



Complementary Currencies and Capital Investments

Rolf F.H. Schroeder (www.rolf-f-h-schroeder.de)

- **RESEARCH**:
- Various publications about complementary currencies since 1992
- Major work: A bibliography stored under www.cc-literature.org
- ACTIVITY IN COMPLEMENTARY CURRENCIES:
- Organizational work in a German Tauschring and on the federal level, 2000-2007 ACADEMIC BACKGROUND:
- BA (Hons) and Diplom-Betriebswirt in "European Studies in Finance and Accounting" 1985, Leeds Polytechnic and Hochschule Bremen;
- MA in "International Studies" 1987, Warwick University
- PROFESSIONAL BACKGROUND
- Vocational Training and employment in a German savings bank 1974-1979
- Work in the reinsurance sector since 1990

Resumo/Resumen/Abstract

In this paper the following questions will be dealt with: Are complementary currencies a tool to raise capital? In how far can these schemes facilitate the financing of investments? What alternatives exist to procure the means of production?

The study takes into consideration present-day and historic complementary currency systems like the Swiss WIR ring. The analysis is based on a comprehensive study of the relevant literature.

The result of this study is that there are just a few complementary currencies that facilitate the financing of investments. This applies only to a limited range of investment goods. The author does not share the view that these social innovations have the potential to become fully-fledged currencies that would fulfil this function. A positive result of this enquiry is that complementary currencies have the potential to support other financing instruments. Due to their capacity to attract economic activity when the established economy is in recession, loans are less effected by the risk of default when loanees have a mixed income that is composed of traditional and alternative currency. It is recommended to promote the development of complementary currencies as an element in the toolkit of the solidarity economy, because this enhances the resilience of solidarity economy networks.

Keywords: Finance and Investment; Resilience; Historic Complementary Currencies





1. Introduction

The structural deficiencies of the capitalist financial system that have become obvious in recent years have led to a situation that complementary or community currencies (subsequently the acronym cc will be used) are considered to be the harbingers of a new monetary order. Thomas Greco envisages an economy with savings and investments being part of an alternative economic structure (Greco 2009, pp. 214-227, pp. 148f). Bernard Lietaer, on the other hand, offers a different view in his book 'The Future of Money' (Lietaer 2001, title). He distinguishes two sectors of the economy – one with established currencies that is based on financial and physical capital and another that uses complementary currencies to facilitate community transactions and is based on social and natural capital (Lietaer 2001, p. 274). As a rough differentiation this may be useful, but also the 'Yin Coherence' – that's how Lietaer refers to the complementary currency sector – requires capital, i.e. tools that are necessary for production.

These introductory remarks show that the terms cc and capital investments need to be clarified. This is necessary in order to answer the two central questions raised in this paper:

- Firstly, in how far is it possible to use complementary currencies to build up capital?

- Secondly, what are suitable alternatives for participants of complementary currencies to finance investments in fixed assets?

The following subsection provides a concise definition of capital investments. In section 2.2. a number of cases will be briefly presented in which cc have been used to finance capital investments. In section 2.3. the threads that have been developed in previous sections will be pulled together. Here a theoretical framework will be presented that allows an interpretation of the findings from the first part of this paper. Subsection 3.1. provides an overview of financing possibilities in traditional currencies. This is followed by a discussion of the synergies between complementary currencies and small loans, in particular micro-finance schemes. The focus in section 3 lies on tools that are part of the 'solidarity economy'.

2. Investment

2.1. Capital Investment – A simple Definition

A first step in answering the questions posed in the introduction is to clarify what is meant by the term 'capital'. Considering the fact that for many who discuss cc money is the cornerstone of the analysis of such systems a contribution by Deleuze and Guattari already



sheds some light on this issue. Having taken up the theoretical tradition developed by Marx these authors distinguish between finance and payment money. Payment money refers to the simple exchange of goods and services (Deleuze and Guattari 2004, p. 248). Finance money, in contrast, structures the process of production, normally capitalist production. To put it simply, investment goods are used for the production of other goods.

