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Public currencies to enhance welfare states: two draft plans

Abstract (Theoretical framework, methodology, results etc.)

The fact that most money (97.4% in case of Sterling Pound) is created by private banks as bank credit poses a series of questions, including for the public finance. Currently most revenue for national governments come either from taxes (such as income tax, corporate tax and VAT) and/or by issuing national bonds, but both raises ethical and financial concerns: the money to pay the former has to come directly or indirectly from bank loans, it means the tax payment has to indebt somebody who has to repay not only the principal but also the compound interest, while the latter forces the State itself to repay the compound interest, thus redistributing the national wealth for its creditors at the cost of most taxpayers.

The State Money, advocated by Chicago Plan and Positive Money, among others, has emerged as an alternative to the current monetary system as it will help us overcome what is at stake with the status quo (too much money is poured into the economy for speculative purposes during the boom while the money creation is blocked once the recession begins, stifling the whole economy). The possibility to create money without indebting = enslaving anybody will be a fundamental step towards the creation of a fairer economic system. The countries which have adopted euro, however, find it hard to restore their monetary sovereignty, as this official tender is completely controlled by the European Central Bank (ECB), requiring them to come up with other complementary means of exchange if they are to alleviate the current economic crisis.

This paper will begin with focusing on the issues arising from the public sector's dependency on privately created money. Then two proposals will be depicted as draft plans to change this situation even under the yoke of ECB, i.e.: basic income for child-raising guardians and partial payment of pension in parallel currency. The first one will adopt the demurrage system to make this complementary currency work not

only to give an additional income to families with children but also to provide national economies with another means of exchange which is ensured to circulate incessantly, with the aim that this currency will end up with benefitting the whole population ranging from the superrich to the most marginalised. The second one will be circulated and accepted all over the country as every citizen's obligation for social contribution will work as collateral. Debates will be followed to show pros and cons of each proposal, paving the way for further discussions towards the implementation of such public currencies.

1. Introduction

Currently most of money in circulation is created and put into circulation in the form of bank credit, placing the whole economy at the mercy of the commercial financial institutions who provide liquidity only when they find it profitable to do so, i.e. to give credits and later to ask debtors to repay not only the principal but also the interest rate. This monetary system based on debt and compound interest rate has triggered a series of other problems, such as the pro-cyclical influx of money supply and exponential growth, among others. The built-in unsustainability of our money system calls for a fundamental change in its design so it should serve for the whole populace's prosperity without causing disruptions.

This article begins with mentioning different issues of our money system today, focusing on the fact that most money is created by commercial banks which makes the whole economy, including the public sector, up to the banks' will to create money. Then Chicago Plan and similar proposals are studied to show how they will work once they are introduced. My two proposals with specific uses will be presented as measures to surpass the contradiction that the money needed for people's welfare should be created by commercial banks. And last but not least, different problems will be referred to which need to be solved for the smooth implementation of such parallel currency systems.

2. What is at stake with the current monetary system – from the public sector's viewpoint

Nowadays the growing public debt is turning into a huge headache for any political leader worldwide as any government is forced to service its debts before providing any public service to its own people. Austerity is rather a common norm for everywhere than an emergency measure for only crisis-ridden countries and the public sector has seen more restrictions on its free hand since less and less money is available.

Lietaer et al (2012) points out five features of our current monetary system which are against the sustainable development: "*the pro-cyclical character of the money creation process which amplifies both the upturns and downturns of the business cycle*", "*the systematic encouragement of short-termism because the interest feature of the money system programs 'rational' investors to discount the future*", "*compulsory growth due to the mechanism of compound interest*", "*concentration of wealth" and "a devaluation of social capita*l." Among others, the first feature deals with the monetary creation, which will be examined furthermore on this article.

The current monetary system per se is liable for this misery, as money itself is provided to the economy from commercial banks as bank credit = debt (Werner: 2014a), creating a "*debt economy*" and "*economic relationship which… involves a modernisation and a control of subjectivity*" (Lazzarato: 2011), i.e. "*a virtual economic serfdom in which debtors, struggling to avoid default, are forced into an unhealthy competition with one another*" (Greco: 1990). McLeay et al (2014a, 2014b) prove that 97.4% of Sterling Pound is created from commercial banks instead of the Bank of England. Would it not be paradoxical, if not contradictory, that governments' revenue, which should be spent for non-profit purposes and for the welfare of the whole populace, derives from commercial banks' profit-seeking process and is now up to the benevolence of the Troika in case of some countries?

