The power of transaction type "a" when money is defined as only a passive record of value and not also a token of trade

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Abstract: *This paper explores the power of conceptually correcting "money's (current) logical misrepresentation" fully explored in the "A Systems Engineering Approach to Formal Monetary and Financial Stability Without the Vagaries of "Austerity" " and how that can be achieved without loss or penalty to any agent. We illustrate how according to control and dynamical system's theory, the instability of the money system due to its commonly assumed logical misrepresentation and as the most ubiquitous and interconnecting component of the greater economic system, renders the economy also unmanageably unstable. We explain how by money's perceived role as a sine-qua-non resource (object of trade) and tool of economic leverage over its more essential role as a valid stable record/measure of value, instability is further exacerbated by inducing users to accumulate positive balances to fend off the ill effects of the overall economic instability, perturbing all system components including individuals to produce what otherwise would be considered "unconscionable" behaviour. We then explain by merely formally defining money as only a Passive measure/record of value, we can stabilise its function as a record/measure of value eliminating its destabilising effect to the economy while still being useful to inform economic governance. We show how the incentive for accumulation of money as a tool for economic leverage as well as any systemic bias towards type D transactions (positive buys from positive) over type A transactions (positive buys from negative) are eliminated and how economic activity and its governance, can be undertaken in terms of the the physical properties and virtues of goods and services, free of the ill effects due to monetary instability by our common logical misrepresentation of money.*

Introduction:

The core problem we wish to explore are the systemic effects in the "real" vs "financial" economy by confounding systemic "financial" imperatives arising out of the commonly assumed logical misrepresentation of money fully explored in "A Systems Engineering Approach to Formal Monetary and Financial Stability Without the Vagaries of "Austerity" "[1]. As well as how, when that logical misrepresentation is assumed axiomatically, the money system becomes unstable by virtue of the compounding of financial "costs" exacerbated by it being perceived as a vital (pseudo) "resource" essential as a precursor to economic activity. The question to address, is what happens if money is defined only as a record of value and not also a sine-qua-non (vital) "resource" subject to "supply" and transfer at a per unit financial "cost"?

Many may ask "how is it possible, to make such a dramatic change without penalty or loss to anyone?" The answer is in understanding the transaction dynamics in a system defined to be Passive described in the paper "A Systems Engineering Approach to Formal Monetary and Financial Stability Without the Vagaries of "Austerity" [1]. In particular, how type A transactions the only transaction type that reduces the total amount of value pending reciprocation (System Balance), while at the same time removing all (current) incentives to maintain such balances as a means to leverage economic gain as well as guarantying stability of value representation over time.

Preliminary considerations for money as a Passive record of value :

1. A Passive system[1] is by definition a stable system [2].

2. There is no requirement to reset the system e.g. set all accounts to zero or adjust existing account balances in order to render a system Passive.

3. Passivity precludes systemic bias or any systemic effect.

4. A Passive money system has no effect on the magnitude of value attributed to transacted goods and services, therefore itself presents no risk to value reciprocation.

5. While accuracy requires stability, stability does not depend on accuracy. A stable system's precision is measurable while an unstable systems is not.

6. Transactions [1]:

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[1] A system that never adds (energy) to the input i.e. output ≤ input.
[2] A system is said to be BIBO stable if and only if for any bounded input the output is bounded as well.

a. Money is an annotation of value expressed in common units and only comes about as a result of transactions of goods and services not a precursor of activity.

b. There is no circulation of units.

c. There is no supply and demand of units (therefore, money cannot be "charged" for in terms of the size of balances, so that ANY compounding of value in terms of money is entirely precluded).

d. Each transaction generates its own independent units that are later resolved against existing balances.

e. The sum of money in the system at any given point of time, represents all non reciprocated value and at all times is equal or less than the input prices, thus conforming to Passive BIBO criteria for sampled LTI Systems.

f. Value expressed in "Prices" are never unilaterally determined.

g. Individual perception of the unit value is determined by interacting with the collective and a common perception of fair costs.

h. Relative value is determined by the sum of transactions within the collective.

i. There is no possibility of unilateral manipulation of the value of the unit.