For the purpose of this paper the analysis will be restricted to long-term assets, mainly physical capital, immovables, intangible assets like software or licenses may also be included; long-term financial assets will be ignored. This definition differs from the various standards for setting up balance sheets. This simplification is justified, because this article focuses on small businesses, hairdressers for instance, who need to be equipped with things like special chairs for their customers. Other accounting aspects, like the non-consideration of low-value items that can be written off in the year of acquisition, will also be ignored. It has to be added that small businesses also have to finance working capital, i.e. cash, stock, outstanding debts etc. (For a short overview of accounting procedures see Bull 1980, in particular pp. 16-22).

Apart from the business world – small companies, co-operatives and individual entrepreneurs – there are two other sectors which will also be taken into consideration in this part of the paper. In the following subsection a case will be described where a cc has been used to finance the construction of public infrastructure projects. Furthermore, private households are not considered to be just passive consumers as assumed in traditional economic theory, in mutual credit systems based on time as a measure of value they exchange mainly services, sometimes commodities. But this kind of production requires capital too. For moving house a van may be needed. Some participants in LETS, Tauschrings, Banchedel Tempo or S.E.L. have well-provided workshops that enable them to render qualified services. This may be an explanation why such exchange systems prosper in the Global North and not in developing countries. Other categories, like human or social capital, will also not be taken into consideration.

2.2. CC and Investments – Evidence

The vast majority of all community currency systems organize transactions of services and durable and non-durable consumer goods, but investment goods are hardly ever traded in these systems. In first-generation systems that use time as a measure of value most transactions are services. The author of this paper sold a used refrigerator to another





participant in a Tauschring but such transactions on a private-to-private basis are hardly of any relevance for the topic discussed here.

In contrast to service credit and mutual credit systems regional currency schemes are not completely sealed off from the capitalist economy. But even here the acquisition of capital goods is of marginal importance. In his study of the ChiemgauerThiel (2011, p. 324) concludes that this alternative money is mainly used to buy goods for everyday consumption. The supplier directory of this organization (viewed 2. September 2015. http://www.chiemgauer.info/verzeichnis/anbieterverzeichnis/) confirms this observation, although this database also comprises businesses from the craft and the construction sector, architects, software developers as well as other specialists in information technologies and even a few industrial supply stores. The umbrella organisation of the Chiemgauer has launched a micro-finance scheme. Funds (in Euro currency) are provided by the federal government (viewed 30 September 2015, http://www.regios.eu/2015/mikrokreditvergabe-2015-gestartet/). Here, borrowers have the option to receive these funds either in Euro or in regional currency.) Generally speaking, it appears, that businesses which participate in regional currency schemes prefer a constant cash flow instead of occasional large orders. In the Chiemgauer the latter case might imply additional costs due to a) the demurrage, because a larger amount of Chiemgauer cannot be spent over a short period, or b) the fees charged for changing back Chiemgauer into traditional currency. If the price had been closely calculated these extra costs may be unacceptable for a business.

Some cases from the first half of the twentieth century provide additional evidence. The job creation scheme in the Austrian town of Woergl has become a famous part of the canon of alternative money (see for instance Lietaer 2001, pp. 153-155; Shimomura 2013, made a proposal to finance a local railway service in Hokkaido, Japan). It was implemented by the mayor of the eponymous town during the recession of the early 1930s. The purpose of the programme was to set up a community kitchen and to improve the road and path network as well as the tourist infrastructure (Broer 2007, pp. 93f, pp. 159-163). A substantial part of the scheme was financed in traditional Austrian currency (Broer 2007, pp. 67f), the remainder with a currency issued by the local administration. The workers and to some extent also municipal employees received their payment in this local currency. This means of payment was accepted in local shops and by some farmers. It was also possible to convert it into Austrian Shilling, but only with a deduction of 2%. The scheme existed only from summer 1932 until November 1933 when it was ruled to be illegal. There are some doubts whether