The whole nation's dependency on money creation by commercial banks leads to another factor against its stable economic performance, as they offer credits = issue money as a moneymaking business and they do it only when profits are expected. Credits are unbelievably ubiquitous during economic booms, especially during a bubble, as banks are eager to leverage this opportunity to make profits while they turn to be reluctant to finance for new projects once this financial party is over and the whole economy gets into a slump because such financial institutions try to avoid increasing bad loans. This means more money is available for the whole economy during the boom, including for the public sector, because of the increased money supply while the access to money is harder during the recession. On top of that, their only criteria is profitability, so this economy's priorities are "*investments in market goods over public goods, regardless of the relative rates of return to human well-being*," (Farley et al.: 2012).

Another serious problem arises when governments issue bonds, as they are obliged to repay not only the principal but also the compound interest rate to creditors, thus transferring the public fund, which should be spent for the public welfare, to enrich them at the cost of the majority of the population. The rule used to be somewhat different, though, for instance the French government could ask the Bank of France for interest-free loans up to 1973, and had this system not been abolished, France's public debt in 2009 would amount only to 8.6% instead of 78% of GDP (Lietaer et al.: 2012). Kennedy (1995) condemns this picture as something "*illegal*" which is against the "eq*ual access by every individual to government services*", guaranteed by the constitution.

It is essential to remember, nonetheless, that money "*does not exist by nature but by law*" (Aristotle). Lietaer (2001) examines this character furthermore, defining it as "*an agreement within a community to use something as a means of exchange*."

3. Chicago Plan's proposal

Chicago Plan is a monetary reform which dates back to 1930s. Its key ideas are expressed in Soddy (1933) as 1) to allow the State to issue an enough amount of money to cancel all the private debts and 2) to force Banks to have 100% reserve in cash. Banks would be still permitted to do their business as moneylender, but they would be deprived of their traditional power to create money. Zarlenga (2002)'s proposal for United States consists of nationalising the Federal Reserve, defining it as Fourth Power (on top of the Legislative, Executive and Judicial ones) and taking anti-deflationary policies on top of the above-mentioned ones.

Jackson and Dyson (2012) proposes the foundation of the Money Creation Committee to be in charge of injecting liquidity by "*(i)ncreasing government spending*", "*(c)utting taxes*" (keeping more money into circulation without withdrawing), "*(m)aking direct payments to citizens*" (similar to basic income) and "*(p)aying down the national debt*", and of withdrawing it by "*removing money … from the government's account*", "*by selling securities… and removing the money received* *from circulations*", "*choosing not to roll over loans to the banking system*" and "*by not recirculating some of the 'Convention Liability' to the government*". Werner (2014b) suggests to simply change a few rules which currently allow commercial banks to create that much money, for instance altering CASS 7, 1.4.6 and 7.1.8 of Client Money Rules in case of United Kingdom, as such a policy will strip banks of their power to create money. Sigurjonsson (2015) endorses such plans, explaining the coexistence of two different types of bank accounts (Transaction Account at the Central Bank of Iceland to spend and receive money in the real economy and 100% risk-free and Investment Account at each commercial bank for investments but subject to risks) to be used.

There is another economic school with a similar proposal under a different name of "modern monetary theory", or so-called chartalists. Their basic idea is to get rid of the get rid of the gold / silver standard which limits the money supply to the amount of these precious metals, giving the Central Bank its power to create money (Mitchell Innes: 1914 and Knapp: 1924).

