

A white paper on the Gesellian Pound (GP)-based monetary infrastructure

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## 1. The Gesellian Pound (GP)-based monetary infrastructure

*True economics* (economics as it should be, that is, *objectively logical economics*) – can be very simple. Of course there can be many ways to architect it, and achieve the same purpose, i.e. enabling people to divide responsibilities through the use of money. One particularly convenient example of a *true economic system* is laid out in this white paper, which describes the micro & macro-economics of the *Gesellian Pound*, a new virtual money inspired by the midwar German monetary theorist Silvio Gesell. The GP is an example of a money which, being decentralized (true decentralization is one of the inevitable necessities of *true economics*), can truly be called a "people's currency".

What is a *people's currency*?

Sounds like the U.S.S.R.? The Soviet Union's currency was not truly decentralized. The Soviet economy was "state capitalism", if indeed not "private capitalism"; but it was capitalism all the same, that ancient system which enforces "development" by making capital-lackers run a "rat race" under the duress of capital-owners ([capitalists](#)). Soviet currency was never called "people's currency". Of course the Chinese yuan may be called a "people's currency", but it is at best only a "Chinese people's currency"... and at worst "the currency of firstly the ruling regime and secondly of the Chinese people". In contrast the GP is truly a people's currency, an international one at that).

Who is the GP for?

Everyone; like some other virtual currencies, the GP can be used by anyone irrespective of their nationalities. But those who have a "good" state-backed monetary infrastructure, as in the Scandinavian national regions, can afford to be slow in adopting it. In the early days, the GP is for those who lack a reliable monetary infrastructure, and of course, also for those who believe in its ethical superiority.

Colin McKay, the architect of "Deror", a similar (i.e., people-oriented) currency (or shall we be technical and say "monetary infrastructure"), wrote: "In our ancient past, we traded between ourselves simply by drawing on our public reputation. We did favors for each other (credit), and memorized — later, recording on clay tokens — the I Owe You (debt). Our "currency" was our public Honour. Today, bankers use the magic of double-entry bookkeeping to create IOUs out of nothing. These digital tokens represent our IOU to the bank. Then, by a clever accounting trick — they let us borrow their IOUs as "money"... Why don't we all do the same thing, and just lend to ourselves"?

That is what the GP enables.

With so many virtual currencies out there, why will *this* new currency, the GP, "gain currency", so to speak?

A true people's currency is that which enable people to *live as ends in themselves* and not just *exist as means to the ends* of others. There are "over 500 virtual currencies in existence", but, despite the inadequacy of mainstream economics being a well-known fact – most such virtual currencies were designed without considering the works of forward-looking economists such as Silvio Gesell!

It looks as if the programmers behind these deficient virtual currencies were so preoccupied with their innovations (e.g.: Blockchain<sup>1</sup>), that they failed to study economics, failed to address *the key question* -- what are the characteristics of an ideal currency, and its macroeconomic system? Naturally, then, nearly all modern virtual moneys (including Bitcoin) -- seem to more or less resemble their nationalist fiat counterparts, except for a few minor improvements. They are not even decentralized! The GP is quite different – in, for example, how it is truly decentralized, see point 3.

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<sup>1</sup> As Nate said: “I don't see *any* use case for Blockchain technology. It is a protocol designed for one purpose: to achieve probabilistic (assuming less than 50% centralization) consensus among hostile mutually non-trusting actors, many of whom are active in organized crime, most of whom are involved in obvious scams, and all of whom are motivated by millions of dollars of potential gain. To try to achieve trust, it not only doesn't scale, it is designed to anti-scale - to aggressively consume computing and power resources in an attempt to remain decentralized. But that didn't work. Economics of scale, an exponential technology race, greed, and the block mining reward designed in the protocol, have forced mining to consolidate into an oligopoly. There is no longer any point to the Blockchain. It consumes vast resources to generate no trust, because the economics of mining concentrates power in fewer and fewer hands. In one respect it's working admirably well. It was designed to emulate the operations of capital markets on a rare commodity like gold, and it's doing exactly what Marx pointed out over a century ago that capital always does: centralize power and reduce freedom. This is the opposite of what the Blockchain is claimed and believed to do, sure. But a technology is what it does, and it was designed to emulate capital accumulation, and that's what it's doing. It's a great object lesson on why the free market cannot remain free without regulation, but not much more. If you have privacy and trust, you don't need its vast inefficiency. Just use a database instead.”