this would have been a sustainable economic cycle on the local level. At an early stage business people and farmers used the income in Woergl money to pay arrears of local taxes. Later, however, the major of the town exceeded his powers by accepting advance payments of taxes (Broer 2007, p. 104, p. 213, p. 31). Furthermore, he arranged contacts between local retailers and wholesale suppliers in Vienna who accepted the money from Woergl (Broer 2007, p. 31). The Austrian Chancellor at that time, Dollfuß, had indicated that a currency within clearly defined boundaries could be tolerated, but the activists from Austria had bigger plans (Broer 2007, p. 195, p. 213, note 810, quoted from the minutes of the 'Ministerratssitzung' dated 21. Juli 1933, in: Gertrude Enderle-Burcel (ed.), Protokolle des Ministerrates der Ersten Republik, Band 4/26. Oktober 1932-1933, Wien 1982).

In contrast to the experiment of Woergl the Ausgleichkassen or, as they are also called, Arbeitsgemeinschaften remained almost unknown. They also existed for a short period in the early 1930s until they too were ruled to be illegal. Their purpose was to stimulate economic activity via credit-financed investments in public infrastructure and the construction of private dwellings. The basic idea of this concept was not to use scrip as in Woergl, but money on account. Masons and other workers employed in these schemes would receive (at least part of) their wages as credits in individual accounts. Retailers and others were also expected to open accounts in order to make commercial transactions possible. Payments were to be made by cheque and payment instructions. In 1931 sixteen institutions of this type had been founded, fifteen others followed in 1932 (J. 1933, p. 67; Wackerzapp 1932, p. 425, also mentions a scheme in the Austrian city of Graz). The alternative currency was either pegged to the Reichsmark or it was based on time as a measure of value (Godschalk 1986, p. 29). It has to be said that the original design of this model was developed by fascists, mainly by Otto Dickel, an opponent of Hitler. Later the concept was adopted by democrats, in particular administrators from the municipal sector. The Ausgleichkassen / Arbeitsgemeinschaften were harshly criticised by a number of authors. Rittershausen (1933), a proponent of the Banking school, was in favour of currency diversity, but argued in favour of flexible exchange rates. This debate resembles, to some extent, the one that characterizes present-day discussions. The Reichsbank had to justify why it declared this experiment to be illegal, whereas it had tolerated various local and company currencies during the early 1920s. The representative of this institution, Witte, was certainly not a neutral observer, but many of his arguments are still relevant today. The multitude of currencies after World War I had developed because centralized printing of cash was not able to keep pace with hyperinflation (Witte 1933, pp.



92f). The closed circuits of the Ausgleichkassen / Arbeitsgemeinschaften belonged to a different category. These alternative currency schemes have not been researched yet (for a more detailed description see Schroeder 2014). But it seems that some of the criticism was justified. The securities might not have been sufficient to guarantee the value of the currency. Basically (and this is a crucial point in respect of the present analysis) it is problematic to finance long-term investments by issuing fungible money. However, the following case demonstrates that this is possible provided that the issue is covered by adequate securities.

The most successful cc – in terms of turnover – is the Swiss WIR. It was also established during the recession of the 1930s. Today the WIR Bank is doing most of its business in Swiss Francs. The secondary currency WIR is considered to be a marketing tool offered to their business customers. (Schroeder 2014). Nevertheless, turnover still amounts to 1.43 billion WIR. (This corresponds to 1.43 billion Swiss Francs – Annual Report 2013, 14, viewed 17 September 2015, http://www.wir.ch/fileadmin/user_upload/geschaeftsberichte/wir-bank-gb-2013-de.pdf.) The founders had studied the Woergl project and some other cases. In addition, the Swiss regulators took, in contrast to their German and Austrian counterparts, a positive stand on this experiment and helped to knock it into shape. The WIR money is issued in the form of long-term loans mainly secured by mortgages. These funds are used to finance investments mainly in the building sector. The contractors put the WIR into circulation, pay their suppliers or their employees.