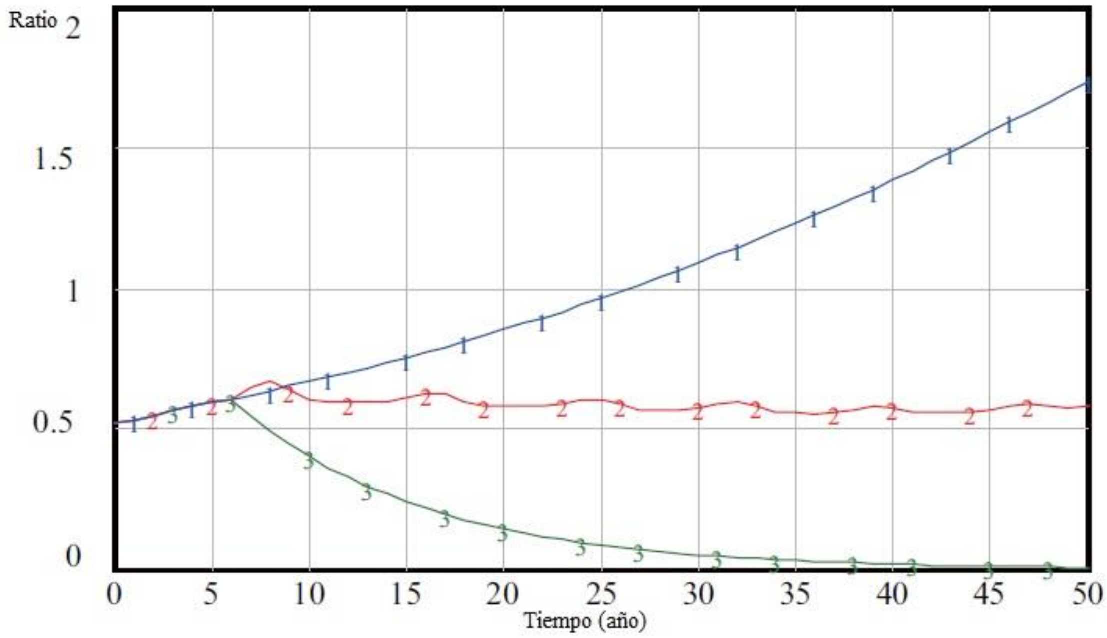
But actually the money-issuing authority, according to these proposals, is not the State itself or the Ministry of Finance as part of it, but the independent Statistical Office (Soddy: 1934), the Money Creation Committee (Jackson and Dyson: 2012) or the Central Bank itself (Sigurjonsson: 2015), to prevent the public sector from abusing this power (the hyperinflation in Zimbabwe up to 2009 is a typical example to be avoided). Its role is to buy private mortgages and public bonds to set them free from their obligation to service the debt.

As for benefits for this monetary reform, Benes and Kumhof (2013) points out the following four advantages on the basis of Fisher (1936):

- **much better control of credit cycles, by preventing financial institutions from creating their own funds during credit booms, and then destroying those funds during subsequent contractions**
- **Complete elimination of bank runs**
- **Reduction in the interest burden of government financing and a dramatic reduction of (net) government debt**
- **a dramatic reduction not only of private debt**

Stiglitz (2003) advices the Japanese government to issue its State currency as an effective way to combat the deflationary trend in Japan. Benes and Kumhof (2013) highlights this monetary reform's another advantage to stimulate the bank credit for productive purposes while discouraging the influx of money into speculations. Also, Yamaguchi (2013) shows that the amount of public debt will decrease and eventually disappear with the introduction of "public money" proposed by himself (See Graphic 1).

Graphic 1: Public debt and GDP[1]



1 (blue): balance, 2 (red): 90% of the primary balance,

3 (green): Introduction of the 100% reserve in the Year 5

On one hand, the money issued under the Chicago Plan is regarded as seigniorage, defined as "*the income one obtains from being able to induce market participants to employ one's liabilities as a money*" (Greenspan: 1996). It is put into circulation when the Government spends it without having collected it as tax etc. beforehand, and it is true that its expenditure is not based on its revenue. On another hand, it is also right to say that the fact that every tax is payable in this currency is the other side of the same coin which sees that this is backed with the possibility to do every taxpayer's duty. From this viewpoint we can say that this currency works as far as the Government is committed to accept tax payment = retrieval of its own liability. Tymoigne and Randall Wray (2013) consider the public debt = seigniorage and the private sector's surplus as two faces of the same coin.

However, there is an important fact to be taken into account on applying this proposal for the Eurozone where 19 sovereign states have already conceded its

[1] Source: Yamaguchi (2013)

central bank operation to the European Central Bank while their former central banks (such as Bundesbank and Banque de France) have turned into this international monetary institution's national branch *de facto*. The reform of this regional currency affects all these countries, each one of them has its own socioeconomic circumstances and different monetary needs which are usually ignored from the centralised power in Frankfurt, and national leaders are not equipped with the power to control their official currency system any more. A friend of mine in Spain says that Mariano Rajoy, who as Home Office Minister signed the law to submit the country's monetary sovereignty, now deplores, as the country's PM, the lack of its sovereignty.