7. There are only four possible permutations of transaction types as follows [1]:

   A. Positive buys from negative (reduces system balance)

   B. Negative or zero buys from positive or zero (increases system balance)

   C. Negative or zero buys from negative (system balance unaffected)

   D. Positive buys from positive or zero (system balance unaffected)

8. Of all financial assets, about 2/3 are "financial" vs. 1/3 true assets ("accumulated tangible and non tangible assets" i.e. real goods and services is [3]

Money's Purpose:

Money as a record (measure) of the generic value attributed to goods and services pending future reciprocation in the form of other goods and services of equivalent value, is only a requirement for trading divisions of otherwise indivisible (non fungible) goods and services e.g. an academic course, a house, a public work, ...etc..

Example: The value of a (non fungible) house cannot be represented proportionally in terms of any of its dimensional units (area, volume, mass, etc.), yet the total value attributed to the house is of course divisible. Thus, only by way of a common unit of "value" measure, can divisions of the house be represented in trade.

Under no circumstances does the unit of measure of value itself require being treated as an object of trade on par with goods and services. As previously shown [1] the concepts of measure and object of trade are mutually exclusive. Thus, it follows that when money is formally defined and specified as a measure of value, the only possible incentive for using it, is as a "record keeping device" [2] for recording value.

Once money is conceptually defined as a record of value in terms of an arbitrary unit, then the process of creating money (records of value), can only be the result of transactions of goods and services never the other way round, precluding its use as a tool of economic leverage and therefore eliminating incentives to accumulate positive balances.

Economic Control:

Control requires sufficiently accurate measures of all system inputs and outputs and all system imperatives must be expressed in terms of the such measures.

In this regard, today's working finance paradigm uses currency units that are not formally defined and therefore cannot accurately represent parameters of the real economy [1]. Furthermore, common every day practices in which money is conceived as both a measure of value and an article of trade of variable value, establish the circular relation where the unit of measure of value is attributed "value" in terms of itself [1].

This leads to the introduction of compounding factors corresponding to financial "fees" in the calculus of overall "cost" across value chains [4] by applying per unit charges for the use of money, that introduces an "interference" exogenous to the function of recording value, thus destabilising what otherwise would be Passive by default.

Approximately two thirds of all financial assets are said to be "(purely) financial" vs only one third corresponding to "the real economy" [3]. Since ultimately all three thirds of financial "value" at risk is expected to be resolved by the assets (goods and services) of the "real economy", yet two thirds of that claim is of the "financial economy" that produces no real assets. Consequently, the real economy is burdened with risk beyond both the natural risk of real production to include 100% of all financial risk, for which it must either increase output commensurately or fail.

Dynamical Systems Theory:

A money system where the unit is conceived as a generic resource required to enable and maintain all economic activity by its "supply" and "circulation", becomes an component of the economic system acting both on individual components as well as interconnecting all components by virtue of demand for money's "supply" and "circulation" as the predominant precursor of all economic activity.

The continuously compounding divergence between the value attributed to otherwise finitely measurable goods and services at the time of their transaction, from the final total cost once financial services are imputed, beyond any discretely measurable added value [4], is what necessarily leads to overall instability of the economy as a whole.

Fundamental control theory recognises how instability of a system component renders the whole system unstable as well as the difficulty of stabilising even relatively simple systems [5]. Such that in the case of our current "money" paradigm, producing simultaneous compounding factors across the links of countless value chains and their reiterations over time, any prospect of stabilising the system is made impractical.

A primary effect of this instability is to create and exacerbate demand for money above and beyond any "supply", creating an incentive to users to accumulate positive balances for the purpose of providing leverage over the measure of value of goods and services beyond their non monetary properties and virtues, but predominately in terms of the demand for money, made insatiable by systemic compounding.

Thus and as long as the logical misrepresentation of money continues to be perceived as valid and immutable fact of life, which it clearly is not, then by extension, imperatives that emanate from that misrepresentation will also be assumed as a natural and unavoidable conditions. As a result, individuals also components of the economic system, suffering the most dire effects of those imperatives, will be given to rationalise otherwise unconscionable actions and behaviours as necessary for their economic survival and by direct extension their physical and material survival and/or general quality of life. If the money system as a component of the economy is unstable, then it stands to reason that if not resisted, the behaviour of users will become perturbed and eventually unstable too, with all the corresponding negative and indeed abhorrent social effects that brings and that we are indeed currently witnessing across the whole economic spectrum, in the form of escalating human corruption at all levels.

System Balance (SB) and Type A transactions:

Merely defining money rationally as a valid unit of measure without any need of redistribution of wealth or modifying current balances, the system can be rendered Passive without loss or penalty to anyone vis a vis their current balances. As money so conceived can only serve to inform economic activity without it itself producing any direct imperatives,

as a result of system Passivity, any current disequilibrium in balances can be levelled out over time, through any minimum of type A Transactions.