It may be interesting to ponder the idea of whether it is possible to combine the WIR concept with that of regional currencies. Such a system has been launched in the French city of Nantes, the "SoNantes" (for descriptions see the websites, viewed 17 September 2015, http://communitycurrenciesinaction.eu/curreny-pilot-sonantes/ and https://sonantes.fr). First of all, it seems that the wider territorial scope appears to be an essential feature of the WIR; it is doubtful that without the variety of very specific offers available on the national level, which are interesting in particular for businesses, such a concept would work. More important is that such a system would abandon the principle of non-convertibility. If businesses had the option to exchange alternative currency against a traditional currency at a rate of 1:1 (possibly against a transaction fee) the system would suffer a liquidity drain. Imagine the consequences for a wholesale business that has to repay its mortgage. Sure, new liquidity comes into the system from private consumers who acquire alternative currency against traditional currency but this new form of demand is of no direct use for a wholesale business. It can only hope that liquidity trickles down and make its cash tills ring. The point is that in such an open system



equilibrium is difficult to achieve. This is not a problem for regional currencies, but in a WIRtype of system it is very likely that it would not take long until the call for giving up parity and introducing a flexible exchange rate regime came up. A completely different type of a currency would develop.

The systems described so far have to be distinguished from concepts and experiments where complementary currencies have been designed in conjunction with investment plans based on financing in traditional currency. Warner refers to a story that already occurred back in 1990. The owner of a delicatessen financed the expansion of his premises by selling scrip that could be redeemed in meals after the completion of the building project. These certificates, issued in small denominations, circulated, before eventually being redeemed, as a currency surrogate in the community (Warner 2013, p. 132, refers to G. Hallsmith and B. Lietaer, 2011, *Creating Wealth: Growing Local Economies with Local Currencies*, New Society Publishers Gabriola Island, BC pp. pp. 84-87). The amount of capital raised here was very small indeed, but Warner believes that the idea has a potential if considered in conjunction with the increased significance of crowd funding due to new communication technologies.

The value of the above mentioned certificates was underpinned by the fact that people could see that building the delicatessen was work in progress. The credibility of the WIR money was supported by securities – mortgages and other collateral. Some advocates of cc emphasize that it is essential that these should be covered by commodities like energy (Douthwaite 2011, Turnbull 2009; for an overview of origin and development of energy currency concepts see Günel 2014). It is possible to think of currencies that are based on the production of a local power station owned by a co-operative. In practice, however, attempts to combine alternative energy production and the issue of currencies did not become success stories. ('Sonnenschein', a German initiative briefly described by Thiel 2011, p. 130, provides an example; see in this context also Wallimann 2014, p. 10). Basically, this approach faces the same problem as the attempt to integrate the WIR model into a regional currency. Such business-to-private exchanges cannot be constructed as closed systems.

Greco emphasises the role of certificates as a financial instrument. He mentions historic examples like a railway money that had been issued in Germany in the 1800s (Greco 2009, p. 75). In an earlier publication (Greco 2001, p. 71) he mentions it as a way to finance working capital. One should not forget, Greco wants to revolutionise the entire financial structure and abolish money issued by central banks. The author would probably refer to a chapter in his later book where he suggests some proposals to put savings and investments together in



alternative ways. According to this proposal members of prospering cc would provide entrepreneurs with equity on a peer-to-peer basis (Greco 2009, pp. 214-227). This vision of an alternative to capitalism, outlined over fourteen pages, does not only fail to provide any empirical evidence, i.e. any indications of how such a scenario can be put into reality, he also envisages a self-regulatory landscape with fully-fledged private currencies.

2.3. The Boundary to Profit Accumulation – Theoretical Considerations

To sum up, in the previous section it was shown that complementary currencies offer hardly any possibilities to finance capital assets. There are a few cc schemes that finance projects in the building sector partly in alternative, partly in traditional currency. A building company can take a limited number of this type of orders. How many depends on its cost structure and the range of offers that make it possible to spend the alternative kind of income. Labour intensive businesses which obtain a large part of the input goods from within the territorial limits of a cc can accept more orders than, say, a supplier of machines which have been assembled with components from different parts of the world. On the other hand, a business that acquires an investment good has to make sure that long-term financing on one side of the balance sheet corresponds with an equivalent on the investment side. In the future it might be possible that due to new technologies – in particular 3D printing / additive manufacturing – more investment goods can be produced regionally. It remains to be seen in how far this technological revolution will lead to an import substitution on a regional level. However, it cannot be expected that this will lead to a fundamental change of the financial framework discussed in this paper.