The following two proposals are my humble trials to implement a parallel currency, adapting the theoretical background of Chicago Plan and Positive Money into this specific context of the Eurozone countries.

4. Proposal 1: Basic income for child-raising families

The first draft plan is the adapted version of the two proposals by Gesell (1916), namely: basic income for child-raising families and with demurrage. This German entrepreneur who self-taught economics was against unearned incomes, i.e. rent for landowners and interest rate for moneylenders, as none of them makes any contribution at all except charging fees on the use of their possession, and he suggested the nationalisation of the whole land in a country and the implementation of a demurrage-based national currency whose face value decreases gradually over time.

The complete nationalisation would require everybody and every business to pay rent to the government for land use while this new landowner would redistribute this income among mothers with kids since they contribute to the national economy by raising children = future workforce and consumers. In other words, Gesell tried to make the whole society, instead of each family, in charge of nurturing future generations.

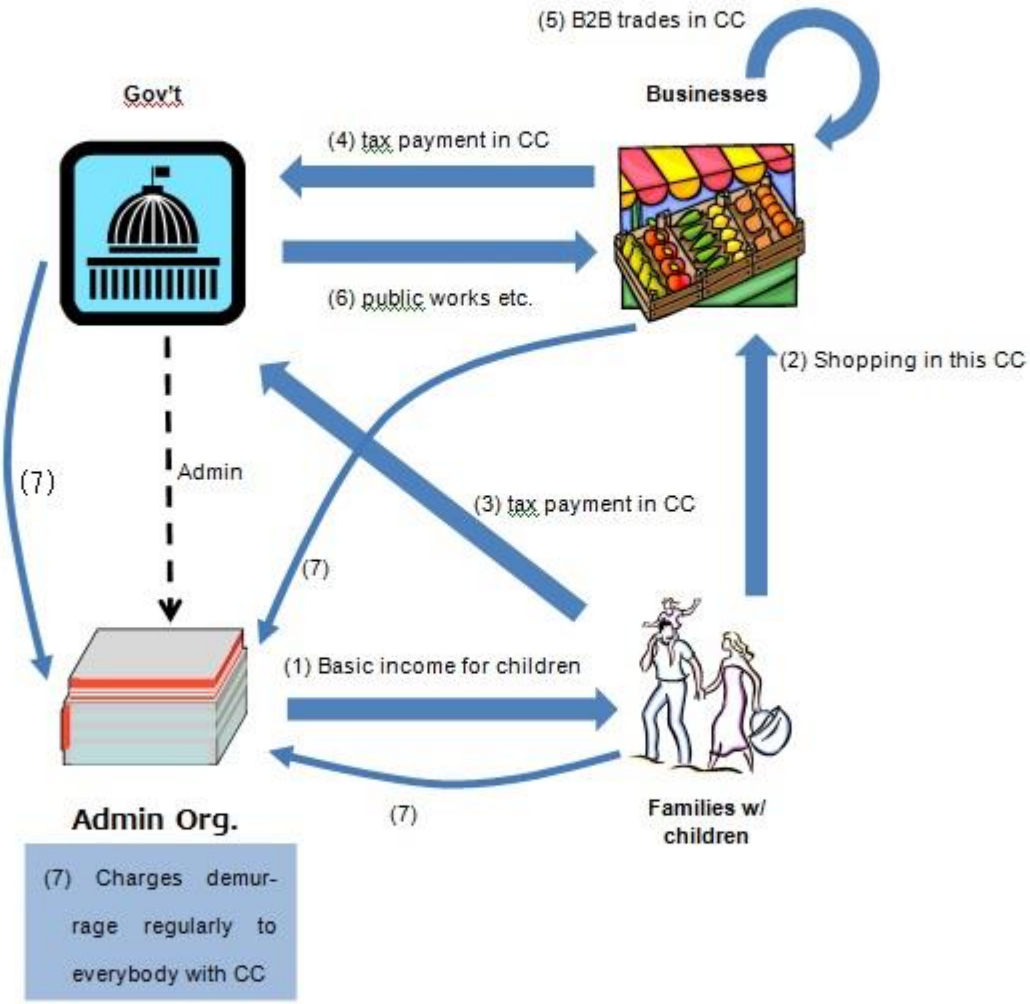
While the end of private land ownership sounds like a communistic idea, this is achieved in Hong Kong, one of the world's most capitalist places, where during the colonial rule the whole territory belonged to the British monarch in order to bring wealth into the metropole. The handover of sovereignty to China kept this picture intact, only changing the owner from the British Crown to the Hong Kong Special

