Sardex, a complementary currency that shapes a new financial space

Abstract

The remarkable growth of Sardex as a local currency throughout the island of Sardinia over the past 5 years motivated an in-depth look at its starting assumptions, design and operational principles, and local context. The paper looks at Sardex as a social innovation start-up, a complementary currency, a mutual credit system, and a socio-economic 'circuit'. The analysis relies on interviews of circuit members and its founders. The main findings are that trust was and continues to be fundamentally important for the creation and operation of the mutual credit system, and that Sardex encompasses both economic and social value(s) in a process of re-embedding of the economy. Sardex configured itself as a crucial mediator of economic exchanges and became a valuable actor acting as an institution at the regional level. These properties make it an ideal space for experimentation in socio-economic innovation that can be characterized as a 'laboratory for multi-level governance.' Moreover, it opens a new financial space that allows for new financial instruments and practices.

Keywords: Complementary currency, trust, mutual credit system, circuit, money, tax, governance

Laura Sartori
Dipartimento di Scienze Politiche e Sociali, Università di Bologna
Via Bersaglieri 6, 40125 Bologna
https://www.unibo.it/sitoweb/l.sartori/cv
l.sartori@unibo.it

Laura Sartori received her Phd in Sociology and Social Research from University of Trento in 2002. She is Associate Professor in the Department of Political and Social Sciences where she teaches undergraduate and graduate courses, such as Economy and Society, Information Society and Methods for Social Research. Her research interests span over a broad range of topics, from digital divide and digital inequalities to open government, big data and smart cities, from digital social innovation to complementary currency.

1. Complementary currencies and Sardex

Complementary currencies (CCs) are monetary networks using a specific medium of exchange to complement the national currency. There is no universal agreement on CCs' definition and many typologies have been proposed (Lietaer 2001; Blanc 2011; Boonstra et al 2013). They can work at a local, regional or national level through different issuance models, for example mutual credit, convertible voucher (upon a commodity or loan) or cryptographic[1] media of exchange. The reasons for establishing and for adhering to such networks vary consistently across time and space depending on selected social, economic and political outcomes. Complementary, community or local currencies differ in what they want to achieve, as in stimulating or re-orienting the economy, protecting or reinvigorating a community or a territory, lowering the threshold of employability, and so forth. Usually, they tend to emerge in times of economic crisis also due to their countercyclical function, by design. In contrast with state money, CCs are an effective instrument to balance the lack of liquidity in times when it is more needed. Yet, they are not 'alternative' since they do not provide a full alternative to legal tender. CCs can involve only businesses (like the Swiss cooperative bank WIR); businesses and consumers (like Fidelity Frequent Flier programs, LETS[2], Bitcoin), only consumers (Time Banks, LETS) or businesses and their employees (when employees accept part of their salary in CC).

Sardex (Sardinian Exchange Network) is a complementary currency operating at the regional level through a mutual credit system. The way in which transactions are conceived and designed, the absence of an interest rate, as well as its legality in parallel with the national system are important characteristics. As a social innovation case study, Sardex appears to be facilitating a novel economic space that enables proximity-based and trust-based relations, fosters economic empowerment of a specific local territory, and has created a relatively small but resilient and vibrant trading community.

The purpose of this article is two-fold. First, at a micro level, it aims to describe how Sardex

[1] One famous recent example is Bitcoin (for more details see Amato and Fantacci 2016). Bitcoin is based on a 'blockchain' technology that serves as an electronic ledger that guarantees no transparency or personal accountability. Moreover, Bitcoin transactions take place outside of any national fiscal system and no tax is levied. This property is a design choice embedded in its distributed architecture that reflects a desire to evade taxes as much as a lack of trust in the nation state as a concept and institution. Another important motivation to use Bitcoin is to avoid the rents imposed by the banking sector as transaction fees. Bitcoin's market-value fluctuations resemble a stock more than a currency. As we will show in the next sections, Sardex is not equivalent to Bitcoin, and is based on very different design principles and objectives.

