A program proposal for creating a complementary currency in Greece

Trond Andresen and Robert W. Parenteau
[The Norwegian University of Science and Technology, Norway and and Levy Economics Institute, USA]

Abstract
This paper describes the concept of a national "complementary" or "parallel" currency, and the advantages of implementing it in the form of purely electronic money – no bills and coins. It suggests a fairly detailed program for how a parallel or complementary currency to the euro could be introduced in a crisis-hit eurozone country, focusing on Greece. Finally, some questions and counterarguments are addressed.

JEL codes: B50, E5, E42, G20, G28, H12, H62

I. Introduction

The premise for the proposal to be presented in the following is that the Syriza has, at best, a breathing space of – say – three months to half a year before it must introduce a complementary (or "parallel") electronic currency in order to achieve macroeconomic stabilization of the Greek economy. This paper is written in the recognition that even in hard-hit Greece, a majority of citizens still favour staying within the eurozone.

While writing this (20 May 2015), the Greece drama is worsening day by day, and big changes may therefore occur soon. Consequently, some of the content of this paper may be out-dated by the time it is read – Greece may have decided to pursue different policy strategies than is recommended below.

2. How does a complementary electronic currency (to the euro) work?

Policy proposals for Greece similar to what follows have been put forth earlier by this author, for instance in (Andresen, 2010 and 2012). The additional complementary (also called "parallel") circulating medium of exchange and means of settlement to be proposed will be designated a *Tax Anticipation Note* (TAN), a term introduced in (Parenteau, 2015). The TANs are used by the government to partly pay wages, pensions and for domestic purchases. The TAN enjoys confidence since anyone can use it to pay taxes – more on this below. Transactions are done via encrypted entries through the instrument of mobile phone/SMS. These transactions are automatically received, accounted for and settled on a server with ample capacity at the country's Central Bank. Or perhaps preferably – *for political or legal reasons* – at a bank-like facility established for this purpose outside the government, from now on just called *the TD*: "TAN Depository".

Such a mobile-based transaction system may be implemented through one of the technically proven schemes already in successful operation in some developing countries, also recently put in operation in Ecuador. The system may be implemented to work also with older models of mobile phones, since it may be SMS-based (though the main implementation will be in the form of apps for smartphones).

There are no physical/paper TANs in circulation. The government has a “TAN account” at the TD with no limit. Like bank loans, TANs are created out of thin air as a credit to citizens, and like bank loans they are later destroyed when paid back (in settlement of citizen tax liabilities). The government account is debited whenever it pays wages or pensions, or buys goods or services. All citizens and domestic firms are automatically assigned cost-free TAN accounts at the TD. Interested foreign entities who may also face liabilities to be paid to the Greek state such as custom duties, tariffs, etc. may also be offered accounts (though we will expect TANs to be used mostly by domestic agents). TANs are perpetual, zero coupon, bearer bond, so there is no interest paid to holders of TANs, and in that sense, physical cash has properties similar to a TAN. Private lending denominated in TANs is not designed as an option in the pioneer period of this system, though spontaneous peer-to-peer TAN lending will probably emerge and grow.)

The government pays employees, pensioners and suppliers in a mix of TANs and euros – say 20% TANs at the outset – but this share should (and will) probably increase. One TAN is nominally equivalent to one euro and accepted at the Treasury in settlement of tax liabilities at 1 TAN = 1 euro. It is conceivable private market exchange will deviate from parity from time to time, but we believe there are built in stabilization mechanism inherent in TANs. For example, should TANs trade at a discount to euros in private markets, Greek citizens with tax obligations (and remember, many citizens and firms have large tax arrears at the moment) can give themselves a tax cut by purchasing TANs with euros at a discount, and paying their taxes with TANs, thereby creating a demand for TANs that will reduce if not eliminate the discount through an inherent arbitrage mechanism. The mix of TAN and euro denominated government spending may be adjusted based on how the process develops. Since the TAN may be used by the public to settle tax obligations, it will likely be voluntarily accepted to a reasonable degree as a means of final settlement by many agents; both individuals and firms. TANs do not have to be officially declared “legal tender” to be accepted.