## 2. Some more characteristics of this infrastructure

The GP-based ecosystem is:

- a) **Gesellian** (i.e., as per the principles laid out by Gesell, a “rot” is imposed on (exposed<sup>2</sup>) money, in order to:
  - a. increase velocity of circulation, and, at the same time:
  - b. disincentivize (thus extinctify) backward practices (usury, currency speculation, rentiership<sup>3</sup>)

And,

- b) **Pro-transaction** (or "Humanitarian") -- because the GP ecosystem is designed to provide some money to those who lack it. For 2 reasons: the obvious one being “So that they too can get themselves to a position where they can participate in the market”, the second being that “ordinary entrepreneurs, must not suffer due to lack of purchasing power of the population”.

The GP-based alternative economy (monetary infrastructure) provides a ‘welcome bonus’, an amount of 200 GPs; this sum, in the early days (*before correction by the free market*) is configured to equal around \$1000. Once spent, it is irrecoverable and can only be earned back (one should use it to 'learn how to fish').

One of the key disadvantages of Bitcoin-like *cryptocurrencies*:

The trust of the users of the currency, which should ideally be placed on fellow users (as covered below) – is instead placed on "*miners*"; as Andolfatto notes, "the most critical and difficult-to-understand part of the Bitcoin protocol is how it prevents miners from exploiting the system"... For doing so, one needs a "PhD in computer science, cryptology, game theory..."

The GP is not a traditional currency that claims to have "intrinsic value" – indeed it can even be called a *barter/exchange value measurement unit* – a claim justified by its zero inflation mechanism, which limits “available money” (money in the users' 'pocket' accounts) to an average 200 GPs per user.

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<sup>2</sup> (*Money in hand* (pocket account) as opposed to in money in a special type of savings account – see point 5)

<sup>3</sup> To get into the details of how this works, I strongly recommend you read *Natural Economic Order* by Silvio Gesell.

### 3. Decentralization

With any popularly accepted currency, the minimum requirement is that its users must have faith in the issuer. Either we trust government; or we trust money-printing private companies, which both claim to 'represent' the people; but the ideal case is if we trust ourselves, i.e. the people trust themselves.

The GP is such; the people themselves "issue" currency. How does that work? Whenever a user joins the GP economy, money is automatically created in his account (by code), and thereby, he becomes the "issuer" of his own initial money. In addition to that, there is a monthly basic income that follows similarly egalitarian rules of dissemination; the money so created is the only money entering the ecosystem... In that sense, the GP ecosystem is a truly decentralized currency ecosystem.

To summarize the key aspect of the GP, that is, *decentralization*:

- Money created by modern central banks flows to everywhere except into the pockets of the citizenry; it flows into:
  - a. "Defense" sector
  - b. Extravagant, inefficient machineries of governance
  - c. "Too big to fail" mega-corporations
  - d. Repayment of debt to IMF, World Bank etc.
- In contrast, all money created in this system, flows directly, in a veritably egalitarian manner, into the pockets of its users. There are approximately zero fiscal/financial sector middlemen.

It is in this sense that the GP is truly decentralized. Erik Voorhees, author of *Is Bitcoin Truly Decentralized?*, observes: "It may appear that the claim of Bitcoin's decentralization is a myth—an overstated feature conjured up as a bullet point in Bitcoin's marketing brochure, but suspiciously not apparent in the actual product. Bitcoin has no central control: no central repository of information, no central management, and, crucially, no central point of failure". However, the manner in which Bitcoins are disseminated – is not *decentralized*, which, in this context, *must* imply the following: - any currency that is created is distributed *equally* among all its users. This is where the GP differs from other virtual moneys. Bitcoin, in the context of *true decentralization*, can be called half-decentralized, somewhere midway between central bank fiat money and the GP.