This consideration is embedded into the theoretical framework suggested by Schroeder (2015) who interprets cc as systems that operate within boundaries. These may be limits to convertibility, a certain territorial scope and others. The WIR system provides a good example of the interdependence of different types of boundaries. The design comprises the following elements: membership, long-term relationship between WIR and borrowers, operation on a nationwide basis (although not all parts of Switzerland are covered) and non-convertibility of WIR money. The wider territorial scope was probably important for this specific type of a cc which defined two other boundaries in a very rigid manner. Another crucial factor was that not anybody has access to this system. This had not been the case in the early years when the WIR exchange faced severe problems. The success story began in the early 1950s when the project was relaunched, the ideological beliefs of the early years



were abandoned and private participants who were not employees of participating businesses were not allowed to take part in the circle any more (Dubois 2014, p. 59). It became a prosumer-to-prosumer exchange system. In a way it seems to be an anachronism that this system still applies the rule of non-convertibility. The difficulties in managing closed systems like LETS with an imbalance between supply and demand seemed to be overcome by regional currencies that allowed converting alternative into traditional money. In the WIR system cases are documented where the rule of non-convertibility was violated. Participants who changed WIR into Swiss Francs were sanctioned (Studer 2006, p. 21, Dubois 2014, p. 64). All in all, it seems that the WIR organizers have been able to keep this problem at bay (see also Schroeder 2014, Studer 2006). It is important to note that, in comparison to private currencies like Bitcoin, the WIR belongs to a completely different category. The latter is a separate economic cycle. Freely convertible currencies fulfil a function within capitalist systems, a modified form of capitalism as Greco would probably argue.

The summary of the analysis – that cc have no real potential with regard to the financing of capital assets – leaves the question open of how to finance what is the basis of economic activity.

3. Financing

3.1. General Remarks

Having discussed one side of the accounting equation in the previous part of the paper, this section is devoted to the sources of capital that is equity and liabilities. Since the topic of this paper are capital investments the question to be dealt with is how to match the fixed assets which are necessary for production with a) equity and b) long-term liabilities? A typical story of success in capitalism would be about an entrepreneur with a brilliant business idea that attracts other investors. This again makes it possible for banks to support the project and provide loans. By means of self-financing, i.e. the reinvestment of profits the capital base increases and employment will be created. The problem has always been that the poorest of the poor did hardly benefit from this process. (Hering&Vincenti 2005, p. 31f, confirm the importance of start-ups in the high-tech sector, but admit that the picture looks different in respect of traditional branches.) Over recent decades more and more people became excluded from the creation of wealth. Low-paid jobs at the fringe of the capitalist economy, sometimes outsourced to "self-employed" workers, are not a basis to develop the know-how for viable business plans and to create savings that could become the core of start-up capital. In



addition, banks tend to become reluctant to finance small and medium enterprises, partly because they have more lucrative business opportunities, partly because the severe financial crises experienced over recent years has increased the uncertainty in respect of the economic viability of start-ups. Attempts of the public sector to close the investment gap by providing subsidies have not proved to be an effective measure to reduce social marginalization.

Here, it is more promising to develop alternative forms of economic organisation based on cooperative principles. The structure of cooperatives has been criticised as too static; according to this view such entities tend to fail economically or they abandon their principles after some time. Novy (1982, p. 123f) discusses this criticism referring to the so-called "transformation law" by Oppenheimer. He concedes that this might play a role in stand-alone producer cooperatives which have to survive in a very dynamic market. But he emphasises that cooperatives have a good chance to survive if they are embedded in networks. The most significant progress in this direction has been made in Brazil where the solidarity economy has become a significant sector of the economy. One of the innovations developed in this Latin American country are Community Development Banks. Most of them are based on the model of Banco Palmas. This concept combines various elements; beside cc it comprises micro-credit schemes, education programmes, cultural activities and others (MeloNeto Segundo 2010, see also Fare et al. 2015). In Europe a network exists in the Swiss city of Basel where not just the umbrella organisation is committed to the principles of the solidarity economy but the participants too. Here, cc are an important instrument to strengthen economic relationships (Wallimann 2014).

