The Potential of Complementary Currencies: Boon or Bane for Degrowth?

SUMMARY

Keywords: complementary currencies; alternative economy; boundaries; monetarism; payment technologies

Narrative Step: From a critical appraisal of existing structures towards a vision for "building a social and ecological economy."

Abstract: Complementary currencies have been considered too small to be relevant for a degrowth strategy. Here, however, it is argued that the picture will change due to the introduction of new technologies. This article provides an overview of the deficits of present systems, outlines possible trends and evaluates the risks and chances of such developments. The focus by many activists and scholars just on the monetary aspects of these systems might open the gate for neoliberal concepts of competing multiple currencies. By contrast, here complementary currencies are interpreted as systems that operate within boundaries. This concept provides a framework to critically assess different types of complementary currencies. It also allows the construction of new types of systems – a scenario is used to demonstrate how such systems can become an important instrument in the toolbox of a degrowth strategy.

1. Introduction

Some of the authors who have made important contributions to the degrowth discussion in recent years considered complementary currencies as a viable alternative to capitalism. Latouche suggests "bioregional currencies" (2009, 50; see also 49, 57, 63). Paech envisages "regional currencies as modules of a postgrowth economy" (title as translated by the author of this paper, 2008). Douthwaite, who had already advocated alternative currencies in his earlier publications (for instance 1996, 65), discusses them as one of the instruments for degrowth "... in an energy-scarce world." (from title, 2012). In contrast to some other countries (like Germany) a number of scholars from the United Kingdom have researched complementary currencies in great detail and contributed their expertise to the degrowth discourse. Seyfang, for instance, contributed to a book about "Low Carbon Communities" (2010); North`s book "Local Money" (2010) was published in the Transition Books series.

The question discussed in this paper is whether complementary currencies can actually bring about a radical transition in the institutionalisation of the economic framework. Philippe (2011, VII) puts three different types of such systems to a test. In her thesis she arrives at the conclusion that, generally speaking, these systems fulfil the criteria of a degrowth economy as defined by Latouche. However, most of the systems analysed are rather small and have a low frequency of exchanges. Only the Chiemgauer, a regional currency in Germany, has, according to Philippe, reached a certain level of economic relocalisation in the trading of goods and services. In contrast to Philippe, Dittmer reaches a very critical verdict: He writes, that "... there are no clear success stories of local currencies as drivers of degrowth" (2013, 9). According to this author the degrowth movement should not focus on this development path. The argument put forward by Dittmer is quite convincing with regard to past experiences and present-day systems. However, he does not explore whether new factors like innovative technologies might change the picture. This paper will pick up the thread again and shed some light on emerging trends in this field.

The following chapter provides a summary of the factors that prevent complementary currencies from reaching take-off point, where they would become economically important institutions. In chapter 3 the reality of complementary currencies as subsumed in the previous part and as depicted in profound empirical studies is being confronted with the visions that motivate activists. The possible impacts of new payment technologies are discussed in the following chapter. Chapter 5 highlights the fact that complementary currencies operate within boundaries. This consideration provides the basis for a theoretical framework that is used in chapter 6. The answer to the question posed in the title of this paper is provided with two scenarios – a neoliberal one with private currencies which would pave the way for a new stage in the history of capitalist growth and a second one where the notion of boundaries is taken up for the construction of viable regional economies that would constitute a significant counterpart to the growth-oriented global market system. In the conclusion this perspective will be embedded into some aspects of the degrowth discourse.

This contribution is based on a comprehensive review of the academic literature about complementary currencies. This is not a paper about perspectives for such systems in general; it takes up the experiences of past and present experiments to discuss the construction of systems that would constitute a substantial economic alternative.