The human economy is delicate, to be regulated minimally, not dominated for profit. The GP monetary infrastructure avoids quantitative regulatory activity; it is qualitative. Though the database used is in a location that might indeed be centralized, it's open for all to observe, check, and secure.

The GP ecosystem is controlled by logical rules (e.g. the # process) that were necessary to achieve the system priorities. "Facilitating transactions" is the number 1 priority; zero inflation is a 2nd key priority.

## 4. Basic income



Finally, the wait is over! Basic income is included to facilitate transactions (that is the number 1 system priority). Poorer users of this ecosystem get up to 40 GPs every month depending on their need.

Auto-reproduction of savings (usury/interest), is not a priority; rather, the system is designed to disincentivize it.

"Facilitating savings" is a priority. Saving follows the principle prescribed by Gesell: money saved is taken out of circulation and put into an interest-free "savings account". This is done to create a tangible barrier between *money in circulation* and *money in savings*, so as to enable 0 inflation (for inflation depends upon the total *money in circulation*, which total must therefore be controlled by this method).

## 5. Two types of accounts, Quasi-Gesellian Rot, and Zero inflation

The GP-based alternative economy provides two types of accounts for each user:

- A. Savings account – a latent or half-dead account, similar in some ways to the modern fixed deposit
- B. Pocket account – in contrast to the savings account, the pocket account is something like a live account

The Zero Inflation Mechanism:

Nearly a century ago Gesell’s ingenious solution was using demurrage money and stamp scrip in order to impose a rot on currency. No computers back then (thus this method proved fatally clumsy). Today it’s far easier to realize his concept. In accordance with his principle, funds in pocket, if greater than 200 GPs, will "rot" (be reduced by a small amount)... as a recurring operation adds 50 GP to each pocket account then multiplies the result by 4/5:

amount in pocket plus 50 multiplied by 4/5 ..... (#)

In other words:

Initial average money in pockets = 200 (as all new users are awarded 200 GP). Say, at any time, number of users = N.

As the # process (i.e. amount in pocket plus 50 multiplied by 4/5) rolls over (as the month rolls over) -- regarding the total money in all pockets (which initially equals N\*200), we find that it transforms into:

$(N \times 200 + N \times 50) \times (4/5) \dots$  Which is equal to nothing but  $N \times 200!$

Thus *average* of moneys in all pocket accounts will remain 200 (over the long term at least... read about auto-correction below. This auto-correction deviation results from how users shift money to and from *savings*, causing momentary, negligible, auto-corrected inflations or deflations -- which are nevertheless small enough for us to term this economic system a *zero-inflation system*).

This logical rule (i.e., #) gives different upshots depending on whether “amount in pocket” is greater or less than 200; moneys in the various pockets will get different treatments, as illustrated below:

Before #		after #	
amount in pocket	plus 50	multiplied by 4/5	
80	130	104	all accounts with money less than 200 GPs, gain money
240	290	232	all accounts with money more than 200 GPs, lose some to rot

This is a natural result of the mathematical process (#).

(Note: above, “accounts” are live/pocket accounts, not savings accounts).

At a global level, # is auto-correcting: if *average money in pockets* is greater than 200, then it ensures that this shifts downwards to 200; if the same is less than 200, # forces a shift upwards towards 200.

This auto-correction, which is not contrived but inherent in the nature of the logical operation #, ensures zero inflation.