Employees and firms offering goods and services will increasingly – as the scheme gets more popular – decide to accept a certain share of TANs as payment, while the rest must still be in euros. While the government pays wages and taxes in the government-determined mix of TANs and euros, the mix in private sector transactions will be decided freely by the involved parties, and will differ between trades. Businesses that accept a fairly large share of TANs are likely to find that they get an in increasing market share and grow more quickly than their competitors. Notice how this sets up a first mover advantage, which should speed up the adoption of TANs as a means of final settlement in the private sector. Employers and employees may negotiate the share of wages being paid in TANs, based on private portfolio preferences and speed of adoption of TANs. Workers that accept a larger share of TANs in their wages are likely to find it easier to get a job.

With regard to external trade activity, TANs should enable activation of idle labour and production capacity, thereby raising the odds that exports can increase. Thus, even if this extra activity is mediated (partly) with TANs, the introduction of TANs may enhance foreign currency inflow and the ability of the country to service euro debt. In addition, government spending on trade related infrastructure, as well as subsidies or direct fiscal spending on

R&D and marketing of domestically produced tradable goods, should help improve Greece's current account balance as Greece pursues active fiscal policy to escape the ravages of Troika imposed austerity measures.

Another positive effect may be that private sector pessimism is reduced. Increased household and business confidence will decrease the liquidity preference of individuals and firms that currently possess euros, but have been holding back in their spending of euros due to uncertainty or fears related to future cash flow streams related to real productive activity, as well as financial investment activity. For a given amount of euro stock held by agents, the aggregate euro flow will likely increase as confidence returns and liquidity preference shrinks amongst wealth holders, i.e. we should observe an increase in euro money velocity with the introduction of TANs, and undoubtedly, alongside that domestic portfolio preference shift, a share of euros held overseas today will probably be repatriated.

3. Important advantages of electronic TANs versus bills and coins

a) The system can be implemented fast, and adjustments that turn out to be needed can be implemented in software, therefore very easily.
b) The system is very cheap to run, compared to a system with notes and coins. and forgery is impossible.
c) There is no confusion with bills and coins (i.e. euros) that are already being used.
d) No deposit insurance is needed. Money TANs cannot be lost, and this is clear to the public – thus there are no bank runs.
e) A black economy in TANs is nearly impossible. The same is true with respect to tax evasion. Intelligent software can monitor transactions 24/7, and such software can flag human monitors when suspicious patterns emerge. Knowledge of this implies a credible threat, so that agents to a large degree will abstain from even attempting illicit behaviors or gaming of the system.
f) TANs cannot be used for capital flight, since they only reside at the TD, and are primarily useful in settling Greek tax liabilities.
g) Also, some more monetary policy advantages merit mention: negative interest on money held (demurrage) may be easily implemented (as the ECB already has to some degree with its negative deposit facility rate, to speed up circulation if that is needed.
h) There is another possible control tool with the opposite effect is also made possible by TANs only existing as accounts at the TD: a tiny but adjustable *transfer tax* between any accounts could be implemented as a form of restrictive policy. This would be incredibly more effective in dampening an overheated economy than an interest rate hike. As far as the authors know, this is a feasible tool that has not been considered in the large economics literature on inflation control. For more on this, see (Andresen, 2013).