2. The limits of present-day systems

The economic impact of alternative currency systems has been negligible. Attempts at the end of the last century to integrate businesses into Local Exchange and Trading Systems (LETS) failed (Petersson, 1990, Jackson, 1997, North, 2006, 68-72). Also the later run-up of regional currencies is far from being a success story (with regard to the German "Regiogelder" see a news magazine article by Mennen, 2012). Even the "flagship" of this movement, the Chiemgauer, has, after more than ten years, not reached the break-even point; most of the organisational work is carried out on a voluntary basis (Schroeder, 2013, chapter 4). The only system in this field that became economically important is the business-to-business barter network WIR in Switzerland (Schroeder, 2014). Worth mentioning are also the Argentinean Trueque systems which offered an economic alternative for a couple of months after the severe financial crash in 2002. However, this case provides a good example of how systems that had originally been designed for a small community proved to be unable to cope with a dramatically increased demand (see Goméz, 2009). The reasons for the various failures may be summarised in the following way:

"Small is Beautiful"
Complementary currencies are usually credit systems, i. e. they are based on trust. When they are scaled up it becomes a problem to contain the moral hazard problem (see in this context Blanc, 1998, 478f).

Line or Circle? A Structural Challenge
LETS and many other types of complementary currencies are closed-loop-systems. Here, the principle of non-convertibility applies, i. e. credits earned or debits incurred are not supposed to be exchanged into other currencies. The problem is that in such closed systems supply and demand are not well balanced. Small community currencies usually face the challenge that some participants try to compensate practical services like repairing computers with reading horoscopes or other esoteric trades that are not so much in demand. Even the successful WIR system had to cope with this issue during its history – some participants violated the rule of non-convertibility by trying to exchange their WIR credits into Swiss Francs at a discount (Schroeder, 2014, chapter 5). The regional

currencies tried to overcome the problem by departing from the principle of non-convertibility. They allow participating businesses to re-exchange alternative money into Euro currency. The Chiemgauer, for instance, charges a commission fee of 5% for such a transaction. This is a relatively low threshold; an integration of production and consumption as in closed-loop-systems is hardly possible with such an open system.

Money is still scarce! The relevance of transaction costs

The efforts not just to found, but to maintain complementary currencies are quite significant. Since these systems are usually credit systems, costs of credit default have to be taken into account. Economically significant systems need a professional management in order to be a competent counterpart of small and medium enterprises. In some cases projects received funding from the public sector or from foundations. Such sources do not guarantee financial stability in the long-term. The hope of many social entrepreneurs was that their systems would attract more and more participants and become self-sustaining. This has proved to be unrealistic. In order to understand the reluctance of people to join such systems the overall transaction costs have to be considered. In addition to the fees they have to pay, participants have to make various efforts – like getting used to the peculiarities of an alternative exchange system or setting up a second tier of accounts. These factors become a routine after a while, but constitute a threshold for many to actually join a system. (For a detailed account of this argument see Schroeder, 2013, chapter 7.)

Is it legal? The political challenge

The vast majority of small community currencies that operate in the social sphere face hardly any legal problems. Time Banks in the US and the UK have been formally acknowledged. Other types of systems are considered to be part of the informal economy – tax-free allowances and similar regulations allow their members to carry out their moderate transactions. The legal appraisal is already different with regard to more recent attempts to involve businesses in alternative economic cycles. In respect to the German regional currencies Sademach (2012, 287-293) arrives at the conclusion that most of these schemes are already operating outside of the present regulative framework. It is beyond the scope of this article to discuss whether this proposition is correct. But it is important to note that, although authorities still tolerate very small experiments, real economic alternatives in this field require appropriate legislation. This, of course, can only be achieved via political initiatives.

Since some of these limits indicate fundamental structural deficits of existing types of complementary currencies the author of this paper does not share the view that these niche innovations can be diffused “into wider socio-technological regimes” (Seyfang, 2009, 173, see also 140-167). Instead, the question is, whether it might be possible to develop more elaborate forms in order to overcome the limits described above.