## 6. Other specifications

- i. Recommended balance in pocket = 200 GP (pocket money above 200 is eroded by rot).
- ii. To protect excess funds from rot, simply transfer them to the savings account.
- iii. The Rot resembles “negative interest” -- it erodes the money of only such people whose pocket accounts tend to carry more than 200 GP (which means that they want instant purchasing power, or don't care about relocating their pocket money to their savings accounts).
- iv. As students of Gesellian theory will know, the rot mechanism is implemented to equalize the status of GPs and other worldly items, ownership of which causes “tax” losses to the owner (e.g.: food rots; unperishable items occupy pricey space etc.).
- v. The money lost to rot, is entirely transferred, in needful measure, to the pockets of poor users (i.e. those who have less than 200 GP in pockets and nothing in savings); the amount thus received is just enough to help them sustain and participate in the economy. The poorest (0 GPs in pockets/savings) get the largest monthly stipend (= 40 GP).
- vi. Purposefully, it takes some time for GPs to travel to and from one's savings and pocket accounts.
- vii. There is a penalty of 0.1% of transaction value, each time one transfers to or from pocket to savings account (this amount lands up with the admins, and will be used for good things).
- viii. One can transfer to savings only if he has more than 200 GPs in his pocket.
- ix. One can only transfer only up to  $N-200$  (if  $N>200$ ) to savings, where  $N$  is money in pocket.
- x. If savings account carries an amount and pocket account dips to less than 200 GP because of some transaction, in that case money instantly "trickles" (goes from savings to pocket, until money in the pocket reaches 200 GP or savings is empty).

## 7. GP accounts

*Your twin (pocket & savings) GP accounts can be accessed by clicking the icon nearest to your profile picture.*

## 8. Use GPs without worry

The Gesellian Pound is engineered for the user's convenience (to take an example, it is not convertible), and as such can't be compared to typical modern financial instruments. Because the GP is a *barter/exchange value measurement unit* as much as it is a currency, and because “who paid who?” is on record -- in the unlikely case that the GP system is unable to continue for some reason – there is, still, absolutely no need to worry due to the GP's status as a *barter/exchange value measurement unit*. It is understood (by whoever uses the GP), that, in case of system failure, all outstanding 'GP debts' will be calculated (see point 12), and repaid in cash or kind. People holding GPs ("receivers") can expect to be almost fully reimbursed by those ("takers") who took from them goods and services in exchange for GPs. In case of system dissolution, takers are legally bound to pay to receivers the equivalent of as many GPs as were exchanged -- in goods, services, or pre-existing local fiat currencies. But it may take a while to recover the 'GP debts'.

Thus in the unlikely event of a "system failure", one can think of all preceding transactions as amounting to loans given by the GP receivers<sup>4</sup>. It's up to the receivers to recover the 'GP debts' -- which are calculated as follows:

If user X (taker) uses 10 GPs (say) to pay user Y (receiver), in that case, while Y does get the benefit of 10 GPs moved into his account, he also gets a safety net -- an implicit contract is created through this transfer of 10 GPs, which can be read as: "in case the GP system ceases to exist, X promises to pay Y the equivalent of 10 GPs in goods, services, or pre-existing local fiat currencies".

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<sup>4</sup> instead of banks, that is... In this way, what the GP ecosystem is doing is transferring the "faith in the currency"; from the banks and central banks which previously created debts, to the people who now own and use the money.

## 9. Initial Pricing Guide for vendors

There will be an initial stage (before the free market engineered within the GP economy grows into full bloom, thus giving cues as to the appropriate pricing for offered goods and services) – how, in this initial stage, does the vendor identify the approximate prices in GPs at which to sell his goods or services?

In other words, a free market-based correction (material price resolving into true price in GPs) will occur, but market needs to be sufficiently populated for that. So what about the initial stage when this is not the case?

For the initial stage, please use the initial pricing guide. Just translate your price from national currency to GPs. Please note that, subsequently, you'll have to adjust your prices periodically, to remain competitive.

## 10. Initial Pricing Guide

Note that as a preliminary, arbitrary<sup>5</sup> “pegging”, 1 Gesellian Pound "equals" 5 US Dollars. So, if you sell a wrench for 10 US Dollars, in current market conditions – you should sell the same wrench for 2 GPs, in this alternative economy. But it’s up to you to ensure that your prices are competitive (with respect to other vendors), and strike a balance between "competitiveness" and profitability.