4. A possible program for getting a TAN complementary circulation system working

The government needs to implement some measures, and the parliament may need to pass some laws:

- The first is the creation of a new unit that enters into a TAN contract with the government, the TD. The TD handles all TAN transactions. It creates TANs for the government to spend, and retires TANs when they are used to pay taxes.
- The second is that payment to public employees and pensioners may be done partly in TANs, possibly with some legally binding upper bound on the TAN share.
- A third is that all agents can pay Greek government imposed taxes and fees with either TANs or euros. For tax accounting purposes, one TAN then counts as one euro. But there should be an upper bound on the share of TANs.
- A fourth is that all mobile phone operators shall be obliged to install and run the hardware and software needed for the TAN system, and that the fees they are allowed to collect for transactions are capped, at very low levels. These costs should be covered by the fiscal budget, not paid directly by the user.
- A fifth is about exchange between TANs and euros. There will be exchanges, and the exchange rate should be allowed to float freely. But there should possibly be some measures against types of speculative activity. The TD should be given authority to implement such if that is deemed necessary. A possible problem would be large and fast speculative movements in and out of TANs. These can easily be damped by automatic levying of Tobin taxes based on volume and size of transactions, with one advantage of the TAN system being wholly computerized and residing at one agency only.

Technical and organisational preparations

The government must tighten up its tax collection procedures, as well as insure a more equitable and legitimate distribution of tax liabilities across the Greek citizenry as a condition for the introduction of TANs. The government must ensure that the mobile infrastructure is up and running smoothly before the launch date, with testing and fixing of all problems that have emerged so that everything is ready in time. We recommend copying from existing systems that are up and running. One should also prepare a network of physical outlets that can help the public in using the system. Greece has an extensive network of post offices that might be assigned such a task.

Public information and debate

An information campaign must be run so citizens understand the intent and operation of the TAN alternative government financing system. The government encourage the media to disseminate accurate information and allow forums for public discussion. A crucial part of this initiative is to convey some understanding of monetary systems and modern money theory to the public.

Negotiations with unions and domestic organisations

They must be convinced to accept a share of TANs in wages, especially for public employees and pensioners.

Advice and help to businesses

Firms will have to adjust to two types of payment from customers, complicating matters. To some degree the TAN side of accounting can be automated, since a given business can have more than one TAN account at the TD. Tax payments can also be automated on the TAN side. The TD should help with apps, software and device solutions for fast and convenient TAN payment in shops and on public transport.

A central organiser of the system

Probably it is most convenient to assign all tasks related to the introduction and running of the TAN system to the TD, which must be amply and competently staffed. The TD must be supervised by, and cooperate extensively with, the Treasury.

Political process versus the EU

Ongoing negotiations should openly acknowledge the intention of the government to launch an alternative government financing mechanism that introduces a complementary currency system without leaving the euro. The EU side ought to be convinced that the stimulus of TANs to the Greek economy will improve Greece's ability to grow the economy and service euro debt. An agreement on the euro debt service issue should then be more feasible than today. On the other hand, if disagreement persists, Greece will have a stronger position in negotiations because of the TAN alternative that they can still go forward with, as opposed to today where they are completely dependent on further euro injections to avoid the economy grinding to a halt.

5. Discussion

The following discussion will addressing many of the counterarguments against, or expected questions about, the TAN proposal.

The issue of "confidence"

From the outset, TANs will enjoy a certain minimum of confidence because they may be used to pay taxes, as already mentioned. Despite this, initial confidence in TANs may be low, not the least because of widespread distrust in authorities. To discuss the prospects of a TAN, it might be useful to define two entities, "*trust*" and "*need*". Even if trust is low at the outset, need is very high: some initial use of the TAN should be expected because of the alternative of no work or no sale is considered even worse than the risks of using TANs in settling private transactions. *Need will ensure some TAN circulation, even if trust is low*. One may envisage a turbulent start-up period where the euro/TAN exchange rate dives because of scepticism and scaremongering, but that the government stays calm and spends TANs in the promised mix, gradually removing panic and leading to more optimism. With time, a positive feedback process is likely to be set into motion: agents will observe that transactions with TANs are happening all around them, and this will increase trust, leading to more acceptance of TANs, and so on.

Inflation in TANs?