[2] Local Exchange and Trading System and Time Banks are local or 'community' networks. LETS was invented by Michael Linton in 1980, on Vancouver Island, during an economic downturn. The main purpose was to provide a medium of exchange to support economic transactions because regions with a negative trade balance tend to be chronically short of cash, but not of the ability to trade locally. LETS is a mutual credit system, but it is focused on individuals, with some participation by local businesses, rather than the other way around. Time banks credit the time someone works for someone else on a person-hour basis. The credit can be redeemed by accepting the same person's or someone else's work, for the same amount of time.

came into being and for what reasons, how it has reached critical mass and, so far, has kept growing. The empirical research[3] carried out both on the founders and the members of the circuit sheds light over the micro-foundations of a network of exchange that is gradually becoming a well-recognized local institution.

Second, the article also addresses a macro perspective, showing how a complementary currency could become a local trustworthy institution that engages with formal regional bodies and serves as a tool for governance experimentation and possible new paths in local development. Not only does this carry important implications for Sardinia, but – as of the time of writing – other local networks in seven Italian regions are experimenting the Sardex model following its principles, governance,[4] and software infrastructure.[5]

Section 2 illustrates how the idea of Sardex originated and how it was concretized into a CC with specific design choices. Section 3 moulds together several sociological concepts useful for dissecting the analytical dimensions of this case study and presents the research questions in more detail. Section 4 binds these concepts to empirical results (in-depth interviews with the members), opening a space for testing some research questions. Section 5 highlights three important points for future discussion.

2. The Genesis: From an Idea to a Working Model

Sardex came into being slowly. In 2006 two of the founders started researching the features of the current international monetary regime and saw its profound effect on local economies and societies throughout the developed world. The structure of operation of the global economic and financial system appeared unsustainable, and positive exceptions (such as the Swiss WIR[6]) were usually developed in response to (recurring) economic crises. In 2009 it became clear to the core team composed by four young Sardinians that

[3] Paolo Dini (LSE) and I interviewed the four founders of Sardex and we especially benefited from an on-going and fruitful exchange of ideas with one of them, Giuseppe Littera. For more details see (Littera *et al.* 2016). As for the circuit, we conducted 29 semi-structured interviews in three waves in Summer 2015-Winter 2016 to members following a city-campaign criterion. Approximately one third of the interviews were done in the city of Cagliari; one half in hinterland smaller towns such as Serramanna (where the headquarters are), Assemini, Carbonia, Terralba and Oristano; and the rest in the larger town of Sassari. We also selected a fairly wide range of business types, including professionals (lawyers, notary, professional association of private training course instructors, translators). as well as businesses in the food and hospitality sector (supermarkets, restaurants, bars, catering), artisans and small manufacturing (blacksmith, decorator, plastic bags, neon signs), retail (clothes, sports, electronic appliances, plumbing materials, tyres, crockery and household) or other services (printing, postal service).

[4] 'Governance' here merely refers to a light institutional structure defined by a private (credit-clearing) service provider, an application and vetting process to join the circuit, and contract-based membership to the circuit.

[5] Cyclos 4 is Sardex's financial software infrastructure-as-a-service http://www.cyclos.org/products/

[6] WIR is short for Wirtschaftsring, German for 'economic circle', but also means 'we' in German, emphasizing the community and solidarity aspects of the currency. WIR is a business-to-business (B2B) system and refers to the network of SMEs as well as to the currency itself, which is nominally held at the same value as the Swiss Franc (CHF) to simplify accounting (the unit of account is equal to the CHF). WIR was founded in 1934, as a result of the money scarcity caused by the Great Depression in Switzerland (Studer 1998).

> something ‘had to be done’ as no existing institution was ready to tackle the economic depression that was on its way. As correctly forecast by Crenos, in the years 2009-2014 credit conditions deteriorated 4 years in a row. Repossession rates soared, credit to SME decreased 3.5% and credit to households decreased 2.2% from 2013 to 2014, while [in 2014] non-performing loans stand at 12.6% of the total. At the same time, we were reading many studies – such as those by Ufficio Studi CGIA Mestre – on the banking sector reducing on lending for two consecutive years, cutting as much as 100b Euro previously lent to businesses and families (Giuseppe Littera – co-founder)

The founders decided to set up a CC network as a response to the dire economic conditions Sardinia was facing. They thought this could have been an interesting enterprise to engage in and – above all – they shared the “vision” that it could have a positive impact on the island’s economy. Clearly, the founders had in mind a different type of economic system, not one dominated only by market competition, but one aiming to achieve enough growth for a better and sustainable future for the community (Dore 2014).

