled privately or governmentally. The parallel currency may be coupled explicitly to a pre-existing currency, or it may take shape as entirely independent money creation. Parallel currencies may be fully or partly convertible into other currencies, or not at all. The unit of account employed may be a national currency or any of a number of other value units (time, kilowatt-hours, a basket of commodities, etc.). The following paragraphs will introduce the NEURO as a parallel currency appropriate to the current situation.

The NEURO

The NEURO will be issued in a given country or region to complement the euro, aiming to provide adequate liquidity and monetary circulation and to reduce the outward flow of money from the affected region (Gelleri 2000).

The NEURO concept can be implemented in the following way at the national level:

1. The European Central Bank authorizes the monetary policy initiative in accordance with Article 20 of the ECB statutes. The respective national central bank organizes issuance of the parallel currency internally or via the founding of a dedicated institution (NEURO bank).
2. The innovation is ratified either by parliament or via direct democracy, and is introduced at the national level. Regional introduction is also allowed.
3. The value of a NEURO is pegged at exactly one euro. The euro remains the only unit of account. NEUROs are subsumed in the money supply computations of the euro system.
4. Money creation is implemented on the basis of an escrow account of central bank euros, assuring the credibility of the NEURO (Krugman/Obstfeld 2004, "Currency Board"). The minimum reserve rate is set at 90% of the value of created NEUROs for liquid assets with a maturity period of up to one year. The level of the NEURO money supply will be determined by the central bank independently of the commercial banking system.
5. The euro escrow assets are held by the central bank for redemption of NEUROs in euros. In the event that stable monetary circulation is achieved and the NEURO is to be established on an unlimited basis, recoverable securities may be acquired.
6. The conversion fee (charge for converting NEUROs into euros) is set at 10% in order to stem the outflow of liquidity. The rate can vary depending on the level of the trade deficit.
7. A spending incentive (a charge for holding liquidity) of 8% annually is assessed on all NEURO demand deposits in order to increase money velocity and to stabilize it at a high level. This 8% rate can be varied in accordance with the principle "as low as possible while guaranteeing a consistently high level of money velocity".
8. Demand for NEUROs is set into motion by the state. Euros will be exchanged for NEUROs in the amount necessary to pay half of the state's outlays (salaries, social services, investments etc.). Thereby every month a steady supply of new NEUROs enters circulation. The state receives from the central bank a bonus of 10% for exchanged euros, financed via the conversion fee.
9. The state (or region) accepts NEUROs at 100% for all services, taxes, and fees. Owing to the deficit status of the state budget these NEURO receipts are immediately to be spent.

The spending incentive motivates the brisk circulation of NEUROs very effectively.

Anyone possessing both euros and NEUROs will spend the NEUROs first, since they lose value if held onto. Money velocity increases. In Wörgl, community money velocity was many times faster than that of the legal tender (Broer 2007). The Chiemgauer circulates three times as fast as the euro (Gelleri 2008). For the individual money holder, the annual cost of the spending incentive is transparent and manageable. Someone who earns 800 NEUROs as part of his/her monthly salary and maintains a checking account average of 400 NEUROs will pay 2.67 NEUROs per month. If monthly expenses can be met at the beginning of the month, the cost can be reduced to under 1 NEURO. So all money holders will attempt to keep the cost low by spending their money swiftly. By a conservative reckoning, money velocity should at least double. In accordance with the quantity formula ($M \times V = Q \times P$) (money volume \times velocity = quantity \times price), increased circulation velocity may produce three effects:

- Growth of Q: More goods/services are demanded, capacity utilization rises.
- Reduction of money volume M by re-exchange of NEUROs and/or displacement of euros.
- Inflation of P: Prices will rise.

In the Southern European countries a high percentage of economic potential is not being utilized. Huge productive capacities are going begging. Thus an increase in money velocity will very likely have a positive effect on demand.

Furthermore, not the entire money volume will be switched to NEUROs, but only a part. Therefore the rise in demand will be incremental. As soon as unutilized capacities have been filled out, a rise in velocity would lead to displacement of euros. Assuming doubled velocity, one NEURO will replace two euros; therefore the volume of money in the economy will shrink. The economic frugality principle demands that productive potential be realized with the smallest possible amount of money. Short-term demand deposits thus become first and foremost transaction media. Functioning as a store of value, on the other hand, NEUROs will be deposited as saving certificates that come to term after a year or more.

