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## **The Financing of Complementary Currencies: Risks and Chances on the Path toward Sustainable Regional Economies**

**Keywords:** Financing, Transaction Costs, Boundary Research, Sustainability, Solidarity Economy, Glocalism

### ***Abstract***

*Costs and cost coverage of complementary currencies has been, for a long time, neglected by researchers. This article provides an analysis of the different types of costs incurred and asks for appropriate means of financing such projects. This implies a short discussion of the potential offered by the application of new technologies. It follows a critical appraisal of funding from public as well as private sources. Both tend to dwindle during crises of the established capitalist economy, i. e. at times when they are most needed. Furthermore, this economic dependence implies the risk that structures develop that run contrary to the criteria of a social and solidarity economy. Self-financing appears to be a viable alternative; however, considering overall transaction costs, the burden to be carried by participants is considered to be a significant constraint with regard to this source.*

*In the following part of this paper the question being raised is whether and how to finance regional systems, systems that have a significant economic impact. An important basis for the following considerations is the observation that complementary currencies operate within boundaries, boundaries defined in a variety of different ways. A scenario presented in this section illustrates the potential of this feature with regard to the construction of new systems. It includes a spatial and a time limit: transactions in regional markets are assumed to be subject to reduced tax rates as long as debits and credits are balanced over a certain period of time. The reasoning in favour of such a model within the framework of the sustainability discourse, its shortcomings and some other aspects are discussed.*

*The scenario outlined above is certainly not meant to be a blueprint ready for immediate implementation. In contrast to successful complementary currency models that mushroomed after the media took up pictures and stories from the first pilot projects such images will not*

*be available in respect of the type of system envisaged in this paper. This is considered to be an indication of the importance of the cultural sector. In summary, only the interplay between practical, academic and cultural work will produce a paradigm comprehensive enough to overcome the serious conceptual deficits of present-day complementary currencies as outlined in this paper.*

## **1. Introduction**

The financing of complementary currencies has only become a prominent issue in the recent past. Blanc and Fare (2013, pp. 68-70) show that third- and fourth-generation systems can only prosper in close cooperation with local governments and administrations and with financial backing from a variety of different sources. Kennedy, Lietaer and Rogers (2012) describe a number of examples of such currencies. In order to become a partner of institutional actors in the social sector or the business community they ought to have professional management, normally paid staff. With a few exceptions such systems have not mushroomed so far. The bulk of all complementary or community currencies are first-generation systems (Seyfang and Longhurst, 2013). Many of these were designed on the basis of the LETS model, but focus on private-to-private exchanges and, in contrast to the original LETS, use time as a measure of value. The author of this paper worked for such an organisation. This experience provided some of the motivation to write this contribution.

The findings of this paper are not based on a distinctive and original empirical survey. Instead, the author assembled data published about different types of systems and, in addition, made use of "grey" literature, i. e. documents produced by different complementary currency systems. This provides the basis for an understanding of the costs incurred or, to put it more generally, the effort necessary to launch and maintain trading in such systems. The material is structured by applying methods used in accounting and finance. These considerations provide the basis for an appraisal of the claim made by many advocates of these systems as regards their potential to provide sustainable alternatives (see for instance Seyfang, 2009, pp. 140-167). In the present paper the three dimensions of this principle, i. e. the ecological, the social and the economic aspect are considered to be of equal importance. These criteria provide a framework which allows the evaluation of the chances, but also the risks, of the different types of complementary currencies. Whereas in the first chapters of this paper existing schemes and their constraints are analysed, the second part presents a perspective for a viable economic alternative. This contribution should be considered as a first approximation to this

issue. The empirical basis is still too thin to draw definite conclusions. The wide-angle approach pursued here, i. e. the comparison of the financial requirements of different types of systems means that some aspects are not discussed in detail.