A number of examples can be mentioned where the creation of networks provides opportunities for synergies between the use of cc and the financing of investments. It might be possible to arrange collaborations with providers of responsible investment schemes. The potential of crowd funding, briefly described above, might play a role. The use of the commons, software commons perhaps, might be a possibility to save costs and / or capital. But expectations with regard to the collaboration of different parts of the solidarity economy (a reference can be made here to Gibson-Graham's project "to rethink the economic object" – Gibson-Graham 2006, p. 97) must not be raised too high. In contrast to Brazil where the state has an important role in organizing this alternative economy, the different currents of the movement in other parts of the world are too diverse to engage in common projects. Instead of putting the focus on common principles it is important to look for functional ties that make





the application of different elements of the solidarity economy feasible. This will be demonstrated in the following section.

3.2. Small Loans and CC

CC gain prominence in times of recession. Stodder (2009) has shown that economic activity in the Swiss WIR increases in times when the traditional economy suffers from a downturn. This countercyclical effect of cc means that participants of the WIR can compensate the decline of revenues in Swiss Francs to some extent with an increased income in WIR money. This is relevant even if amortization instalments are due in traditional currency. Since the supply in the alternative economy tends to increase in times of crisis business owners, employees or members of cooperatives can satisfy at least a large part of their personal needs here. Provided that in a mixed income structure the share of earnings in traditional currencies remains high enough the borrower will be able to fulfil his or her contractual obligations. This smoothing of revenues is highly important for lenders including the providers of micro- and other small loans. It means that the risk of default is reduced to a large extent. This is all the more significant, because for a lender a recession means an accumulation of risks. The inversion of the argument means that well-designed cc may contribute to an extension of the availability of micro-credits. It should be remembered that the WIR is a closed system; there is no evidence in how far hybrid systems like regional currencies will have this effect.

The uncritical implementation of micro-credit schemes has compromised the concept. Some commentators consider it as irreformable (Klas&Mader 2014, p.30). FrançaFilho et al. (2013), having analysed the development of this tool in Brazil, come to a more differentiated conclusion. With the term "proximity finance" they emphasise the importance of proximity of relationships and the geographical context (FrançaFilho et al. 2013, p. 122). The Community Development Banks, briefly described above, serve as an example for this approach. Servet and Moerenhout (2015) consider "rotating credit and savings associations" (ROSCAs) in India and some parts of Africa as an instrument that fulfils the criteria of a solidarity economy. Like FrançaFilho et al. they discuss these schemes in conjunction with cc. The management of micro-loans is costly (with regard to Banco Palmas see FrançaFilho et al. 2013, p. 127, MeloNeto Segundo 2010, p. 66). That makes it a task, first and foremost, for the public sector which has the resources to fulfil this task. However, such funds tend to wither on the vine in times of crisis.



But the provision of small loans – also in the context of a development strategy – is not restricted to the micro-level. Here, the above mentioned principle of "proximity finance" may be useful. Historic experiences like the development of local cooperative banks and savings banks in Germany in the 19th century provides an interesting case (Thomas &Heesen 2013, Wysocki 2005). The savings banks did almost all of their business within the confines of their district, on the other hand they could do their business with low amounts of equity, because the viability of these financial institutions was guaranteed by the local authorities. This privilege does not exist anymore, and the savings banks have, like the cooperative banks turned into the local knots of a national network. But the historic origin provides a good example of how to create distinct economic spaces which allow a balanced economic development even if capital is scarce.