Administration Region government. This income amounts to HK$ 70 billion (about € 8.08 billion) in the budget year 2015 – 2016[2], 14.7% of the Government's whole budget, and each family would receive HK$ 88,540 (about € 10,216) per year and child up to 14 years if this policy were to be implemented there.

Demurrage is a design to make money perish bit by bit by charging holders of money a certain amount of hoarding fee. While Gesell's original idea is to issue a stamp scrip which requires holders to buy a stamp and paste it on the bill on a regular basis to keep this money valid, our current IT will simplify this process significantly when such a demurrage currency is introduced as an electronic currency.

So let's get into the proposal itself, explaining how this system will work (Graphic 2):

Graphic 2: How the basic income for child-raising families will work



[2] Source: http://www.budget.gov.hk/2015/eng/pdf/e_budgetspeech2015-16.pdf (Visited on: 29th August 2015)

1. On every Monday morning (for instance, 6am) the Administration Office will pay 0.1% of GDP per capita in electronic currency for any family having a child of under 15. Parents or guardians (in case of adoption) will receive this basic income in accordance with the number of children that they have.
2. Parents or guardians spend this electronic currency at shops.
3. It is also possible for parents or guardians to pay tax (for instance income tax) in this electronic currency.
4. Businesses too can pay tax in this electronic currency.
5. Businesses can pay for other businesses in this electronic currency too.
6. The government can pay in this electronic currency for public works and/or other expenditures.
7. On every Monday morning (for instance, 5am) the 2%/week demurrage rate is levied from any electronic account back to the Administration Office, preventing excessive money supply and making sure that the whole society repays the basic income (there is no free lunch).

This very quick demurrage rate (2% per week) is designed to allow this currency to be issued and put into circulation without forcing the government to increase tax revenue. Its money supply will remain stable when it reaches 50 times more of the weekly supply, because the exceeding amount will be levied as demurrage over time. Table 1 shows the projection for some countries:

Table 1: amount of money supply for child-raising

Country	GDP (millions of US$)[3]	GDP per capita (US$)[4]	Basic income per child / week (US$)	Under 15 years population[5]	Maximum money supply (millions of US$)
Bulgaria	55,837	7,753	7.75	1,044,193	405
China	10,380,380	7,589	7.59	233,556,402	88,635
France	2,846,889	44,538	44.54	12,416,415	27,651
Germany	3,859,547	47,590	47.59	10,414,157	24,780

[3] Source: IMF, 2014.

[4] Source: Ibid.

[5] Source: CIA World Factbook, 2015 estimated.

Greece	238,023	21,653	21.65	1,509,784	1,634
Spain	1,406,855	30,278	30.28	7,438,462	11,262
UK	2,945,146	45,653	45.65	11,131,525	25,408
US	17,418,925	54,597	54.60	61,017,336	166,577

The number of under-15 population is used here because of the easiness to get data. The maximum money supply is calculated as GDP x 0.05 x under-15 population percentage and is less than 1% of GDP for all the countries which have been studied here, but some countries with high birth rate will have more than 1% (1.04% for India and 2.15% for Nigeria). This humble amount is very important because, should this system be suspended, most governments will be still capable of redeeming these points into official currency.

This policy is expected to raise the birth rate, as this additional income will stimulate couples to have more kids. Most developed countries' Total Fertility Rate (the average number of children a woman has) is less than 2 (and quite often below 1.5), showing that they will face with the shortage of young workforce in the near future. The sound demography is an important factor to achieve a sustainable development and the increase of birth rate is an essential element for any country, especially those which do not consider accepting immigrants as an option to make up for the lacking workforce.

The impact of this new system is not limited to this additional income for child-raising families: this new purchasing power will be immediately spent at the national market, boosting different industries within the country. Obviously the first ones to benefit are those who produce goods and/or services needed by those parents or guardians (such as food and clothes), but those who receive this currency are always obliged to spent it as soon as possible to avoid the loss triggered by the demurrage, and this is how all the industries in the country will eventually enjoy a better economy. The whole population will see their individual income increased as this money circulates more quickly, boosting the national economy. Table 2 shows how much economic effect can be expected from this proposal on supposing that each currency unit is traded once a week (52 times a year).