## **2. Organisational characteristics of first generation systems**

The author participated in the organisational work of a German Tauschring (founded in 1995) during the years from 2000 to 2006. Most of this was unpaid work with a small remuneration in "Talents" covered by member fees. It might be questioned whether such a contribution to the organisation of a "social club" (Schroeder, 2002, p. 9) can really be considered as "work". According to the ruling concept of economic rationality activities are either costs or benefits, a concept which is of very limited use in this context. Sometimes the "job" was very remunerating, sometimes it meant hard work. The principal lesson of this experience was that the quantity and quality of work necessary not just to launch such an organisation, but to keep it going is quite substantial. Of course, it should be critically assessed whether this personal account of the author is representative. At least, there is some evidence from activists of similar organisations (see Hood, 1998, about a French SEL, p. 117) that points in the same direction.

This kind of experience has not been adequately reflected in academic literature. (For a systematic analysis of the empirical literature on the basis of 201 contributions see Schroeder, Miyazaki, Fare, 2011, p. 38.) Usually, empirical studies ignore this aspect completely. North touches on the issue and concludes that "a fairly complex organisation was required to keep the LETS system in operation. Organising Manchester LETS involved some forty people and some 150 hours of work every two months. Members were paid six Bobbins an hour for administrative tasks ..." (North, 2006, p. 67). This observation does not reflect the dynamic character of such organisations. They have to adapt themselves to new challenges. Bad debts, for instance, were not considered to be a problem in the beginning, later this changed and many of these organisations modified their accounting procedures to monitor this issue. Another example are conflicts among organisers which have to be resolved, certainly, not a pleasant part of any work. New members might join the team and come up with new ideas. Maybe, they propose to implement new technologies, which might be the beginning of an interesting, but laborious process. This is certainly not just a matter of how to organise structures and procedures in an efficient manner, it is, first of all, a question of adequate resources.

These last points already indicate that these community currencies, most of them being founded before the turn of the century, face the dilemma that they already need a relatively complex organisational structure, but lack appropriate resources. The desire of many activists to maintain their autonomy hinders them from asking for public support (for the French SEL see Lenzi, 2006, p. 263, quoted in Blanc, Fare, 2013, p. 73). In recent years many of these systems were in decline (Seyfang and Longhurst, 2013), but, the author of this paper has the impression that, at least in Germany, this trend has come to a halt. It would require relatively small amounts of public subsidies to update the techniques to run these very small-scale systems – to develop, for instance, appropriate software and new manuals or to clarify certain legal issues (Schröder, 2007).

### **3. Complementary currencies as economic alternatives – early attempts**

A major motivation for Michael Linton in founding LETS (perhaps the most successful blueprint in this field) in 1983 was to provide an alternative for a local business community. Later Linton dissociated himself from the small LETS schemes which had mushroomed in Britain in the early nineties. In 1994, he used an inheritance to provide the start-up capital for LETSGo. Here, he tried to involve large-scale businesses. The venture failed (see North, 2006, pp. 68-72). Other experiments to build up an economic alternative on the basis of the LETS model shared the same fate (see for instance i. r. o. New Zealand North, 2007, pp. 126-148, i.r.o. Australia, Williams, 1997, Betz, 2000 i.r.o. a German Tauschring in Freiburg).

Ithaca Hours, founded in upstate New York in 1991 departed from the concept of book money and issued its own paper currency. This facilitated payment processes. In addition, the pictures of "alternative money" might have contributed to the popularity of the scheme. However, it did not prove to be a successful blueprint for other initiatives of that kind (see Collom, 2005). A case study written by Amy Kirschner, a former organiser of such a scheme provides interesting evidence: She concludes that although the "lack of success (was supposed) to be some combination of organizational factors in fact all the struggles with staffing, funding, circulation, and membership all stemmed from how the currency was put into circulation" (Kirschner, 2011, p. 53). One of the "lessons learned" is: "Paper currencies are expensive and hard to administer" (Kirschner, 2011, p. 54).