As the true free market economy unravels, expect to witness a movement of the value of 1 GP, a movement away from the initial estimate (\$5) and towards what we can call the 'natural value' of 1 GP.

Currency	USD	GP
<i>Gesellian Pound</i>	5	1
Albanian Lek	0.008	0.0016
Algerian Dinar	0.009	0.0018
Argentine Peso	0.069	0.0138
Aruba Florin	0.558	0.1116
Australian Dollar	0.751	0.1502
Bahamian Dollar	1	0.2
Bahraini Dinar	2.653	0.5306
Bangladesh Taka	0.013	0.0026
Barbadian Dollar	0.5	0.1
Belarus Ruble	0	0
Belize Dollar	0.5	0.1
Bermuda Dollar	1	0.2
Bhutan Ngultrum	0.015	0.003
Bolivian Boliviano	0.147	0.0294
Brazilian Real	0.272	0.0544
British Pound	1.414	0.2828
Brunei Dollar	0.731	0.1462
Bulgarian Lev	0.571	0.1142
Burundi Franc	0.001	0.0002

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<sup>5</sup> We can afford to do this pegging arbitrarily (*semi-arbitrarily actually, since the peg derives from how 40 GP (the monthly minimum basic pay given to the poorest) – is, if 1 GP were \$5, just about enough – in my estimation*) because of 2 reasons: first is that the value represented by 1 GP will rapidly correct itself till 200 GP becomes some kind of mathematical function of what we can call the “naturally exchanged amount of goods and services”; second is that the GP is a nonconvertible currency. It is used for online transactions only, not traded. It cannot be exchanged for foreign currencies, whose existence is ignored by the system. Convertibility is a “major feature of a hard currency”, it is said, but that can change as man's money evolves. Bitcoin is convertible, but the GP ecosystem is designed to be an ideal currency, not a Bitcoin clone. The GP is nonconvertible partly because its ecosystem’s foremost system priority, that is, zero inflation, does not allow for the destabilizing activity of currency speculators.

Canadian Dollar	0.754	0.1508
Cayman Islands Dollar	1.214	0.2428
Central African CFA franc	0.002	0.0004
Chilean Peso	0.001	0.0002
Chinese Yuan	0.153	0.0306
Colombian Peso	0	0
Comoros Franc	0.002	0.0004
Costa Rica Colon	0.002	0.0004
Croatian Kuna	0.148	0.0296
Cyprus Pound	0	0
Czech Koruna	0.041	0.0082
Danish Krone	0.15	0.03
Dominican Peso	0.022	0.0044
East Caribbean Dollar	0.37	0.074
Egyptian Pound	0.113	0.0226
El Salvador Colon	0.114	0.0228
Estonian Kroon	0.071	0.0142
Ethiopian Birr	0.047	0.0094
Euro	1.117	0.2234
Fiji Dollar	0.478	0.0956
Gambian Dalasi	0.023	0.0046
Guatemala Quetzal	0.129	0.0258
Guinea Franc	0	0
Haiti Gourde	0.016	0.0032
Honduras Lempira	0.044	0.0088
Hong Kong Dollar	0.129	0.0258
Hungarian Forint	0.004	0.0008
Icelandic Krona	0.008	0.0016
Indian Rupee	0.015	0.003
Indonesian Rupiah	0	0
Iran Rial	0	0
Iraqi Dinar	0.001	0.0002
Israeli Sheqel	0.261	0.0522
Jamaican Dollar	0.008	0.0016
Japanese Yen	0.009	0.0018
Jordanian Dinar	1.412	0.2824
Kazakhstan Tenge	0.003	0.0006
Kenyan Shilling	0.01	0.002
Kuwaiti Dinar	3.31	0.662
Latvian Lats	1.597	0.3194
Lebanese Pound	0.001	0.0002