Table 2: Expected economic impact of this new currency

Country	Maximum monetary supply (millions of US$)	Estimated economic effect /year (millions of US$)	GDP (millions of US$)	Percentage on GDP
Bulgaria	405	21,060	55,837	37.7
China	88,635	4,609,020	10,380,380	44.4
France	27,651	1,437,852	2,846,889	50.5
Germany	24,780	1,288,560	3,859,547	33.4
Greece	1,634	84,986	238,023	35.7
Spain	11,262	585,624	1,406,855	41.6
UK	25,408	1,321,216	2,945,146	44.9
US	166,577	8,662,004	17,418,925	49.7

It is expected that this child-raising fund will not only help child-raising families but also boost the whole economy in general. As this currency is only good for spending immediately and not for storing values, every economic player will try to find a way to get away with it, for instance: paying bonus to employees, spending more for food (buying organic food instead of cheap one), repaying pending debts etc., increasing the GDP. Even the government itself will benefit from this system as the economic growth means the increase of revenue base.

5. Proposal 2: partial payment of pension in demurrage-based currency

The second proposal is based on the question about the types of currencies to be used. Polanyi (1977) defined four functions of money as "*means of payment*", "*standard of value*", "*store of wealth*" and "*medium of exchange*", distinguishing between the first one (something to be spent when somebody "*under an obligation*" is "*settling the obligation*", such as tax, fines and insurance fee, without receiving nothing particular) and the fourth one (something to be spent to get goods and/or services in exchange). The pension is a system to guarantee the elderly's economic life after having worked for decades, so we can easily assume that most of the amount they receive will be spent while little, if any, is saved.

This viewpoint highlights some contradictions between the function of money and the way it is created in terms of the pension system: while it pretends to provide the retired with the financial means of subsistence, therefore "*means of exchange*", the very fund comes from people's contribution ("*means of payment*") in the very currency created by financial institutions for commercial purposes. In other words, the availability of money that workers must pay to support elder ones is at the mercy of the bankers' capitalistic logic of putting money into circulation only when it is profitable to do so. It is therefore necessary to introduce changes to achieve a consistency between how money is issued and what it does.

There is an important point to consider, which could be as novel as an egg of Colombus but also as confusing as the chicken and the egg question: To reverse its income and expenditure structure. Currently what is needed to start a pension system is to charge fees from workers to have enough fund to redistribute among pensioners, and the system has to be always in the black, in other words the system first collects money and then pays it back to the populace. However, based on the fact that everybody within a country is obliged to pay social security, it is possible for the system to begin with paying before collecting it, since this currency has the collateral to be spent for the citizenship to comply with its duty to contribute for social security. In this case, the pension system is always in the red, but the money issued in this way is always guaranteed to be good as "*means of payment*" to the government.

Therefore, the National Committee for Public Liquidity (NCPL) will be founded as the authority in charge of the parallel currency to be depicted below. Similar to the Money Creation Committee (Jackson and Dyson: 2012), it will be an independent organization free from any interference from the national government or the banking sector, although it is accountable for the parliament for its performance. Its main role is to control the money supply of this parallel currency in order to avoid inflation (deflation is more unlikely to happen as far as there is plenty of official tender in circulation). NCPL, however, will do its own surveys to tell the government how its parallel currency should be spent, with the aim of ensuring that money should be spent for those purposes which are incompatible from the capitalist logic of money creation. Typical purposes include, for instance: education, welfare, benefits for the unemployed and allowances for refugees, among many others.

Once NCPL is established, it issues the amount of parallel currency that it considers adequate for certain purposes, and the partial payment of pension in it is the first step towards the independence of the public sector from the money created by commercial banks for profit-seeking purposes. Although there are different possibilities to introduce this parallel currency, some observations on the technical aspects will be highly useful.