Another example of systems that issued printed notes are the Argentine Trueque systems. They are the only complementary currencies which were of economic importance at least for a short period of time. After the established capitalist economy had crashed about 2.5 million participants took part in these alternative trading markets. This figure was recorded in the first half of 2002, it had dropped dramatically already by 2003 to a level of 250,000 members (Gómez, 2009, p. 107). The reasons for this failure has been researched in great detail by Gómez (for a summary see p. 188). One aspect was that overall costs were not adequately covered. Beside expenditures for organisation Gómez mentions in this context the loss of trust due to large scale forgery of créditos, the cash notes issued in particular by the largest network, Red Global de Trueque (RGT). Other networks and the smaller local groups had more efficient administrative structures to cope with this problem. Apart from qualitative issues like adequate forms of governance it is noteworthy that the cash flow structure in particular of the RGT was completely inadequate. Income was generated mainly through seigniorage, i. e. the difference between the costs of producing credit notes and the higher price charged for selling them to members (Gómez, 2009, p. 140f, also p. 135). This income accrued when new members joined the organisation, in particular during the upsurge of the movement from the end of 2001 until mid 2003. However, a large part of these revenues were not invested to strengthen the organisation, but distributed among participants in goods and services (Gómez, 2009, p. 141). Later, this source ran dry. A demurrage, a fee for holders of cash was introduced, but it proved to be too complicated and did not compensate the losses (Gómez, 2009, p. 137). The basic structural problem of Trueque was already evident back in the nineties. "As new and unknown participants joined, the costs of running the system started to rise" (Gómez, 2009, p. 89). The initial structure did not provide the base to develop an administration that could keep pace with a fast growing organisation.

#### **4. Regional currencies – a fresh start in the 21<sup>st</sup> century**

In 2004 Kennedy and Lietaer published an outline for new regional currencies in German. They considered it to be necessary to reach a size in the range of between 10,000 and 1 Million participants (Kennedy, Lietaer, 2004, p. 77). The most successful organisation of this type in Germany is the Chiemgauer. After almost ten years this network had, at the end of the year 2012, 3,454 members. The organisation depends mainly on voluntary work (65%) and donations (5%). Paid services of the Chiemgauer co-operative only yield 30% of the income. Subsidies have never been an important source of income, in recent years they did not play

any role at all (all information quoted from Gelleri, 2013, p. 1f). Compared to other experiments the Chiemgauer was relatively successful.

This may also be explained by the fact that it departed from the principle of non-convertibility as applied in closed systems like LETS or the Swiss WIR Bank (Gelleri, 2009, p. 66f). Generally, the latter systems face the problem that the relation between supply and demand tends to be unbalanced (see for instance Hubert, 2004, pp. 143-145 in her analysis of the German Tauschrings). This implies that a) for participants with a surplus the temptation is to break the rules and convert their credits into ordinary currency (see a press article by Heim, 2003, about the Swiss WIR system; it has to be added that this information cannot be considered as sound empirical evidence), b) participants with a notorious deficit cause a bad debt problem (see Jackson, 1997, about the failure of Australian LETS). Bad debts as well as the management of this problem are significant cost factors. For the Chiemgauer this is not an issue. Consumers acquire regional money against Euro currency which flows into a fund that guarantees the credibility of the system. Business people can, against a fee, change the regional money back into Euro currency. Gelleri himself considers the Chiemgauer as a first step to create regional cycles (Gelleri, 2009). However, it appears that this type of a complementary currency facilitates the development of trading chains but not of trading cycles.

The Chiemgauer operates in an area which is rather wealthy (Thiel, 2011, p. 253; Gelleri himself, 2009, p. 66, emphasizes to “choose a town or municipality with optimal preconditions” for projects). Other Regiogeld systems in Germany tried to implement economic circuits by giving private participants the possibility to earn credits (see for instance Jansky, 2009; with regard to the “challenge of re-circulation” see also North, 2010, p. 137). Such systems are not based on the value of the Euro, but on the services provided by their members. They are more complex and it appears, that it is more costly to administer them.

After about ten years of development the Regiogeld movement is far from its objective to provide a substantial economic alternative (as claimed by Kennedy and Lietaer, 2004, for instance on p. 77). A brief survey of the websites of Regiogeld systems indicates that they only reached a symbolic significance. (Access via a map and links on the website of Regiogeld e. V., no year., see also Rösl, 2006, p. 33). The Chiemgauer is an interesting experiment, but its value as a blueprint for other initiatives is rather limited. The model is

based on conditions which do not exist elsewhere: Other regions offer a less favourable environment for such an experiment. Christian Gelleri was prepared to work full-time for a very small salary. A team of committed volunteers supported him, some of them highly qualified. It is not a matter of course that a team renders this service over many years without falling apart due to severe conflicts of objectives. The fact that the Chiemgauer spearheaded a movement and received media attention not just in Germany, but also in other parts of the world might have boosted the motivation of these actors and was perhaps helpful to get the support from other institutions.