2.1. How it works: Monetary theory, design, and operational mechanisms

The economic agents are legal entities, such as companies that pay an annual membership fee. Although any size company can join, the overwhelming majority consists of SMEs. Once in the network, businesses trade goods, products, and services in business-to-business transactions, for example a meat wholesaler supplying local supermarkets, or an accountant doing the books for another company. In addition, since most of the members are micro-enterprises and retail shops, the business owners are allowed to spend credits earned by their business on personal expenses, like groceries, dentist, lawyer, restaurants, clothes, etc that are also members of the circuit. There are no independent individual members as are normally found in systems like LETS and Time Banks. However, a few years ago the business-to-employee (B2E) programme was introduced, whereby employees can elect to have part of their salary paid in Sardex. This was particularly important during the crisis when this programme enabled many businesses to keep their workforce intact by lowering everyone’s Euro portion of their salaries and “topping up” in credits. Individuals that earn credits in this manner can spend them only if they have a positive balance, they do not have a credit line like companies.

As a currency, 1 Sardex is nominally equal to 1 Euro but it is not convertible into Euros or any other currency. The Euro is the unit of account whereas Sardex is the medium of exchange. It can only be “spent” and “earned” through economic participation in the network, and it is digital (electronic). In Sardex, transactions involve a positive entry in the centralized electronic ledger – in the seller’s account – that balances the equal and opposite negative entry – in the buyer’s account –

according to the double-entry book-keeping method.[7] This reinforces the perception of money as a 'social relation of credit and debt' (Ingham 2004; Amato and Fantacci 2012) and de-emphasizes its perception as a commodity, which can only be a positive quantity.[8]

Companies wishing to join need to apply and are vetted for solidity and creditworthiness. Those that are accepted are given a credit line (maximum negative balance) that for the purposes of this explanation can be loosely estimated as 1/100 of their turnover. In addition, they have to agree to accept a certain amount in credits (maximum positive balance) that can be loosely estimated as 1/10 of their turnover. The principle is to avoid 'leverage':[9] as of the end of 2015, the mass of credits in circulation was 4m Euro, while the total value of products and services backing this money over a 12-month period was 80m Euro.[10] The credit line is formalized in a contract that is fine-tuned for each company and that includes a series of rules of behaviour such as a commitment to avoid large and persistent positive or negative balances. As in the operation of standard credit cards, the extension of credit amounts to the creation of money. Whereas credit cards charge a fee to the seller and after the end of the billing period credit card balances that are not paid by the buyer incur an interest charge, Sardex does not charge transaction fees and negative (or positive) balances do not incur any interest charge (or growth); however, they need to be recovered through the sale of products or services within 12 months or they will need to be repaid in Euro.

The fact that positive and negative balances do not accrue interest motivates the holders of positive balances to spend them, stimulating the local economy. Usually, the velocity of circulation of complementary currencies is far higher than traditional currencies (Gelleri 2009), as confirmed by Sardex: it is exchanged (approximately) 10 times faster than Euros. Once a CC has reached a mass that makes up for the lack of the national currency as a medium of exchange, it is not meant to keep increasing the total amount of circulating money, but to increase its speed of circulation, i.e. the number of times it changes hands. The absence of interest on negative balances also implies that there is no penalty during negative cash-flow fluctuations, i.e. when the buying party is in need of credit. This is particularly relevant to the fact that, like the Swiss WIR, the core of the membership is constituted by SMEs.

The absence of interest has given rise to the perception that mutual credit systems are a form

[7] Similar systems have been used in many historical periods and cultural contexts, and even at larger economic and geographical scales as, for example Keynes's Bancor as the unit of account used for the European Payments Union (1950-58). See Amato and Fantacci (2012) or Graeber (2011) for more details and examples.

[8] Whereas in the creation of bank 'credit money' the two entries of the double-entry systems identify the creditor and the debtor, and therefore the social relation between them, in the case of mutual credit systems both the credit and the debt are towards the circuit rather than between the transacting parties. Therefore, this system amplifies the perception that (bilateral) economic action is embedded in (multilateral) social structure.