Assume that the government recommends that firms are asked not to set prices in TANs high, but instead safeguard themselves in the start-up period by setting the initial TAN *share* of an item's price low. What the government recommends will of course not necessarily be followed by vendors, but many may try this as a starting point. We should expect that firms (and individuals) that offer products or services where the dominant input factors are domestic, will be most willing to try offering a significant share of TANs in what they accept as payment. In addition, we indicated innovative policy measures, like transaction taxes, as well as reduced fiscal expenditures and TAN issuance, which can be used to manage inflation. As long as the economy is far away from full employment and firms have significant idle capacity, TAN inflation pressures will not be strong. When the economy approaches full employment through TAN financed fiscal stimulus, emerging bottlenecks can be flagged early and dealt with by both targeted public/private investment initiatives, as well as active labor market training programs. This becomes a pro-growth way of addressing possible inflation threats, rather than the typical austerity policies advocated and enforced by the IMF.

TANs and external accounts

At the other end we have products that are imported, and the domestic input factors are subordinate: cars and petrol are examples. Here one can expect that only with time will such sellers start accepting TANs, and the share will never become high. But there will also be a mechanism at work that is pushing in the right direction: when TAN use has reached a significant level for other consumer items, for instance food (where domestic input factors are significant), import-based firms can negotiate a larger wage share being paid in TANs and the rest in euros, hence allowing also such firms to accept a share of TANs in the items they sell. An important aside to this is that the circulating TANs will enhance domestic output. To some degree this will lead to import substitution, thereby, ceteris paribus, increasing net exports, which is a good thing regarding the ability of Greece to accumulate euro reserves in external transactions, and thereby service euro denominated external debt.

But regardless of possible government declarations about how the complementary currency ought to be valued, one should expect the TAN to converge to a value somewhat below parity with the euro. And not floating the TAN versus the euro will lead to growth of a black market.

People not having access to, or wishing to use, mobile phones

Some (among these, especially elderly) people do not have a mobile phone, or are not used to using a mobile phone. In addition, there are districts in Greece with weak mobile coverage. One may let the post offices – suggested earlier as a possible network of outlets for the system – offer people the alternative of using a (paper-based) cheque or giro system to pay expenses in TANs, if the mobile phone for some reason is not an alternative. But such traffic will necessarily be negligible because the mobile phone alternative is so much more convenient. In addition, this would be an opportunity for the Greek government to pursue public investment, or encourage private investment, in telecommunications infrastructure, with the use of TAN financing to accomplish this development goal.

Why not pay all taxes in TANs?

Some proposals suggest that *all* taxes might be paid in the complementary currency, not euros. We believe that would result in TANs not being used for transactions but immediately recycled back in taxes, and the government will not get euros. Yanis

Varoufakis has suggested a solution (Varoufakis , 2014) to force complementary currency into private sector circulation and avoid use of these for immediate repayment of taxes. As we understand him, his proposal entices holders of surplus euros to buy what he calls *FT-coins* from the government, thereby giving the government more euros to spend. FT-coins can be used for tax payment, but not before – he suggests – two years. Every FT-coin has a time stamp and is thus unique. For Greek society as a whole, this corresponds to an increase in euro money velocity without increasing the stock of euros outstanding in the Greek economy. It resembles the government selling a type of bond to the public, since the FT-coins are "bought back" with accrued interest later on, when they are used by the holder to pay taxes. It is essentially a method to get people to buy government debt, so that the government gets more euros to spend. One then depends on the mood and the willingness of "surplus" euro owners, and hence leaves the Greek government financing at the whims of the portfolio preferences of private investors, much as is the case currently. This is in stark contrast to a more convenient directly circulating complementary currency like the TAN alternative government financing instrument, which is homogenous and divisible down to a "TAN cent", and an unlimited tool controlled solely by the government. TANs do not depend on any willingness of bond buyers. TANs also can play a key transition role, unlike FT-coins, in facilitating a gradual euro exit, as well as a complete reinstatement of a sovereign currency, if that turns out to be the direction chosen by the population after exhausting reasonable paths of compromise with the Troika.