## **5. Professional management and its problems**

In contrast to the Chiemgauer, other regional currencies applied for public funding in order to become a reliable partner for the local business community and other partners in their area. This, however, did not lead to sustainable systems. An example is the Dessau model which comprised a barter-ring, a business-to-private facility and a kind of a “Tauschring” for private-to-private exchanges. The scheme was supported by means of the European “Equal” programme, but went bankrupt later. Rolf Walther, the manager of this project, emphasised the need of own resources and solid financing in order to cover operating costs (Contraste, 2010, p. 6, see also the website of Anhalt Dessau AG, no year).

In this context it is also noteworthy, that time banks have a long history of employing paid “time brokers”. There is evidence, both, from the USA and the UK that long-term funding of these projects is a problem (for the US see Collom et al., 2012, p. 182, for the UK see Seyfang and Smith, 2002, p. 47). Just in times of economic crisis, i. e. when these organisations are most needed, “many in the non-profit world are struggling to survive” (Collom et al., 2012, p. 184). Organisers tend to get entangled “in a continual round of funding applications” (Seyfang, Smith, 2002, p. 47, see also Gregory, 2012, p. 97) and cannot devote their full attention to the actual tasks. This might also imply that organisers tend to identify themselves with the objectives imposed by the funding organisation, objectives which are not necessarily identical with those of time bank participants. There is no clear empirical evidence which supports this last point. There are, however, indirect hints as to the gap between professionals and participants. Collom et al. (2012, p. 182) found that many time bank managers complain about the lack of member involvement. Generally speaking, there is some evidence in the literature about divergent interests of staff and participants in social enterprises (see for

instance Kreutzer and Jäger, 2011 and, also about other problems of social enterprises, Peattie and Morley, 2008).

This discrepancy between the need to employ a highly professional management and to set up organisations on a going concern basis is most evident in complex systems like NU Spaarpas (for a description of this model see Sambeek and Kampers, 2004) and the French SOL. Both systems pursued or pursue an array of objectives, many of them within the framework of sustainability. This qualified them to receive substantial subsidies from high-powered funding resources, in particular the European Union. However, they did not meet the criterion of economic sustainability. The NU system was in operation in Rotterdam just between 2003 and 2004. SOL, despite substantial support, did not develop into a dynamic system (Blanc and Fare, 2013, p. 75f; with regard to SOL the authors refer to M. Fare 'Les conditions monétaires d'un développement local soutenable: des systèmes d'échange complémentaires aux monnaies subsidiaires', PhD thesis in Economics, Université Lumière Lyon 2, France). Instead, Blanc and Fare (2013, p. 78) favour a model developed in Quebec – the Accorderie strives to maintain independence from governments by securing long-term funding from foundations (Blanc and Fare, 2013, p. 78 and Fare, 2009-2010, p. 10). Generally speaking, foundations are an important source of funding, in particular in North America. But they are also subject to constraints comparable to those of public authorities or the private sector. In recent years this became evident when their potential was reduced due to lower revenues from interest-bearing financial assets. In summary, it remains a challenge to secure not just external funding, but appropriate funding for complementary currency systems.

## **6. Risks and Chances of Complementary Currency Development**

The term “risk” may appear to be somewhat unusual, because complementary currencies have a very positive connotation as regards sustainability criteria. One aspect in this context is the following question: Who is going to decide what sustainable behaviour is? The NU-Spaarpas, for instance, is described as “the sustainable incentive card scheme” (van Sambeek and Kampers, 2004, title). By now, we can observe, that the term “incentive” is used quite often to justify the establishment of community currency schemes (for example by Ikeda and Richey, 2012, p. 106f, Naughton-Doe, 2011, p. 75, Seyfang and Smith, pp. 16, 29, 44, 46, 47, 51). One may consider this as a new wave of behaviourist approaches. (Community currencies were used by behaviourists in psychiatry in the fifties and sixties, see Lea et al. 1987). This is not necessarily bad, in particular if used in specific, often complex environments. (With

regard to energy saving devices see Deconinck et al., 2011; another example are time banks that operate in problematic neighbourhoods). In contrast, generally available “grassroots” systems do not specify what ecologically sustainable behaviour is supposed to be. Within a certain framework – like a certain region – participants are free to decide what constitutes sustainable production.