As described previously [1], in a Passive system the total sum of value pending reciprocation in goods and services is represented by the absolute value of the sum of either all positive or all negative balances in the system, called the System Balance (SB). Individual agent balances can only be modified by transactions of goods and services through either of four transaction types A, B, C, D, and where all transactions generate their own units, precluding any notion of supply, lending or money serving as a tool to influence prices. Economic governance therefore cannot be effected by arbitrarily altering balances to punish or reward economic activity. Consequently, economic governance must be effected in terms of the corresponding (non monetary) criteria and parameters.

Nonetheless, how SB is distributed throughout the positive and negative graph domains, can provide valuable information. That is, while we can speak of the SB in terms of its total magnitude in either the positive or negative increasing and decreasing as a measure of the total amount of value pending reciprocation in the system, we can also consider the distribution of that total balance throughout individual balances in each of the positive and negative domains. Thus, excessive accumulations of balances of different particular agents or sectors in the positive or negative domains, can serve to alert economic governance in the interest of all agents. Again, not in terms of manipulating monetary balances but in terms of non monetary economic criteria and parameters. For example, servicing a sector that has become obsolete and therefore unproductive may require redirecting certain resources over others to that sector.

In this regard and since accumulation of individual positive balances do not represent any strategic advantage as leverage as money can only be generated after transactions of goods and wealth with each transaction producing its own independent units, positive balances represent the loss of value pending future reciprocation and a potential risk of future non-reciprocation. Since positive balance holders in general have no incentive to accumulate that risk, there exists no bias towards type D transactions (positive buys from positive no) over type A transactions (positive buys from negative) the only transaction type capable of reducing SB. Furthermore, since money is no longer the object of transactions as it is no longer subject to any "supply", transactions become focused on the real properties and virtues of goods and services. Thus, the monetary system ceases to be a systemic source of economic instability and ceases to provide incentives of excessive accumulation of positive and/or negative balances. Meanwhile, leaving economic governance free of monetary restraints, to resolve any excess accumulations through type A transactions, should they present a problem on the basis of real economic needs and criteria.

Conclusion:

Common every day practices in which money is conceived as both a measure of value and an article of trade of variable value, establish the circular relation where the standard unit of measure of value is also treated like an object of trade subject to "supply" and "circulation" and valued in terms of itself as if it were just another resource. As a standard measure of value it is required for all economic activity to enable the transaction of divisions of otherwise non divisible (non fungible) goods and services. But, as a commodity like resource, it must be supplied prior to any economic activity taking place. As such, it acts as a universal economic enabler and charged for at a per unit cost as if it were another industrial product. Said charges compound across value chain links and reiterations, geometrically inflating overall production costs, independently of any discretely measurable corresponding added value. This leads to a system wide instability, with the principle effect of exacerbating the demand for money beyond any supply, converting it into the most ubiquitous component of economic activity. By virtue of its universal demand, the money system interconnects all economic components into a single system of interdependency on the basis of its supply, over and beyond any non-monetary value of the corresponding goods and services. Because of this unique role as a sine-qua-non universal precursor, agents compete and/or conspire to accumulate positive balances to be exploited as economic leverage in transactions of goods and services, again independently of any non-monetary properties and virtues of these. This tendency to accumulate further exacerbates the system instability. According to fundamental control theory any unstable component of a system destabilises the behaviour of the whole system and ultimately all components are rendered unstable. Therefore it follows that individuals as components of the economy, will have their behaviour perturbed and destabilised leading to increasing otherwise unconscionable (corrupt) behaviour at all levels.

When money is formally defined as solely a record of value and used accordingly, the money system is made Passive and therefore stable, only useful as a (stable) reference of value, required for representing divisions of value of otherwise indivisible goods and services. By virtue of money acting as a stable record/measure of economic activity, it cannot precede transactions and therefore cannot serve as leverage over economic activity. Thus, money only serves to inform control of economic activity without in any way imposing limiting imperatives exogenous to real world activity.

Moreover of the four transaction type permutations, type A transactions (positive buys from negative) serve to defuse risk in the system by reducing the total value at risk of non reciprocation and since there is no incentive to accumulate balances, there exists no bias towards type D transactions (positive buys from positive). Finally, as a Passive stable system the money system no longer can systemically destabilise (corrupt) the behaviour of its components, including individual agents i.e. you and I.

References:

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