3. Thinking about alternative money – ideology and academic analysis

Various empirical studies about complementary currencies show that success or failure of such experiments depends on a number of factors. Scholars like Gómez (2009) draw very complex pictures of such projects by analysing them in their socio-economic context. (For a survey of the empirical literature see Schroeder et al., 2011, in particular p. 38.) But academic research has had little influence on the development of these alternative money systems so far. Many activists in various projects are influenced by alternative monetarists. Often they refer to the universal remedies to all economic problems as conceived by Silvio Gesell, who pleaded in favour of abolishing interest and instead introducing a device that is supposed to guarantee the circulation of money. Such a demurrage, as it is sometimes called (see for instance Lietaer, 2001, 247f), had barely any significance (Gómez, 2009, 137 in respect of the Argentinean Trueque system RGT;

also consider in this context the description of historic complementary currencies in German speaking countries by Schroeder, 2014). However, there are hardly any scholars who contest the ideological influence of populist writers (for a critical review of the Gesellian heritage see Blanc, 1998; for a critical comment on Lietaer see Paul, 2003). The shortfalls of the demurrage concept may explain why other authors like Greco became more popular among activists. This American writer campaigns against centralised power structures. He wants to abolish the monopoly of money creation held by central and private banks and install a system of mutual currencies (Greco, 2001, 2009). This author does not restrict himself to the development of complementary currencies, he wants to revolutionise money in general and with it, all and everything. However, almost all experiences in this field refer to exchange systems, as expressed by the terms barter, *Tausch* or *Trueque,* and hardly ever to instruments of capital formation as envisaged by Greco.

The attractiveness of alternative money may be illustrated by an observation of Hess. He writes about his students that "their imaginations are often lit as their hands hold the beautifully designed alternative currency notes" (Hess, 2013, 155). Cultural aspects, such as the materiality of alternative money, the pictures and stories used by the media to spread information about new projects or how this relates to protests against the capitalist financial system in the aftermath of the 2007/2008 banking crash have hardly been researched. It is therefore hypothetical to argue that the visions expressed with such images have influenced not only activists but also students and scholars. Also serious scholars like North focus on the monetary aspects complementary currencies. In a recent publication this author discusses the materiality of alternative paper currencies (North, 2014). However, he takes it implicitly for granted that such systems operate on a local level.

But his feature of complementary currencies is far less important for many young scholars, who have joined the academic discussion in recent years. They focus solely on monetary aspects to build their theoretical frameworks. Schuster, for example, has worked closely together with the followers of the Gesellian school of thought (see, for instance, Schuster and Kennedy, 2011). But he is certainly not a dogmatic representative of doctrines and not even an adherent of this school of thought. Quite on the contrary, he has made interesting contributions, such as regarding the monetary aspects of carbon (CO2) emission allowances (Schuster, 2011). Schuster is collaborating with other "new monetarists" such as the collaborators of the New Economics Foundation. In a paper published by this organisation Ryan Collins, Schuster and Greenham write "modern interest-bearing bank-debt money creates the illusion of exponentially growing wealth and an unceasing demand for economic growth and/or inflation" (New Economics Foundation, 2013, 5; see in this context also Boyle and Simms, 2009, 13). After this introduction to their understanding of the ecological challenge they carry on and suggest: "To make the economy work for the planet ... we need to change how money works" (New Economics Foundation, 2013, 5). The question is whether this approach is going to make a contribution to a degrowth policy?

4. The impact of new technologies

The relationship between technological development and the rise of complementary currencies has not been systematically researched, but it is known that some of the pioneers of the eighties of the last century made use of the first personal computers. The systems became popular in the nineties, also because specific and easy to handle software was available for the administrators of these systems. Later, online facilities made administration more convenient and allowed participants to settle their transactions directly. In the future, the introduction of mobile payments may provide a boost to the development of complementary currencies. (For an evaluation of this technology see Lerner, 2013).