4. Conclusion

This paper has offered a view on cc that differs clearly from the perspective of authors who consider these socio-economic innovations as a first step towards a reform of the monetary system that would solve all economic problems of our time. Complementary or community currencies are only in exceptional cases a suitable instrument to finance investments. This is, in conjunction with other aspects like territorial boundaries, restrictions in respect of the convertibility and/or the participation in such systems one of the factors that limits the use of these alternative currencies. The focus on what cannot be achieved with cc directs attention to other financial devices. The interesting result of this analysis is that thanks to cc these other financial devices can increase their effectiveness. Due to their capacity to attract economic activity when the established economy is in recession, loans are less effected by the risk of default.

So far, almost all cc are too small to have a significant effect of this sort. It would be worthwhile to further their development in particular within the context of the solidarity economy, because they would make this form of an alternative economic network more resilient. Paul Singer described (in his address to the open forum "Learning from the global south!" at the "solikon" conference in Berlin, 11.September 2015) how the solidarity economy developed in Brazil during the 1970s when the first oil crises shattered the national economy of that country. Today, more than ever before, life boats are needed to save economic activity from the slumps of capitalism.





References

Broer, W 2007, Schwundgeld: Bürgermeister Michael Unterguggenberger und das Wörgler Währungsexperiment 1932/33, StudienVerlag, Innsbruck, Wien, Bozen

Bull, R J 1980, Accounting in Business, Butterworths, London etc (4th edition)

Dubois, H 2014, Faszination WIR: Resistent gegen Krisen, Spekulationen und Profitgier, FaroFona, Lenzburg

- Fare, M, de Freitas, C & Meyer, C (2015) "Territorial Development and Community Currencies: Symbolic Meanings in Brazilian Community Development Banks", *International Journal of Community Currency Research*, vol. 19 (D), pp. 6-17, viewed 25 September 2015, www.ijccr.net
- FrançaFilho, G C de, RigoScalfoni, A & Silva Júnior, J T 2013 "Microcredit Policies in Brazil: An Analysis of Community Development Banks", in I Hillenkamp, F Lapeyre& A Lemaitre (eds.), Securing livelihoods : informal economy practices and institutions, Oxford University Press, Oxford
- Gibson-Graham J K 2006, The End of Capitalism (as we knew it): A Feminist Critique of Political Economy, University of Minnesota Press, Minneapolis, MN, London, originally published 1996
- Godschalk, H 1986, Die geldlose Wirtschaft: Vom Tempeltausch bis zum Barter-Club, Basis Verlag, Berlin
- Greco, T H jun 2009, *The End of Money and the Future of Civilization*, Chelsea Green Publishing, White River Junction, VT
- Greco Jr.,T H 2001, *Money: understanding and creating alternatives to legal tender*, Chelsea Green, White River Junction, Vermont, viewed 28 September 2015, http://monetaryfreedom.net/reinventingmoney/Greco-

Understanding_creating_alternatives_legal_tender.pdf

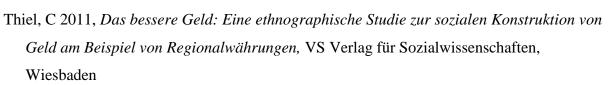
Günel, G 2014, Ergos: A New Energy Currency, Anthropological Quarterly, vol. 87, no. 2 (Spring), pp. 359-379, viewed 29 September 2015, http://dx.doi.org/10.1353/anq.2014.0026