Often, top-down installed schemes are not constituted as democratic organisations. This concerns the concept of “social sustainability” (see United Nations General Assembly, 1987, paragraph 77). Although the definition of “social sustainability” is not based on a clear-cut definition, it provides some standards to appraise the characteristics of community currencies. It should be remembered that such systems have been used by racists in South Africa for “whites-only” (CNN.com, 2004) or played a (very small) role in the war economy of Nazi Germany (Schroeder, 2013). More relevant nowadays are the attempts of governments to use such schemes as an instrument to implement neoliberal policies (see Williams, 1997, about Australia, and North, 2007, pp. 126-148, about Green Dollars in New Zealand). It remains to be seen which course the time banks in the UK are going to take. Naughton-Doe (2011) considers person-to-agency time banks as a way to overcome the problem of securing sustainable funding. This public service model allows to “reduce welfare dependency” (Naughton-Doe, 2011, p. 73) This is, as such, a commendable objective, but it might open the gate for policies that reduce public spending at the expense of the marginalised parts of the population. Gregory is guardedly optimistic and mentions specific types of time banks which are resilient to both the austerity policies of neoliberals as well as the promotion of “Big Society” (2012, p. 288f). The macro-economic framework is, from a financial point of view, more favourable to the development of complementary currencies as part of the social and solidarity economy in countries with high growth rates like Brazil. (For a short description of the Banco Palmas model see Blanc and Fare, 2013, p. 77).

Whereas the shortcomings of public funding and the risks that go along with it received some attention, a possible involvement of private companies in the issue of complementary currencies has not been discussed at all. This does not concern the established domain of commercial barter, but it might become an issue with regard to business-to-private relationships. To create links between local businesses and private consumers has been, and still is, the major feature of many types of complementary currencies like the original LETS or regional currencies. As long as such systems remain very small, they are tolerated. If they

should ever manage to step out of the shadow at the fringe of our economic system, it will be necessary to pass appropriate legislation to secure their status (see in this context also Blanc and Fare, 2013, p. 76f). According to a detailed legal appraisal by Sademach (2011), most of the German regional currencies contravene the law already. The problem at this point is that some unexpected actors might slip through the door during this political process. It is somewhat surprising that nobody has criticised Lietaer's inclusion of frequent flyer miles in his list of examples of complementary currencies (for example in Kennedy, Lietaer and Rogers, 2012, p. 18). Whether this is justified may be a matter of dispute, because such schemes do not provide any circuits between production and consumption. The scenario of currencies issued by groups of corporate businesses in order to pay unskilled workers would create such circuits. Bernhard Lietaer and other advocates of complementary currencies envisage something different, but it would not be the first time in history that idealist developers blaze the way for those who have the financial muscle to implement and maintain innovations in order to increase their profit.

## **7. The nature of costs incurred and the need for appropriate financing**

To run complementary currencies requires hardly any investment in assets. The challenge is to cover current costs, i. e. to generate a continuous cash flow in order to defray in particular the organisational costs of these entities. This implies expenditures for tools like computer equipment, renting of office space and assembly rooms or the acquisition of external expertise. Systems that use cash have to take into account the printing of counterfeit-proof money. By far, the most important item, however, are expenditures for administrative staff. It is beyond the scope of this paper to describe the various management tasks in such systems, especially as they differ from one type of a complementary currency to another. Certainly, an individual matching of supply and demand, for instance by a “time broker”, is a significant cost factor.