Today, paper is still an important medium for transactions in alternative currencies, either by cheque or with money notes. North (2014, 263) favours paper currencies, because electronic money might be controlled by large financial institutions. Certainly, the picturesque money notes have shaped the image of this movement in recent years. But they “are expensive and hard to administer” – this is the conclusion of Kirschner (2011, 54) after many years of burdensome experiences in a project that used notes. On the other hand, the use of accounts for each and every member (as in LETS) provided a basis for the application of information technologies. Presently, there is a trend from a large number of different programmes towards a few software platforms. “Community Forge”, for instance, is used by many French S.E.L. (LETS-type of systems). Such platforms make it easier to arrange intertrading between participants of different systems. The need to develop arrangements of this kind became apparent a short time after the start-up wave of various systems in the nineties of the last century. Neighbouring LETS, Tauschrings etc. made it possible for their members to trade with each other across the boundaries of one organisation. Mediators offered facilities on a nation-wide basis (for instance, the Ressourcentauschring in Germany, mentioned in Schroeder, 2006, 34). Such a clearing-house was quite helpful when these systems organised their national meetings. Other transactions remained rather small due to the technological imperfections of such superordinate systems. (For a discussion in respect to these imperfections see Lübben and Trott, 2005.) Compared with this the service promised by Community Forge and other providers is appealing to many activists. On top of this, the different platforms have entered into cooperation in order to offer a universal service. The author of this paper participated in a workshop (held at the 2nd International Conference on Complementary Currency Systems in Den Haag / practitioners, doers, grassroots organizations meeting, 22. / 23.6.2013), where these organisations agreed to create interfaces in order to make trading among users of different platforms possible. An interesting exception is the software offered by Jaitner in Germany. Along with his programme “Obelio” that facilitates the administrative functions of time-based LETS-type systems he offers “Across LETS” that disallows transactions with other systems, including “Obelio” (see the website https://obelio.com/de/market_rules.html / visited 17.2.2014).

Programmers and other project participants or specialised non-governmental organisations like STRO or Qoin work hand in hand with the “new monetarists” described in the previous chapter. But their perspective of a development towards a global network implies a number of problems. The limits of current complementary currencies as described in the second chapter of this paper are likely to have a significant impact, if these projects become more important. Can someone use his or her credits earned in a private-to-private system to spend them in a professional shop? Will administrators of local knots be supervised with regard to their credit management? Some of these points were subject to controversial discussions when German Regiogeld activists suggested liaising with Tauschrings. (For a rejection of such proposals see Capell, 2006.) These are some of the questions that can only be answered on the basis of a comprehensive theoretical understanding of complementary currencies that goes beyond the phenomena of money and currency.

5. The relevance of boundaries

“Every system needs boundaries – but how permeable do they need to be?” This question was posed in the subtitle of a book edited by von Weizsäcker that assembled conference papers about this topic (1997 / translated by the author of this paper). On the back cover the editor (1997) writes that progress had been identified with overcoming boundaries, but in times of globalisation there is a general awareness that crossing boundaries does not mean progress any more. These conference proceedings include a large variety of contributions. The problem is that the term “boundaries” is so general that it tends to become meaningless. However, in recent years plenty of research has been done in a variety of academic disciplines that led to a more profound understanding of the characteristics of boundaries (for a survey see Lamont and Molnár, 2002). In order to make the concept operational in the context of the problem discussed in this paper the task is to understand the different boundaries, which are necessary to create new economic systems. This appears to be a relevant framework also for other socio-economic innovations like common-pool resources; Ostrom (1990, 90), for instance, considers clearly defined boundaries as one of the principles to design such systems.

With regard to complementary currencies a number of authors emphasise this aspect. (For a survey of this literature see Schroeder, 2013, chapter 8). Zelizer and Tilly, for instance, raise in their discussion of complementary currencies 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, 27). Schroeder introduced the term “finite systems” (Schroeder, 2002, 8, see in this context also Schroeder, 1992, 94-96) in order to highlight the relevance of boundaries in respect to complementary currencies.