- **Support medium**: Either printed scripts (paper / polymer etc.) or electronic media (including mobile phone support), or combining both of them is possible. The printed scripts, such as “labour certificate” in Wörgl, Austria between 1932 and 1933 and “*quasimonedas*” in Argentina issued by different provinces as regional vouchers between 2001 and 2002, are quite easy for people to accept thanks to their physical similarity to official tenders while they need to be meticulously designed and fabricated not to allow counterfeit pieces to be circulated, on top of posing difficulties if demurrage is applied. Electronic media, on the other hand, are quite effective in solving these issues raised in printed scripts, on top of facilitating the accounting system, but at the same time enough attention to be paid to those who are not good at handling electronic devices (such as e-banking, smartphone applications and/or smartcards), especially among the elderly who are more reluctant to use such devices.
- **Collateral**: Although theoretically it is possible to issue this parallel currency with collateral in official currency to enable bearers to redeem in case of liquidation (= to force NCPL to have enough amount of reserve), it is not necessary to do so, because of its very character to be accepted as means of payment for social contribution (and tax etc. if the government chooses to do so.)
- **Demurrage**: This system is always effective on discouraging the hoarding of money and on stimulating its seamless flow. It is to be taken into account, though, that in this case the demurrage rate need not be as high as in the Proposal 1, as this currency will be anyway withdrawn from the circulation when people pay social contribution. The constant issue of this parallel currency is necessary not to exhaust the money supply, which also means

that NCPL needs to study all the relevant economic indicators (especially consumer price index in general and for a series of essential goods and services) to see if this parallel currency is achieving its multiplier effects without raising prices.

One advantage of this system is that the money supply in this currency is quite stable without being affected from economic ups and downs. Banks create more money during the boom while they are unwilling to do so once it ends, making it harder to pay social securities during the economic recession, but NCPL guarantees the influx of a certain amount of monetary influx into the national economy. On top of that, this currency is valid only within the national border and can be exchanged neither with the country's legal tender nor with foreign currencies, forcing its bearers to spend it at the domestic market and boosting this country's economy, stimulating the import substitution.

The next step to be taken into account is that, once this system is well accepted in the whole population in this specific field of the pension system, the national government can enhance the use of this parallel currency for other purposes, provided that this means of payment is good for paying tax and/or other fees due to the government, such as university tuitions, highway tolls and postal services, among many others. Its general acceptance for a wide variety of services from the State is for sure a good collateral for the whole range of economic players in the country. Obviously NCPL should pay special attentions to avoid putting too much amount of money into circulation, because it could trigger an inflation, lowering this currency's value. It is indispensable that the monetary authority in charge of controlling this parallel currency should keep an eye on the move of prices to detect the slightest sign of gap between it and the legal tender, trying to inject an appropriate amount of money supply to stabilise the prices.

6. What is at stake

The author is to admit that these proposals are far from perfect, but it is also true that the goal of this study is not to show flawless solutions which can be introduced universally to any country, but to depict draft plans to be modified later to adapt them to each country's own socioeconomic circumstances. On top of a number of potential legal hurdles, which are so specific to each country's legislative system that they are out of this study's scope, the following six issues can be nominated and discussed.

i.) How to deal with international trades?

Nowadays no country is self-sufficient and is in fact more and more dependent on imports and exports. Obviously the portion of international trade varies a lot from one country to another and in general smaller countries, especially city states (like Singapore and Hong Kong, although the latter is not an independent state), will find it difficult for its basic needs to be satisfied domestically, as most food is currently imported and because of the lack of available farm within the territory. Some modifications in this system will be required to enable bearers of this currency to satisfy their own needs.

ii.) Inability to repay existing debts in this parallel currency

One of the most important reasons for every economic player in any country to try to make money is to comply with their financial obligation to repay debts, but the very characters of this parallel currency, such as demurrage and invalidity abroad, make itself little attractive to creditors. Commercial banks, the main creators of official currency nowadays, refuse to accept it when loantakers try to service their debts because of the different natures. Let us see furthermore what it means.

When the commercial bank gives a loan of 10,000 € to Adam (in this case we provide that this loan is interest-free to make the picture as simple as possible) and he spends this money to buy a car from Becky, she keeps the right to withdraw this amount of official tender from this bank. Adam achieves to get equivalent of 10,000 € in this parallel currency from somewhere and tries to repay it to the bank. Now the bank has the active of 10,000 € in parallel currency and owns 10,000 € in legal tender, but Becky is likely to refuse this parallel currency due to some characteristics that are not compatible with her interests.