If the central bank should decide to pursue an expansive monetary policy despite the economy's having reached full capacity, rising prices would result. If this should happen uniquely in a country using NEUROs and not in others, the NEURO money supply could be reduced in order to keep prices from inflating. The advantages of the NEURO model's fine-tuned manipulability would become fully apparent in this anti-inflationary context.

A frequent misunderstanding concerning the spending incentive is that it would cause saving to cease. Of course this is a possible outcome. If money holders don't need their NEURO liquidity, they can offer it for sale on the market. Banks and other financial intermediaries will play here the same broker's role as with the euro, matching supply with demand. Money holders will try to avoid paying the spending incentive penalty, but also will want to gain a return on their investments. Credit applicants will insist that they be able to transact their investments in NEUROs. They will be willing to pay interest at a rate concomitant with the expected yield. If credit demand is relatively high, savers will receive positive interest on their savings. Given a high propensity to save and a low level of credit demand, on the other hand, negative interest applied to savings could result. The following scenario appears most realistic: Savers receive no interest, but also pay no spending incentive penalty on their savings. The intermediary bank assesses charges for administration and risk.

Alternatively the NEURO holder could change the NEUROs into euros for investment purposes; given the conversion fee of 10%, this euro investment would need to earn a high interest rate. Thus the interest difference between euro and NEURO loans is closely related to the one-time conversion fee. Short-term investments will show a greater interest rate disparity, longer-term investments a smaller disparity. Overall the lower interest level will strengthen investment activity. The investments in turn represent demand for domestic goods and services, thus raising the domestic production potential.

The conversion fee serves to equalize an existing negative trade balance. If the trade deficit is reduced and the economy's competitiveness increased, the conversion fee can be lowered accordingly. The domestic economy gains temporary protection, allowing it to make up for moderate arrears in productivity. When the state puts NEUROs into circulation, it assigns to payment recipients the expectation that they will buy preferentially from domestic sources. The money system remains open, however, because all foreign goods can still be purchased via the conversion mechanism. The conversion fee internalizes the external costs of a negative trade balance. It is an innovative tool for achieving balanced, sustainable free trade in the euro zone.

To pay for imports, Greek buyers will use euro income (2009 import quota: 28.5%); for the now-prioritized domestic supply, NEUROs will be employed. Reconversions back into euros will be reduced to a minimum by way of intelligent liquidity management. **A largely closed NEURO circulatory loop will come about between the 820,000 Greek enterprises, households, and state offices, supplemented by euro payment streams from foreign trade.** If the desired regulatory results take root in the domestic economy, the conversion fee will play an ever smaller economic role. The price level for foreign goods will be only marginally affected, if at all.

A NEURO-oriented monetary policy can solve the cyclical underutilization problem at very low cost. The expense of setting up the technical infrastructure, and attendant operational costs for commercial banks and the central bank, will be vanishingly small compared to the economic damage that would result from negative growth, or to the long-term burden of loan-financed state expenditures.

Economic Accounting Model for Greece

Basic economic presuppositions:

- Euro gross domestic product (GDP) 2008: 230 billion €; GDP 2011: 215 billion €
- money volume M1 2010: 111 billion €; M1 2011: 95 billion €
- circulatory velocity GDP/M1 2011: 2.25 x per year
- state expenditures 2011: 108 billion €; state revenues 2011: 88 billion €
- Greek public expenditure quota 2011: 50%

NEURO model using the following assumptions:

- undercapacity, potential GDP gap: 65 billion €
- half of state revenues issued as NEUROs; no new debt assumed
- NEURO money volume built up steadily over 12 months
- doubling of money velocity using NEUROs

Model Calculation 2013 -2015	Euros €	NEUROs N€
State expenditures monthly	3.67 billion	4 billion
Average money volume	71 billion	2013: 15 billion 2014: 20 billion 2015: 25 billion
Money volume multiplier	2.25 x	4.5 x
Generated GDP volume	160 billion	2013: 67,50 billion 2014: 90,00 billion 2015: 112,5 billion
GDP growth in three years		57,5 billion
Tax revenue growth		25 billion
Conversion + spending incentive revenue		6 billion

In the model projection the economic growth impulses are established dynamically over a three-year period. An 8% growth rate is projected already for the first year; after three years economic performance will have grown by 57.5 billion euros. An estimated 31 billion euros will have flowed to the state via taxes, fees, and services. An economic gain results for all participants; unutilized capacities have been fully engaged.

