

# Complementary Currencies Increase Economic Sustainability

## I. INTRODUCTION

The term, “sustainability,” has become a bit of a catch-all phrase used in reference to any effort that is loosely associated with energy efficiency, environmental friendliness, or organically grown products. But it is also a term that has been used in reference to economics, for example, in the sustainability of certain economic trends, such as compound equity growth. In this paper, the term is used to describe long term sustainability of the economic system itself. This focus is particularly relevant now due to the recent credit crisis that is likely to result in a dramatic economic slowdown in the coming months and years as banks become less willing to lend to businesses. It will be shown that a primary, yet heretofore unaddressed factor in the instability of the economy is in fact its excessive singular focus on efficiency, at the expense of resilience<sup>1</sup>. Long term economic sustainability, however, depends upon a proper balance between efficiency and resilience, as proven by quantitative network complexity and information theory studies<sup>2</sup>. This resilience can be achieved by the inclusion of a complementary currency into the network of exchange.

Cutting edge research in the field of complementary currencies<sup>3</sup> is demonstrating that, when properly designed and managed, a complementary currency can actually play a role as a counter-cyclical source of credit and stability during times when the dominant national currency is excessively scarce, such as during our present credit crisis. They also offer a degree of resilience against cyclical downturns in the economy. The foremost example, the WIR, was created in Switzerland to counter the depressive effects of excessively scarce credit and provides counter-cyclical stability to individual businesses and the Swiss economy as a whole.

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1 Bernard Lietaer, “White Paper on the Options for Managing Systemic Bank Crises”.

2 Robert E. Ulanowicz, “Quantifying Sustainability: Resilience, Efficiency and the Return of Information Theory”

3 James Stodder, “RECIPROCAL EXCHANGE NETWORKS: Implications for Macroeconomic Stability”.

## II. THE PROBLEM

It can easily be argued, in light of the recent extremely visible credit meltdown that hit the global banking system, and also the 96 other banking crises that have happened over the past 20 years, that there is a systemic, structural problem with the economic system. The vast majority of press and attention on the present situation has been focused on solutions that are primarily addressing the symptoms, such as U.S. Treasury Secretary Paulson's nationalization of bad bank assets, and Europe's nationalization of banks themselves. However, these will only protect banks from collapse, but will not do much to avoid a longer term lack of credit and a general slowdown in the economy, nor do they address the underlying systemic problems.

Research in the fields of network complexity and information theory provide clues that help to understand a systemic problem in our economic system, which ironically is also the main strength of our system, namely efficiency. Ever greater degrees of efficiency are subject to the law of diminishing marginal returns, with the increasing cost being a sacrifice of resilience and long term sustainability.

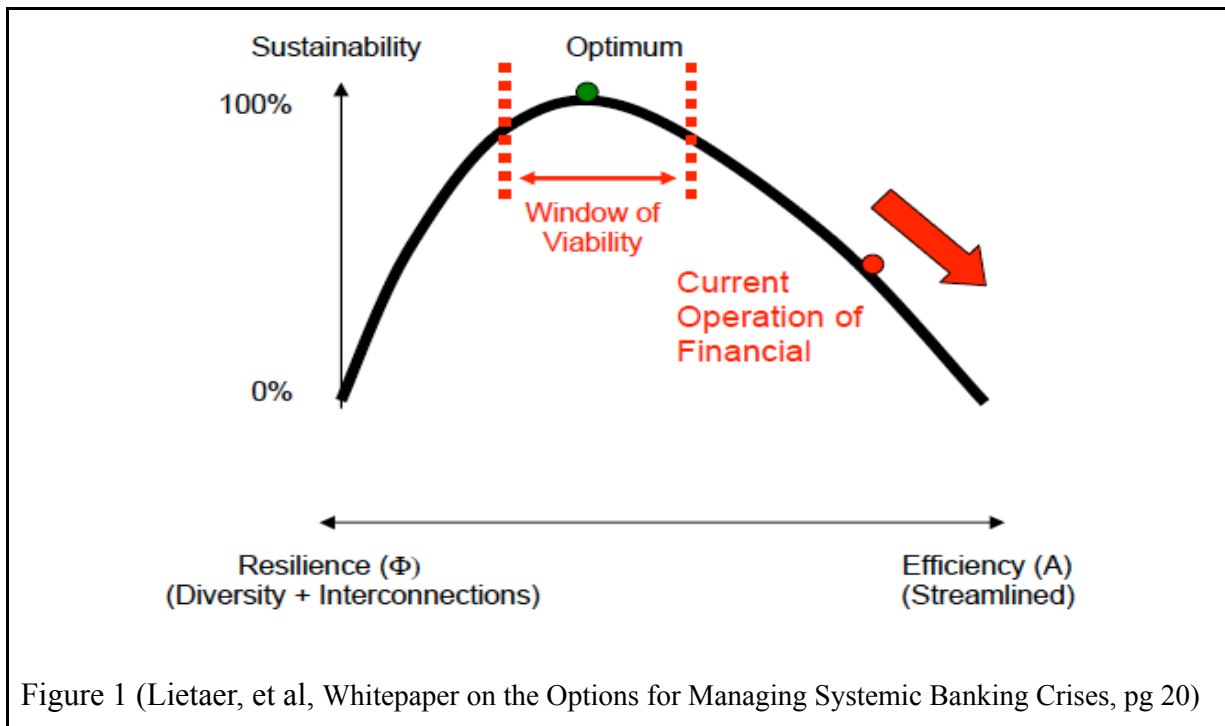
Decades of studying natural ecosystems, in particular, have led to very sophisticated mathematical understandings of how a network structure affects an ecosystem's long-term viability, as judged by its balance between *efficiency* and *resilience*. Efficiency measures the ability of a system to process volumes of the relevant matter-, energy- and/or information-flow. Resilience measures the ability of a system to recover from a disturbance. These variables have been more formally defined as follows:

- 1) *Efficiency*: a network's capacity to perform in a sufficiently organized and efficient manner as to maintain its integrity over time ; and
- 2) *Resilience*: a networks reserve of flexible fall-back positions and diversity of actions that can be used to meet the exigencies of novel disturbances and the novelty needed for on-going development and evolution.