The most obvious reference to this theme is, as expressed in the name of many complementary currencies, the restriction or, at least, the focus on a region or a locality. In fact, this applies to the majority of complementary currencies. Successful Internet platforms that do not have such an identity concentrate their activities instead on certain product lines like books (see for instance BookMooch.com). The close relation to regionalism and localism has its roots in the alternative economics movements that gained momentum in the seventies of the last century. Rosanvallon (1979), for example, emphasised in this context the importance of the principle of autonomy to create alternative economic spaces. Many of the later attempts to put regionalism into practice remained "piecemeal social engineering" (to use a term coined by Popper, 2012, XXXVI) and had no long-term effect (presentations of such projects can be found in a book edited by Kluge and Schramm, 2003a). The quest for “alternative exchanges spaces” (title of an article by Williams et al., 2003) is one of the driving forces of the alternative currency movement. This is even the case in Regiogeld systems, where the organisers are, first of all, influenced by the doctrines of alternative monetarists. But for many participants regionalism is a prominent motive to join such systems (see the empirical study of the Chiemgauer by Thiel, 2011a, 261-265 and 2011b, 93-95).

There are a number of other boundaries which are relevant for complementary currencies (see also Schroeder, 2013, chapter 8). In some cases their use is restricted to certain institutions, which are the carriers of these money systems. Often one has to be a member in a “community” currency, as they are sometimes called, in order to participate. Most of these systems run on a non-profit basis; in comparison to capitalist enterprises they have a more static character. In exceptional cases alternative currencies existed only for a limited period of time (DeMeulenaere, 2002). The quantity of money issued has to be limited. In mutual credit systems like LETS balances oscillate around zero. The overdrawing limits put on debits and usually also on credits purports the construction of a corridor, in which exchanges can take place. This does not apply to all systems – the WIR Bank provides long-term loans to finance assets backed by securities, which have to be redeemed in WIR currency over a longer period of time. In service credit systems like the German senior-citizen-cooperatives (Seniorengenossenschaften) it is possible to save time credits in order to use them in the distant future. Many systems are not linked to the outside world at all and abstain from any intertrading with other systems even if they are of the same type. Intertrading between different types of systems is problematic or even impossible. Complementary currencies that either use time as a measure of value or systems that are pegged to established currencies like the Euro have no common denominator to be linked with each other. Most important, however, is that convertibility to the currencies of the established capitalist systems is restricted. As mentioned above, this criterion has become somewhat less pronounced in recent years. Whereas first-generation systems applied the principle of non-convertibility, regional currencies departed from this rule. The “dernier cri” also among adherents of complementary currencies is Bitcoin, a network with full and unrestricted convertibility (Jansen, 2013).

An analysis of historic complementary currencies founded in Germany, Austria and Switzerland during the first half of the twentieth century reveals that those systems with clearly defined boundaries were more successful (Schroeder, 2014). But so far, little knowledge exists of how this feature works. The crucial point is probably the interplay of different boundaries. Certainly, a restriction of convertibility is a necessary condition to qualify as a complementary currency, other types of boundaries may not be essential. This point, however, needs to be explored in detail – a task for future research projects.

6. Risks and chances

The "new monetarists" described in chapter 3 present their ideas in different contexts. Schuster and Gelleri, the founder of the Chiemgauer, participated at a conference organised by the German "Federal Association of Small and Medium-sized Businesses" (Bundesverband mittelständische Wirtschaft, BVMW, 2012), where the introduction of so called "parallel currencies" for the Eurozone was discussed. All participants, including ultra-liberals like Lucke and Vaubel signed a declaration in favour of this monetary tool. Of course, it is not immoral to enter a discourse with ultra-liberal scholars, but the introductory survey of the different models in this field by Schuster (2012, 10-12) demonstrates how far these monetarists departed from an understanding of complementary currencies as the creation of alternative economic circuits. Boundaries are relevant only with regard to the old-established national economies, a restriction of convertibility to the Euro was only proposed by Gelleri (2012) who suggested an exchange fee of 10% in order to avoid a drain of liquidity into the Euro.