Euro exit the preferable alternative?

Weak euro zone countries could exit the zone and return to issuing their own national currencies. But since their debts are payable in euros, and these euros will be strongly revalued upwards after their exit, the indebtedness after a declaration of state bankruptcy would be worth practically nothing. The negative trade balance would be temporarily evened out by a severe devaluation of the new currency. The domestic economy would be dealt a shocking blow. State bankruptcy would in all likelihood be followed by a devastating wave of bank failures that would burden the economy with consequential costs for years to come (Rogoff/Reinhart 2009). Access to the international capital market would be blocked for years – not only for the euro-exiting state, but for the private economy as well. It would take years to rebuild trust. – This all would be reflected in a very low currency exchange rate. Wages would fall drastically. Foreign products would be well-nigh unaffordable for the average wage earner. The only resultant advantage would be an even trade balance, resting however not on productivity growth but on a dubious weak-currency policy. Structural improvements might well be delayed. A similar effect would result if strong euro countries like Germany or the Netherlands were to exit the euro zone, the only difference being that in that event the euro itself would be severely devalued.

Debt and transfer union: A simpler path?

"The Germans will get their money back."

*(Greek Prime Minister Antonio Samaras,
quoted in the Süddeutsche Zeitung, 22 August 2012)*

The fiscal-policy attempt has been made to even out geographical and social imbalances with debt-financed state expenditures. An exponential increase in state indebtedness has been observable in Europe over the past several decades. The state indebtedness quota of all EU states has risen from an average 30% in the early 1970's to just over 90% today. That by itself is breathtaking enough. But Greece, Italy, Ireland, and Portugal show debt ratios of over 100% of GDP, placing them among the ten most highly indebted countries in the world. Their above-average indebtedness can be ascribed to long-standing trade deficits (Sinn/Wollmershäuser 2012). These multi-year deficits have led furthermore to a high net rate of foreign debt. Greece, Portugal, and Spain all hold foreign obligations amounting to a year's worth of economic output. 15% of Greek state expenditures go to interest payments alone. Refinancing attempts have regularly relied on new loans. Before the establishment of the euro, states had access to the finance policy tool of excessive money creation, which led repeatedly to periods of high inflation and therewith to de facto dispossession of creditors (Brissimis et al. 2003). This may be an effective way to relieve debt, but it is far from a sustainable economic policy. Just as unrealistic in terms of a lasting solution is the purchase of state bonds by the ECB.

From a fiscal policy perspective, rational limits have already been breached (Buitter 2009); the composite debt is no longer repayable by the affected states. Regardless of what we call the proposed solution – debt-cutting, insolvency, debt union, etc. – we need to realize that further loan-financed state bailouts of the euro-weak countries make no sense.

A better alternative would be to refrain from issuing new loans and pay off the old ones. Several suggestions along these lines have already been advanced (Behrens 2011, Spehl 2010). The ideal solution would be the adoption of the NEURO and paying down old debts with the increased tax revenues that would result, as this would generate the greatest trust.

Conclusion

The NEURO would offer Southern European countries the historic opportunity to get their economies back on track, opening new human perspectives by using new

money. The decisive innovation is a paradigm shift: away from loan-financed state expenditures (deficit spending) and perpetual trade deficits, and toward a dynamic, regionally appropriate monetary policy that will facilitate complete long-term integration into the euro zone.

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About the Author

Christian Gelleri, born in 1973, initiator of the Chiemgauer regional currency, has strongly influenced the spread of regional money in Germany. Holding academic degrees in business and management, he has been involved with regional money and complementary currencies since 1997. Early in 2003, he and six of his students from the Chiemgau Independent Waldorf School in Bavaria launched the Chiemgauer, by now the most economically productive and best-known regional currency in Germany. The project and the author have received several awards: Rio Award of the Kathy Beys Foundation, Best Agenda Project in Bavaria, etc. As a founding board member of the Regiogeldverband (Regional Money Association), he commands a broad perspective over the current status and prospects of regional money. As Chairman of the Board of the nonprofit social cooperative REGIOS eG, in collaboration with his team he has expanded the Chiemgauer from its REGIO-denominated paper voucher form to include a cash-free payment option. He also offers IT services for regional money initiatives. Additionally, since 2010 the REGIOS eG has been supplying interest-free loans denominated in regional money.



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