Greece needs investment, i.e. lending in TANs

At the outset, the immediate problem is to increase employment and activity, in order to close the enormous output gap, and thereby address the externally imposed humanitarian crisis that is shredding the social fabric of Greece and depleting its social capital while constraining and further eroding its economic potential. This problem may be addressed initially by simply spending more money (both euros and TANs) into the economy. The TAN tool allows the government to instigate emergency employment schemes by spreading its available euro spending flow also to the unemployed. Investment and lending can initially be in euros like today. But saving and lending in TANs may eventually emerge in a spontaneous fashion. If that is not considered sufficient, one may involve the commercial banking system in establishing TAN lending in parallel with euros, particularly if Syriza follows through on the necessary nationalization and recapitalization of its banking system, which after all, was one of the planks in its electoral platform.. An investment loan by a bank with a TAN component can suffice for a business as long as a) the business has Greek tax liabilities, b) other businesses and citizens it transacts with have Greek tax liabilities, and consequently c) its employees and suppliers accept TANs in payment for at least some portion of their settlement of transaction.

Euro debt and euro capital flight

One may at this stage correctly protest that introducing a TAN does not solve the euro debt problem. It also does not solve the problems of richer citizens moving their euros out of the country to avoid taxes or in fear of losses due to collapse of domestic banks, or due to large scale tax avoidance and the large tax arrears in euros. Regardless, one may reply that without an alternative government financing instrument, and a complementary medium of exchange, an economy is wholly dependent on euros to uphold domestic activity. This puts the country in a very weak position when negotiating debt writedowns and/or lower interest rates and longer repayment times on existing debt. It leaves Greece caught in an external Ponzi financing position, Furthermore, by enabling the economy to run much closer to full capacity and employing a much larger share of the population, the ability to net export increases, and by this the ability to service euro debt. The automatic stabilisers will also be at work, giving the government more tax income, and reducing its expenses for unemployed benefits and other social costs due to the crisis. In addition, by introducing TANs, euros are freed up for external debt service. The euro problems are not directly solved by introducing TANs, even if increased domestic economic confidence may after a while induce many agents to repatriate their euros. The issues of capital flight and tax avoidance/arrears are there regardless of whether the TAN proposal is implemented or not, and must be addressed somehow. They have more serious economic effects without a complementary TAN system in operation. In addition, issuance of TANs as a government financing vehicle does not preclude the continued issuance of Greek government debt denominated in euros.

"TANs are illegal"

Greece has a very strong law from 1927 that does not allow the state to issue or re-issue money of any type (Karatsoris, 2015). One might expect a legal battle where opponents of a complementary currency will try to exploit this law to stop the introduction of TANs. Karatsoris argues[1] that one can get around this obstacle if the complementary currency is not declared "legal tender", not denominated in euros (it can be denominated in itself, with a "TAN cent" the smallest unit), and is run by an entity outside the government. We have already mentioned the extensive network of post offices in Greece which already offer transaction services for the public. One could consider establishing the TAN Depository associated with the central administration of the Greek postal system, supervised by the Treasury.

6. Summing up: far better than the bleak alternatives

A complementary electronic emergency currency can – with immediate effects – ameliorate the strongly and persistently lowered living standards for most people in eurocrisis countries, which is the bleak and only future that the EU and crisis country governments (at least before Syriza) have been able to come up with under the bias toward austerity policies that place reduced fiscal deficits as the highest policy priority, and the key (absurdly enough, as the past half decade of a live experiment in this matter have demonstrated) to future economic growth. By the TAN scheme proposed above, it should be possible to activate the immense underused potential that the Greece and other hard-hit eurozone countries have: unemployed or underemployed people will face better prospects for income generation, timely tax payment, and household debt servicing, thus giving allowing a return to social stability. TAN-financed government spending, and private sector TAN circulation will directly and indirectly stimulate domestic production. It will also give an euro-indebted country a much better position in its bargaining for partial debt relief or less heavy euro debt service burdens.