A neoliberal scenario

The above case already sheds some light on the way the complementary currency movement might develop. The following scenario is not meant to be a forecast, but might help to clarify the outcome of the trends described in previous chapters. (For methodological questions in respect to scenarios see van Notten, 2004). "Shopping to save the planet is big business," writes Seyfang (2009, 1). In a few years, new technologies could make alternative exchanges a lucrative business. The enthusiastic quest for new money could be an important element in the political process that is necessary to legalise such new forms of transactions. The use of "green money" would relieve consumers and others in the supply chain from laborious case-by-case decisions of what constitutes appropriate "green" consumption (as already described in respect of Chiemgauer users by Thiel, 2011a, 302). It is therefore not that far-fetched when critics of local currencies argue that they "could be co-opted into accumulation strategies" (North, 2014, 256, echoes the attitude of members of the Stroud Green Party). Beside these commercial features such monetary arrangements could include other elements like time credits for voluntary work. Certainly, the green monetarists have best intentions, but when it comes to legislation other actors might be at the doorstep as well: Corporate businesses could form associations that issue their own money (taking up the first experiences made with frequent flyer miles – an example mentioned by Lietaer, 2001, 86, 218). Employees could be paid with such currencies. This last aspect already indicates the problem. People with a strong position on the labour market might take advantage of this new situation and also use, if they like, green currencies, but for low-paid workers prospects would be rather bleak. For them "green money" would be luxury. Currency segmentation can mean social segmentation. Of course, private currencies could be distinguished from each other – each one would have its specific corporate identity.

Such a landscape with fully convertible currencies would come close to what Hayek has suggested (1990). In this scenario private currencies would be subject to capitalist competition, with the value of one currency being reflected at their respective exchange rates to other currencies. According to neoliberal logic this would sound the bell for a new stage in the development of the capitalist system and promise significant growth rates. This difference between complementary currencies that operate within boundaries and privately issued currencies, which are in competition with each other is not new. Rittershausen (1933, 580-585) advocated the latter in his criticism of the "Ausgleichskassen," systems that were launched in Germany during the economic crisis around 1930. At present Boyle and Simms from the British New Economics Foundation cross the watershed to neoliberalism when they argue in favour of "multiple currencies, possibly competing ones" (Boyle and Simms, 2009, 58).

"Finite systems" are not automatically morally correct systems. Racists in South Africa run such a project for "whites-only" (CNN, 2004). The example illustrates that the description of boundaries discloses the characteristics of specific complementary currencies. In comparison to criteria like "sustainability" or "social and solidarity economy" this approach is pretty straightforward and allows democratic societies to make judgements whether or not to allow certain types of systems.

A degrowth scenario

The concept of boundaries does not only allow the critical assessment of certain types of complementary currencies, it also offers a perspective for the creation of new types. A model presented by Flor (1989) has a spatial and a time limit. Transactions as well as income in the regional markets are, according to this scenario, exempted from conventional taxes. Instead, a levy is charged that covers the administrative costs of these economic entities. More concretely, a participant can buy or sell to or from other actors in the region, but the fiscal privilege only applies as long as credits and debits are balanced within a certain period. A possible surplus or a deficit becomes subject to taxation, which is charged in addition to the administrative fee. This mechanism makes it unattractive to accumulate profits. The model provides solutions to the problems of existing complementary currencies. The fiscal privilege reduces transaction costs – this makes it attractive to participate in this facility and allows members to pay a levy. This again guarantees the financial basis of the organisation in the long-term (Schroeder, 2013). The construction as a subsystem to the capitalist economy is a reasonable compromise between a closed and an open system; it constitutes an economic circuit, but avoids the problem of unbalanced supply and demand as it exists, for example, in LETS. However, the model has a number of deficits, which are quite interesting with regard to the discussion of boundaries. The demarcation between regions is, according to Flor, interpreted as a strict line. This implies that a participant might not be able to use the regional market for transactions with his or her direct neighbour just because this person is living on the other side of the border. This might be corrected by means of special agreements between neighbouring regions based on an understanding of boundaries not as lines but as zones. A real challenge is the arbitrage problem. The different fiscal burdens in capitalist and in regional markets make it lucrative to circumvent regulations. It is beyond the scope of this paper to explore this important aspect in detail, but it is unlikely that such a system would work without checks.