Lesotho Loti	0.065	0.013
Lithuanian Litas	0.329	0.0658
Macau Pataca	0.125	0.025
Macedonian Denar	0.018	0.0036
Malawi Kwacha	0.001	0.0002
Malaysian Ringgit	0.248	0.0496
Maldives Rufiyaa	0.066	0.0132
Mauritania Ougulya	0.003	0.0006
Mauritius Rupee	0.028	0.0056
Mexican Peso	0.057	0.0114
Moldovan Leu	0.051	0.0102
Mongolian Tugrik	0	0
Moroccan Dirham	0.103	0.0206
Namibian Dollar	0.065	0.013
Nepalese Rupee	0.009	0.0018
Neth Antilles Guilder	0.559	0.1118
New Zealand Dollar	0.668	0.1336
Nicaragua Cordoba	0.035	0.007
Nigerian Naira	0.005	0.001
Norwegian Krone	0.118	0.0236
Omani Rial	2.596	0.5192
Pacific Franc	0.009	0.0018
Pakistani Rupee	0.01	0.002
Panamanian Balboa	1	0.2
Papua New Guinea Kina	0.324	0.0648
Paraguayan Guarani	0	0
Peruvian Nuevo Sol	0.296	0.0592
Philippine Peso	0.022	0.0044
Polish Zloty	0.262	0.0524
Qatari Riyal	0.275	0.055
Romanian Leu	0.25	0.05
Russian Rouble	0.015	0.003
Rwanda Franc	0.001	0.0002
Samoa Tala	0.397	0.0794
Saudi Riyal	0.267	0.0534
Seychelles Rupee	0.075	0.015
Sierra Leone Leone	0	0
Singapore Dollar	0.729	0.1458
Slovak Koruna	0	0
Slovenian Tolar	0	0
Solomon Islands Dollar	0.126	0.0252

South African Rand	0.065	0.013
South Korean Won	0.001	0.0002
Sri Lankan Rupee	0.007	0.0014
Sudanese Dinar	0	0
Swaziland Lilageni	0.065	0.013
Swedish Krona	0.12	0.024
Swiss Franc	1.023	0.2046
Taiwan Dollar	0.031	0.0062
Thai Baht	0.028	0.0056
Tonga Paanga	0.444	0.0888
Trinidad Tobago Dollar	0.152	0.0304
Tunisian Dinar	0.493	0.0986
Turkish Lira	0.348	0.0696
Ugandan Shilling	0	0
Ukraine Hryvnia	0.038	0.0076
United Arab Emirates Dirham	0.272	0.0544
Uruguayan New Peso	0.031	0.0062
US Dollar	1	0.2
Vanuatu Vatu	0.009	0.0018
Venezuelan bolivar	0.158	0.0316
West African CFA franc	0.002	0.0004
Yemen Riyal	0.005	0.001

## 11. Benefits for early bird vendors and service providers

"Takers" have incentive to join early and sell at higher prices before the market gets crowded, whereby they'll be forced to sell much cheaper because of competition in the fully-bloomed free market.

## 12. Calculation of GP debt (if things come to that!)

How is the GP debt calculated in the light of how its value changes with time? In the early days, in value, 1 GP roughly equals one big burger, which currently costs around \$5. As the GP "gains currency", and as the upward or downward movement of its value gets underway, let's say 1 GP can buy  $n$  such burgers ( $n$  can be a fraction or more than 1 -- depending on what the 'free market' decides).

In the unlikely event of failure of the GP ecosystem, total outstanding GP debt (in dollars) will be calculated as:

$$\text{GP debt (in dollars)} = \sum [(A \times 5 \times n \times (T_C - T_L)) + (A \times 5 \times (T_{SF} - T_C))] / (T_{SF} - T_L)$$

where,

$A$  = amount in GPs transacted in a given transaction

$T_C$  = time of a given transaction/debt creation

$T_L$  = time of launch of the GP (2016 end)

$T_{SF}$  = time of system failure

All debts repaid by this rule, one won't lose a thing even if he is left holding many GPs if the ecosystem crashes. Hopefully it will not, however, and we'll never have to do these foreboding calculations!