The solution would be to allow banks to provide loans in this parallel currency, allowing those with too much amount in parallel currency to reduce their loss in demurrage while providing low or zero interest-rate loans to those in need of liquidity. For example, if the demurrage rate is 5.2% per annum (0.1% per week), it is much better for Charlotte, who has 10,000 € in such a currency, to deposit it at a bank and will retrieve 9.740 € in a year (after deducing the fee of 260 € to be charged from the bank) than to keep it at hand and lose 520 €. The borrower takes 10,000 € and pays back exactly the same amount in this currency on the due date, and the bank takes the difference of 260 € in parallel currency, to spend for its employee and/or pay for other costs (tax, social security, utilities…) but not to redistribute to its stockholders.

iii.) How will NCPL's members be nominated?

It is OK for NCPL to be independent from any existing public structure, but there should be an open process to choose people in charge. The ideal way would be the elections, but it is crucial to raise enough awareness all over the population so they be eager to demand this procedure which is essential on achieving the democratic management of the monetary system.

iv.) How to create more economic impact in the least developed economies?

This challenge is especially related with the Proposal 1. While 5.2% of GDP per capita is a significant amount for developed countries (such as $ 2,839.20 per year in the US and $ 1,574.56 per year in Spain), parents in less developed ones will receive much less subsidy (such as $ 403.00 per year in Bulgaria, $ 171.6 per year in Egypt and $ 84.76 in India) and it is doubtful if this small benefit is enough to help child-raising parents and/or to boost each country's national economy. Lower prices in such countries will diminish the economic gap and we could get another picture closer to the reality on choosing to use GDP per capita from Purchasing Power Parity (PPP) instead of the GDP nominal which is used in this study, but the impact on the economy is still far from enough to really cover the costs which are currently born by parents.

v.) What sorts of public expenditure are adequate to be paid in this parallel currency?

The public sector spends its money for a variety of reasons, ranging from social welfare (pension, benefits…) to infrastructure (roads, hospitals, schools…) and even military logistics, on top of paying official's salaries. Some goods and services are provided exclusively by foreign companies and/or other businesses that are unlikely to accept this means of payment while others find it more useful because of the versatility. It will be NCPL's one of the most important tasks to study which sectors are more appropriate for the use of this currency and to order the government to spend it for such purposes.

vi.) Is it feasible to introduce this parallel currency completely as an electronic currency?

Electronic currencies are quite effective, especially on introducing it with demurrage as it will make it much easier to deal with the cumbersome operations, but at the same time it poses the question that such a system is not necessarily friendly for everybody, above all in case of the Proposal 2 whereby beneficiaries will be the elderly who sometimes find it very complicated, if not impossible, to learn new technologies. Special attention should be paid to figure out if this support medium is socially, economically and culturally feasible in a given country, another traditional medium (like paper scrips and coins) is better or it is worth considering the combination of both.

Conclusions

Our money system has different built-in issues, such as its pro-cyclical character, short-termism, compulsory growth forced by compound interest, concentration of wealth and degradation of social capital, but the most important one is the fact that most of money creation is done by commercial banks, as the public sector's income is up to the amount of money created by these profit-seeking financial institutions.

Different proposals have been done since early times in the 20th Century to let governments recover its power to issue money, such as chartalists, Chicago Plan, Jackson and Dyson (2012) and Yamaguchi (2013) and Benes and Kumhof (2013). These proposals are unanimous in seeing the feasibility of a new system managed by the government and it is worth paying attention to such arguments.

Proposal 1 deals with the basic income for child-raising families. 0.1% of GDP per capita will be paid to parents of each child every week (5.2% of GDP per year) in this parallel currency with 2% of weekly demurrage. On supposing that this currency is spent once a week, Bulgaria, China, France, Greece and UK will see their GDP increased between 35.7 to 50.5%, on top of helping child-raising families financially.

Proposal 2 requires a paradigm shift in the sense that the pension system, currently based on people's previous contribution, will work based on the people's obligation to pay social securities at a later stage. The National Committee for Public Liquidity (NCPL) will be created to inject money constantly in certain fields to enhance the public welfare.

There are some issues to solve, though, such as international trades (as these parallel currencies are only valid within the national border), repayment of existing debts (which is only possible in traditional legal tender) and how to nominate those who control this parallel money system, among others. These proposals' advantages are worth being examined and further studies will be necessary to do more feasibility studies.

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