Finally, it enables a gradual and controlled transition (back) to a national currency, if that is what is wanted by citizens after exhausting attempts at finding a reasonable compromise with the Troika. This proposal gives the population and national assembly in a crisis

[1] We are grateful to Nikolaos Karatsoris for input on the legal issues.

country the freedom and time to deliberate and make such important policy decisions regarding the degree of further participation in the eurozone at any chosen time. It returns a degree of decision making freedom to democratically elected governments, and allows the citizenry and its representatives to base their choices on their direct experience with how the alternative financing vehicle/complementary currency works, and how the economy has fared under this parallel system. It directly confronts the four decade old neoliberal TINA assertion that There is No Alternative, and clearly demonstrates AWIP – Another World is Possible. In this regard, TANs may be viewed as a policy strategy that is, in every sense of the phrase, a revolutionary reform.

References

Andresen, T. (2010). What if the Irish, Baltics, Spaniards, Greeks did this? - A high-tech parallel monetary system for the underdogs, *Proceedings of the 9th Society of Heterodox Economists Conference*, UNSW, Sydney, also here: https://rwer.wordpress.com/2012/03/12/rwer-issue-59/, accessed 2 April 2015

Andresen, T. (2012). A parallel emergency currency via the mobile phone network, Die Parallelwährung: Optionen, Chancen, Risiken. *Bundesverband mittelständische Wirtschaft*, December 2012, pp. 14–17. http://www.itk.ntnu.no/ansatte/Andresen_Trond/articles/sammelpublikation_parallelw%C3%A4hrung accessed 2 April 2015

Andresen, T. (2013). Improved Macroeconomic Control with Electronic Money and Modern Monetary Theory, *real-world economics review*, issue 63, http://www.paecon.net/PAEReview/issue63/whole63.pdf, accessed 2 April 2015

Karatsoris, N. (2015). A Complementary Currency for Greece, *working paper*, http://www.itk.ntnu.no/ansatte/Andresen_Trond/econ/Currency-Greece-Karatsoris.pdf, accessed 20 May 2015

Parenteau, R. W. (2015), Why Understanding Money Matters in Greece, *Naked Capitalism* (website) 9 March, http://www.nakedcapitalism.com/2015/03/rob-parenteau-why-understanding-money-matters-in-greece.html, accessed 2 April 2015.

Varoufakis, Y. (2014), BITCOIN: A flawed currency blueprint with a potentially useful application for the Eurozone, *thoughts for the post-2008 world* (own website) 15 February, http://yanisvaroufakis.eu/2014/02/15/bitcoin-a-flawed-currency-blueprint-with-a-potentially-useful-application-for-the-eurozone/, accessed 2 April 2015.

Author contacts: trond.andresen@itk.ntnu.no

SUGGESTED CITATION:
Trond Andresen and Robert W. Parenteau, "A program proposal for creating a complementary currency in Greece", *real-world economics review*, issue no. 71, 28 May 2015, pp. 2-10, http://www.paecon.net/PAEReview/issue71/AndresenParenteau71.pdf

WEA eBooks

$20 each or 7 for free

if you pay the $50 voluntary membership fee

The Scientist and the Church
Shimshon Bichler and Jonathan Nitzan
The Economy of the Hamster
Mauro Gallegati
On the use and misuse of theories and models in economics
Lars Pålsson Syll
Bubble Economics: Australian Land Speculation 1830 – 2013
Paul D. Egan and Philip Soos
Essays Against Growthism
Herman Daly
Green Capitalism: The God that Failed
Richard Smith
Feudalism, Fascism, Libertarianism and Economics
Eric Zuesse
Developing an economics for the post-crisis world
Steve Keen
Nuevos paradigmas, desarrollo económico y dinámica social
Jorge Buzaglo
Statistical Foundations for Econometric Techniques
Asad Zaman
Wealth and Illfare: An Expedition through Real Life Economics
T. Kurien
Appreciating Mental Capital: What and Who Economists Should Also Study
Robert Locke