(Lietaer, et al, Whitepaper on the Options for Managing Systemic Banking Crises, pg 16)

There are inverse ratios of two primary factors at play in both efficiency and resilience: diversity and interconnectivity. Efficiency improves as diversity and interconnectivity between actors

decrease, whereas resilience increases with more of each, so there are more options to fall back on in times of trouble or change. Research shows that nature selects not for maximum efficiency at the expense of resilience, but rather for an optimal balance between the two, as both are essential for long-term stability. Therefore, sustainability can be defined as an ideal balance of efficiency and resilience, and can be quantitatively calculated as a single overall variable of long term viability. In addition, it can be found that, in the long run, nature selects more for resilience than for efficiency by a factor of two to one (see Figure 1).



### III. THE SOLUTION

In contrast to common expectations, the Swiss economy has historically been considered to be mysteriously stable, despite credit slumps that have affected surrounding nations more deeply. Recently, an American econometric study<sup>4</sup> showed that Switzerland's economic stability is partly due to the presence within that economy of the WIR complementary currency, which adds resiliency to the overall economy itself. The WIR was created by 16 businesses in 1934 as a private network to exchange products directly with one another in exchange for WIR credits, as

<sup>4</sup> James Stodder, "RECIPROCAL EXCHANGE NETWORKS: Implications for Macroeconomic Stability".

an alternative to using cash that was excessively scarce due to the global credit crisis of the time. Within three months there were 1,700 participants and 3,000 within a year. Today, there is an estimated \$2 billion in annual transactions in WIR. The WIR credits match the purchasing power of the Swiss Franc, but have no transaction charges or interest.

The benefit of having a second circulating currency that's based on different principles than the primary national currency is that it adds a layer of resilience, and offers a different method of enabling exchange. During downturns in the economy, use of the WIR goes up, as an alternative to the debt- and interest-based Swiss Franc. Businesses in the WIR network tend to state a higher price in WIR than in Francs, since they naturally prefer cash. However, when cash and credit become excessively scarce, then it makes more economic sense to use a different method of exchange, even with its less ideal purchasing power. "... prices for goods and services in the WIR magazine are regularly quoted in WIR-credit prices that are *higher* than their equivalent in Swiss Francs, so this is not downward price flexibility ... the counter-cyclical history of WIR is likely more due to its credit creation than to added price flexibility."<sup>5</sup>

Another benefit of the WIR is that it is an independent business to business (B2B) relationship based on contracts and commerce principles that needs no outside government control in order to operate. The alternative currency is simply enabling exchanges between willing buyers and sellers that are otherwise not able to take place because there is insufficient cash and credit in the economy itself to allow them to take place.

Governments can play a role in stimulating alternative networking by accepting some amount of business taxes in the alternative currency, perhaps in a ratio that matches the ratio of transactions carried out by the business in the alternative currency. Local governments in particular are and will continue to be impacted financially by tight credit. They can move forward immediately in stimulating local alternative transactions by accepting a share of local taxes, paying a share of wages, and offering local programs in the alternative currency.

In this time of financial crisis, there is an imperative to move to address the problem quickly,

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5 James Stodder, "RECIPROCAL EXCHANGE NETWORKS: Implications for Macroeconomic Stability". Pg 14

which can be greatly satisfied by our well developed information technology infrastructure. Within a very short time a complete alternative currency trading system can be set up and integrated into the existing credit transaction infrastructure of businesses and government. There are even existing open-source software packages available that could be used, and that are open and well documented enough to be easily customized without high proprietary development costs.

#### IV. Summary

The global economy is the most advanced economic infrastructure ever to exist on planet earth. However, in some ways, it is a system that is beleaguered by an outdated and incomplete vision for itself. It has fulfilled its vision of increased throughput, production volume, and streamlined efficiency far beyond any reasonable ability to predict a century ago. However, what has been left out of the vision is the key ingredient to its long-term survival, a survival that is very much at stake at the present time. That inclusion of the missing key ingredient of resilience is in some ways antithetical to the current drive for more efficiency, but at the same time, it must be respected and encouraged in order to save the system itself. What good is efficiency if the economy itself is undermined in its name? The leading method of adding resilience into the existing economy is through the strategic addition of complimentary currencies that act in a counter-cyclical manner to the ups and downs of the primary cash and credit cycle. These alternatives provide increased diversity of credit sources and options, and add more network connections between players in the economy. The increase of these two factors, diversity and network connections, balances out efficiency, and creates the framework for long term economic sustainability.

## Works Cited

Bernard Lietaer, "White Paper on the Options for Managing Systemic Bank Crises".

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note: all documents, and others, are linked from Bernard Lietaer's main web site: <http://lietaer.com>