It would be inappropriate to assume that after an initial investment a system can be administered at a reduced level of costs. Complementary Currencies are dynamic systems – if they do not adapt to changing demands, they will fade away (see Collom et al. pp. 32-37 for an example of such a process of almost continuous reform, also Schroeder, 2002, p. 4). This applies in particular in cases where systems experience significant growth (for the Argentinian Trueque systems, whose “success” swamped the organisations – see Gómez, 2009). In the reverse case, i. e. when a system declines, it will probably become apparent that

most of the costs are fixed costs. Obviously, payment of wages and incidental wage costs for an employed manager will – subject to contractual and legal conditions – have to be continued. Apart from that, most managerial functions will require the same amount of time. Even if, say, the preparation of a printed directory becomes a bit easier due to a reduced number of advertisements, this will be compensated by other tasks. Public relations work, for instance, might be intensified to stop the negative trend.

Costs may arise in legal tender and / or in the currency issued by the system. So far, systems run on a professional basis have to be financed in Dollar, Yen, Euro or other official monies. An exception is the Chiemgauer as described above. This alternative money scheme depends, as almost all other systems, on the third “currency”, that is voluntary work. In principle, these economic considerations are also valid with regard to small and independent systems, where organisers get for their working time only a partial compensation in community currency (Schroeder, 2002, p. 4).

Complementary currencies are usually organised as credit systems. Without going into the details of mutual-credit, service-credit or other systems, this aspect is relevant with regard to the present discussion, because a) credit monitoring is a significant part of managerial work and b) bad debts have to be written off. The latter constitutes another cost factor which had been underestimated for some time (see in this context Jackson, 1997).

In order to get a comprehensive picture, it is necessary to go one step further and look at the overall transaction costs (for a short discussion of this concept and its theoretical background see Gómez, 2009, pp. 81-87). With regard to systems that operate mainly in the social sphere it may be doubted whether this theoretical framework is applicable. Certainly, searching for the right trading partner or getting in touch with him or her means an effort, but, apart from the product to be traded, the intrinsic benefit of community building in a “social club” (Schroeder, 2002, p. 9) makes it worthwhile to carry this burden. This is different in systems which strive to provide a substantial economic alternative, even if they are interpreted as socially embedded economies as understood by Polanyi (1971). In addition to the above mentioned examples uncertainty about services rendered, conflict resolving or participation in meetings can be considered as transaction costs. Thiel describes in detail how laborious it is to become a user of the Chiemgauer (Thiel, 2011, pp. 265- 283). North (2010, p. 138) describes the resistance of bookkeepers to implement a second layer of accounts which would be

necessary to record transactions in local money. Some of these costs would probably decrease over time. A new bookkeeping system would become a routine after a while. If the system grew, its density would increase, and it would not be necessary to spend time and money to go, for instance, to a hairdresser in another part of the city, because the one next door is also joining the system. It seems that organisers usually proceed from the assumption that their initial efforts will trigger a self-enhancing process and propel the newly launched systems into the economies of scale (Gelleri, 2008, p. 182). So far, complementary currencies have not reached take-off point. A major explanation of this is the high level of transaction costs, in particular in the early days of a system.

Certainly, new technologies will contribute to reduce transaction costs, but, as pointed out also in the following chapter, complementary / community currencies are more than alternative payment facilities like Bitcoin. Therefore it will remain a challenge to find an adequate financial basis for such enterprises. This issue has hardly been dealt with from a theoretical point of view (for an original pragmatic approach in respect to LETS see Kay, 1998). These financial means are important when the established capitalist economy is in recession (for the anti-cyclical nature of the business cycle in complementary currencies see the study of the Swiss WIR system by Stodder, 2009). External financial sources are hard to obtain in such times and have a number of other drawbacks as described above. One is tempted to agree with Kennedy and Lietaer (2004, p. 130) that self-financing is the key to sustainability. But due to the high burden of transaction costs members cannot carry the burden of fees to finance the organisation of these systems.