But why should the state grant a fiscal privilege to such regional economies? Some of the arguments that support the establishment of this kind of regional cycles are already well researched. Kluge and Schramm (2003b, 167f) provide a summary of reasons developed in different academic disciplines with a focus on sustainability. There is also a wealth of empirical material gathered about the ecological, social and economic advantages of existing systems available that can be used to justify the introduction of viable new types of systems. Stodder (2009), to mention just one example, showed in his long-term time-series analysis of the Swiss WIR the countercyclical development of turnover in comparison to the established economy. But the specific characteristics of transactions facilitated by these new systems require further investigation. One can expect that goods and services from labour intensive local or regional production will be exchanged in these new complementary currency systems. Hypothetically, it can be assumed that, often, this kind of production is not well paid in the established economy. If the "cost disease law" (formulated by Baumol and Bowen, 1966) was applicable in this context, this would – provided that social justice is a policy objective – provide one more argument to impose only a reduced tax on the income and turnover of, say, hairdressers and people repairing bicycles.

7. Conclusion

The existing complementary currencies do not have the capacity to make a significant contribution to a degrowth policy. The era of bricolage has come to an end; new and potent types of complementary currencies can only be devised on the basis of systematic scientific work. Even critics, who see no perspective in the development of this field have good reasons to acknowledge the relevance of new technologies and their impact on alternative forms of monetary exchange. This is not necessarily good news for adherents of the degrowth movement. Quite the contrary, there are indications of the establishment of green money networks that would be a step towards a liberalisation of the monetary order in general and thus a new stage in the evolution of the capitalist system.

The approach suggested here, to go beneath the surface phenomenon "money" and interpret these innovations as systems that operate within boundaries offers a framework for the critical analysis of such systems. It also provides a basis for the development of new types of complementary currencies that could, in conjunction with the application of new technologies, play a role as an element in a degrowth policy. The introduction of viable economic cycles on regional levels would be a big step towards an economic order, where the principles of efficiency, consistency and sufficiency prevail. The promotion of labour intensive production within spatial limits, as suggested in the previous chapter, would stimulate slow production for slow consumption. This is a way to deal with the material environment that opens the gate for new forms of good life or, as it is called, "Bon Vivir", that has a good chance in becoming an attractive alternative to the temptations of the capitalist shopping world – it is a way to put sufficiency into practice.

The degrowth movement emerged from criticism of reformist approaches and their deficits to provide adequate responses to the ecological challenge. The creation of regional markets beyond the existing global market system challenges the neoliberal understanding of rationality, which is based on the distinction between production and consumption as set by the institution of this market system. (For an attempt to transcend – the German term "Aufhebung" would be more appropriate here – the concept of rationality based on neo-classic consumption theory see Schröder, 1992 and Schroeder, 2000.)

This paper also showed how important it is to be aware of the interest neoliberals have in the development of different forms of alternative money. This is not a new phenomenon (see for instance an article published by Fung, 1995, in the Cato Journal). The concept of boundaries as presented in this paper offers a tool that allows the analysis of whether complementary currency schemes are in accordance with social and / or ecological principles.

Even the perspective of regional subsystems that complement the established capitalist economy is not a blueprint ready for implementation. One of the open questions is whether transactions in these facilities contribute to more social justice or will only reflect the injustices of the capitalist economy? In order to find satisfying solutions it will be necessary to discuss this as well as other issues in conjunction with other fields of development like basic income or the development of the commons. Most importantly, however, is the challenge to develop an understanding of boundaries that becomes associated with the creation of new spaces, spaces that offer something better, not more. But to make the creation of new boundaries a popular concept is not just a challenge for complementary currencies, it lies at the heart of what constitutes degrowth.

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