Hering, T & Vincenti, A J F 2005, Unternehmensgründung, Oldenbourg, München



- Klas, G & Mader, P 2014, "Einleitung", in G. Klas & P Mader (eds.), Rendite machen und Gutes tun?: Mikrokredite und die Folgen neoliberaler Entwicklungspolitik, Campus, Frankfurt, pp. 37-33
- Lietaer, B A 2001, *The Future of Money: A new way to create wealth, work, and a wiser world,* Century, London
- MeloNeto Segundo, J J de 2010, "Associative Community Banks in Brazil", *WorkingUSA: The Journal of Labor and Society, vol* 13, March, pp. 61–76, viewed 28 September 2015, http://dx.doi.org/10.1111/j.1743-4580.2010.00280.x
- Meyer, C 2012, Les finances solidairescommebienscommuns durables : étude de cas de la Banquecommunautaire de développement Palmas (Brésil), Master Diss., Universite de Bruxelles, viewed 29 September 2015, http://new.lucpire.eu/wpcontent/uploads/M%C3%A9moire-C.-MEYER.pdf
- Novy, K 1982, "Vorwärts oder rückwärts?", in F Benseler, R G Heinze & A Klönne (eds.), Zukunft der Arbeit: Eigenarbeit, Alternativökonomie?, VSA, Hamburg, pp. 119-129
- Rittershausen, H 1933, "Ausgleichskassen?", Bankwissenschaft, vol. 9, no. 19, pp. 577-585
- Schroeder, R F H 2014, "Monetecomplementari in Germania, Austria e Svizzeranella prima metàdelVentesimosecolo", *Storia e Futuro*, no. 35, Giugnio / Articoli, viewed 17 September 2015, http://storiaefuturo.eu/monete-complementari-in-germania-austriasvizzera-prima-meta-ventesimo-secolo/
- Servet, J-M &Moerenhout, T 2015, "Incompatibility and Complementarity of the Chicago Plan and Alternative Monetary and Financial Mechanisms", in B Hours & P Ould Ahmed (eds.), An anthropological economy of debt, Routledge, New York, NY, Abingdon, pp. 33-56
- Shimomura, H 2013, "Financing Rural Railway Services Using Complementary Currencies: A Proposed Plan in Hokkaido", in T Sakurai, I Macdonald, T Yoshida & K Agata (eds.), *Financing public services : taxes, user pay or other forms of service delivery?*, Waseda University Press, Tokyo, pp. 111-125
- Stodder, J 2009, "Complementary credit networks and macroeconomic stability: Switzerland's Wirtschaftsring", *Journal of Economic Behavior & Organization*, vol. 72, no.1, pp. 79-95, viewed 28 September 2015, http://dx.doi.org/10.1016/j.jebo.2009.06.002
- Studer, T 2006, *WIR and the Swisss National Economy*, viewed 10 September 2008, http://www.lulu.com/content/301348.





- Thomes, P & Heesen, F (2013), "Zwei Geschäftsmodelle ein Ziel? Kreditgenossenschaften und Sparkassen im historisch basierten Vergleich", in H J Rösner & F Schulz-Nieswandt (eds.), Kölner Beiträge zum Internationalen Jahr der Genossenschaften 2012, LIT Verlag, Berlin, Münster, pp 187-204
- Wackerzapp, N. N. 1932, "Die 'Arbeitsgemeinschaft Oberschlesien' ein praktischer Versuch zur Überwindung der Arbeitslosigkeit", Zeitschrift für Selbstverwaltung, vol. 18, pp. 424-430
- Warner, J 2013, "Communities, currencies and credit", *Social Sciences Directory*, vol. 2, no. 3 (Sept.), pp. 134-144, viewed 1 September 2014, http://www.socialsciencesdirectory.com/index.php/socscidir/article/view/91
- Witte, E 1933, *Private Geldschöpfungsversuche*, in Untersuchung des Bankwesens
 Vorbereitendes Material (Ansprachen und Referate) Deutschland (Deutsches Reich) /
 Untersuchungsausschuss für das Bankwesen, vol. 1, Heymann, Berlin, viewed 28
 September 2015, http://www.digitalis.uni-koeln.de/Untersuchung/untersuchung_2_89-98.pdf
- Wallimann, I 2014, "Social and solidarity economy for sustainable development: its premises

 and the Social Economy Basel example of practice", *International Review of Sociology Revue Internationale de Sociologie*, viewed 29 September
 2015,http://dx.doi.org/10.1080/03906701.2014.894345
- Wysocki, J 2005, Untersuchungen zur Wirtschafts- und Sozialgeschichte der deutschen Sparkassen im 19. Jahrhundert, Deutscher Sparkassenverlag, Stuttgart, reprintof a publicationfrom 1980