## **8. Complementary Currencies as “finite systems” – an excursus about the relevance of boundaries**

In order to pave the ground for a solution to the problem posed in the last chapter a major feature of complementary currencies will be described in this section that, so far, has received only little attention. There are, at least, some authors who have discussed boundaries as an aspect which is important for the understanding of complementary currencies. Zelizer and Tilly (2006) provide examples of different types of boundaries. They raise the following question: “What processes produce change in prevailing social boundaries, hence in the categories people use to organize their social lives?” (Zelizer and Tilly, 2006, p. 27.) Wong speaks of “permeable boundaries” (2007, pp. 133-140). Gomez and Helmsing (2008) build a bridge to theories of local economic development. They refer to a regional policy proposal of

the late seventies to generate “selective spatial closure” (Gomez and Helmsing, 2008, p. 2493). Taking up the Argentinian experience Ould-Ahmed writes “that the credito microcosm is in no way an enclave hermetically separated from the peso monetary macrocosm” (2010, p. 1359). Stransfeld (2006) draws an analogy between regional economics and cell biology. Some other authors also broach the issue (Papavasiliou, 2010, p. 210, Spehl 2008, p. 24, Becker and Visca, 2006, in particular pp. 203-205, Schroeder, 2013, pp. 252f).

In recent years, research efforts have been intensified in various disciplines of science, the social sciences and in the arts and humanities to better understand the characteristics of boundaries. It is beyond the framework of this paper to provide even a short summary of these activities. (A survey about studies in the social sciences, which, however, is far from comprehensive, is provided by Lamont and Molnár, 2002.)

Quite interestingly, complementary currencies are not the only socio-economic innovation where clearly defined boundaries are considered to be important. Ostrom (1990, pp. 90-92) puts them first in a list of conditions which have to be fulfilled in order to establish successful common-pool resources (see in this context also Schraven, 2001, p. 4). It is interesting that alternatives to private property and exchange in the established market system appear on the horizon when the capitalist market system moves beyond all boundaries. Many authors interpret the development of complementary currencies in the context of the process of globalisation (for example Pacione, 1999).

Complementary currencies operate within different kinds of boundaries. The most important types are the following:

- Local or regional boundaries – this is the most obvious case which applies to the majority of such systems.
- Sectoral currencies do not have a specific local or regional focus. An Internet platform that facilitates the exchange of books may serve as an example – see BookMooch (no year).
- Another exceptional case are currencies that exist for a limited period of time (DeMeulenaere, 2002).
- Very often these organisations are member-based. In order to participate people have to join such a "community."

- The term "complementary currency" indicates the distinctiveness of these systems facing the established market system. The fact that LETS is based on the principle of non-convertibility and that the Chiemgauer, as described above, is convertible under certain conditions has to be seen in this context.
- Most of these alternative monies are non-profit organisations. Therefore they lack the dynamic of the capitalist growth economy.
- A boundary also exists between different types of complementary or community currencies. This is relevant in particular with regard to attempts to combine private-to-private time systems with schemes that include businesses. The latter have to include in their calculation taxes and fees as well as cost of capital. This does not go hand-in-hand with the principle of reciprocity based on equality as applied in SEL, Banche de Tempo, Tauschrings and similar systems.
- Systemic boundaries are very important. In a LETS balances oscillate around zero. Normally, there should be overdraw rights with regards to debits and credits. These limits describe a kind of a corridor in which these mutual credit systems operate (Schraven, 2001, p. 4). A service credit system, on the other hand, is constructed in a different way. Participants save higher amounts of time credits. This may be problematized in respect of credit risks assumed (Oesch und Künzi, 2008, p. 31). It has to be taken into account that these time credits are withdrawn only in times of need (Al-Dogachi, 2006, p. 63). Apart from an acknowledgement of voluntary work they constitute a kind of an insurance system. This risk has to be calculated in a different manner than the credit risk in a mutual credit system.
- Some complementary currencies operate in very specific institutional settings. A good example is the Bethel Euro, founded as Bethel Mark in 1908 and still in operation today. This money circulates only within a large psychiatric hospital. In 1932, when many alternative money schemes were ruled to be illegal, the German central bank made an exception in this particular case. This was justified with the fact that this scheme was available only to a clearly defined circle of users (Korn, 1998, p. 74, quotes a letter of the Reichsminister of Finance to the institution of Bethel dated 15 February 1932, file 2/43-15 Hauptarchiv Bethel).

Many discussions about complementary currencies focus only on money. Eisenstein wants to strike "a balance between convertibility, in order to allow long-distance trade, and insulation

of the members' internal economy from outside predation or financial shocks” (Eisenstein, 2011, p. 313). The creation of a “green” network that stretches around the globe implies that something of the density of the socio-economic space on the regional level is being lost. The important point here is to raise the awareness of the characteristic boundaries of each and every complementary currency system. In many publications about these social innovations the focus lies solely on theoretical interpretations of its monetary structure. Sure, in conjunction with the possibilities offered by new digital technologies this offers plenty of opportunities to create new links. However, the findings of many empirical studies cannot be adequately subsumed just and only under the term “money” (an example is the description of the Trueque systems as an “institutional process” by Gómez, 2009, p. 12). The concept of “boundaries” adds another dimension to that of “money”. Such a framework would also allow the critical analysis of models and to see whether they meet standards like that of “sustainability.” Furthermore, if alternative or community currencies can be understood as “finite systems” (Schroeder, 2002, p. 8) then it might be possible to create new types of such systems on the basis of this observation.

## **9. A scenario of a “finite currency system”**

First of all, a few introductory remarks may be useful to understand the characteristic features of scenarios. Certainly, they should not be confused with forecasts and they are not blueprints ready for implementation (for details about scenario methodology see van Notten, 2004). The author of this paper is convinced that thinking about the future should not be restricted to trend prolongation. The following scenario is a creative attempt to sound the possibilities beyond the constraints described in previous chapters.

The dual economy of the year 2029 was described by Flor in 1989. Regional markets complement the established capitalist economy. Transactions and income generated in these markets are exempted from conventional taxes. Instead, a levy is charged, which covers the expenses of the organisation that administers these new economic entities. Beside a spatial boundary the concept also has a time limit: The fiscal privilege applies only in as far as debits and credits are balanced over a year. A surplus or a deficit would be charged not only with income or value added tax, but, in addition, also with the regional levy. Therefore, these markets are not a lucrative instrument just for selling something. The author describes a number of other features which are not discussed here: a micro-financing scheme and the abolition of cash are just two examples.

In principle, the scenario offers a solution to the financing problem outlined in previous chapters. The fiscal privilege empowers the participants of the regional markets to become the carriers of these systems. However, the design of the dual economy implies two significant problems:

- Direct neighbours may not be able to use the regional markets together, because they are living on different sides of the border. However, boundaries are often not strict lines, but zones that allow limited exchange within boundary zones. Thus, it would be possible to have overlapping regions, although this would make the concept somewhat more complex.
- The fiscal differences between the global and the regional economy makes it lucrative to resort to arbitrage. This cannot be completely avoided. However, as such a system grows, overall transaction costs – as described above – decrease and the difference might be reduced. In combination with a control system and sanctions this would keep the misuse of the system to a minimum.

In addition, it has to be emphasised that this is not a path which guarantees sustainable development. It would require further research to appraise benefits and costs of such systems. Of course, also the shortfalls in tax revenues have to be financed. Also for this reason it might make sense to depart from the model presented in the scenario and, gradually, reintroduce taxes, although it remains essential to keep them below the level of the established capitalist market system. Taken into account that in the long-term, economic activity on the regional level will be stimulated, the public sector might then even yield higher revenues than under conventional conditions. Needless to say that the political process which is necessary to introduce the legislative framework for these regional markets would be very complex.

## **10. Summary**

In this paper it was shown that the present enthusiasm with regard to professionally managed systems is quite problematic from a financial point of view. The conclusion is that beside these elaborate schemes the so-called first-generation systems should not be put aside. In addition, it is necessary to think about new types of systems that guarantee a certain level of autonomy from the existing institutional framework. Each and every course of action may be considered as “impossible”; the challenge is to overcome this “impossible”. In order to pave the road for a paradigm change community currency research has first to undergo a paradigm

change itself; it will certainly be necessary to understand these social innovations not just as alternative money systems. Whether the concept of “boundaries” might fill the theoretical gap which exists in this field of research, remains to be seen. That depends also on the question of whether the perception of boundaries is going to change – that is, first of all, a matter which will be decided in the cultural sphere.

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