[9] Normally defined as the ratio of a company's loan capital (debt) to the value of its ordinary shares (equity).

[10] The backing is calculated by adding the total of all the maximum positive balances of all the members, which is a conservative estimate of the products and services the companies can produce in one year.

of barter; in fact, Sardex and WIR are sometimes described as 'multilateral barter systems'. Based on the textbook definition of money as performing the four functions of unit of account, medium of exchange, store of value, and means of payment (Ingham 2004: 3), Sardex is able to perform the first two just as 'normal' money. It is also a store of value over time, but the absence of interest diminishes its perception as such and makes hoarding pointless. The means-of-payment function is generally associated with the chartalist theory of money (Knapp 1973), according to which money is what the state accepts as tax payments, such that money derives its legitimacy from the authority of the state (Ingham 2004). This is what is generally meant by *fiat* money. Although Sardex cannot be used to pay taxes directly, the centralized electronic system it relies on implies 100% tax (VAT) transparency. Sales in Sardex incur a VAT charge as if they were in Euro. For purchases over 1000 Euro, each transaction may involve some credits and some Euro. However, VAT is paid on the *whole* amount, and it is paid in Euro. Thus, the Sardex system indirectly contributes to the State's fiscal revenues. Secondly, it also contributes to GDP due to the Euro parts of the transactions that could not have taken place without the credits. The former of these two effects strengthens its legitimacy as a currency and helps rebuild trust between the State and the citizens.

3. A Theoretical Framework

The Sardex phenomenon is best understood through a multifaceted theoretical framework based on various currents within the economic sociology literature. In this article we argue that Sardex emerges as a novel economic and social space (mostly) equivalent to a proper market at the macro level. It is the direct output of an idea thought up and developed by young local entrepreneurs as a specific 'cultural and political project' that aimed to address firms' need to trade within a low-trust environment and in times of economic crisis. The functioning of the network reflects the "project" through specific design principles combined with social and economic characteristics of the context, and members' motivation to join the network. Interest rates, positive and negative balances, as well as money legitimacy, taxes and transparency along with trust and social capital are thus relevant to the understanding of a mutual credit system. In addition, from economic sociology we also borrow the concept of 'circuit' as a relational network, as well as the intuition that money has multiple meanings and forms. Sardex, as a peculiar complementary currency, exemplifies the micro-foundations of monetary life of a given community. In the course of the paper the analytical lens widens progressively, revealing a close and compelling micro-macro connection.

3.1 Insights from Economic Sociology

Economic sociology has worked over the past 30 years on trying to address the main shortcomings of the neoclassical economic model, such as the atomistic conception of economic action (White 1981; Granovetter 1985). As a result, useful concepts were discovered and proposed, such as the relevance of relational networks to economic action (Portes 1998; Zelizer 2012); the variety of market structures in different social contexts (Powell 1990); the autonomous role of cultural and cognitive factors (Powell and Di Maggio 1991; Hodgson 1998); as well as not-only-market types of relationships (Uzzi 1996) and the constitutive role of the State in setting the rules (Fligstein 2001). This premise is necessary to understand the multifaceted theoretical framework we developed to understand the micro-macro link in economic sociology research that the Sardex case represents.

Research on social capital and trust is central to our analysis. Whether it is referred to as generalized trust conducive to a fluid social and economic environment (Coleman 2000; Putnam 2000), or it is meant as a network of productive and resourceful relations (Granovetter 1985; Trigilia 2001), social capital[11] is a key component of the network of exchange. Trust is fundamentally important for establishing a fluid trading environment among SMEs, for becoming a trustworthy third party and, ultimately, for underpinning the development of a more inclusive relationship between citizens and formal institutions in the governance of the territory. Our first research question is about the role of social relations in creating a favourable context for market exchange and community building (Section 4.1).

A second research question aims to test whether Sardex could resemble a Zelizer circuit (Section 4.2). Stemming from Neil Fligstein's definition of a market as a social situation characterized by property rights, governance structures, conceptions of control, and rules of exchange (1996), we use the metaphor of 'market as politics' that makes possible to imagine market institutions as 'a cultural project in several ways' (Fligstein 1996, 657), where actors interact through economic and social values combined with specific political cultures. As peculiar as they might be, markets, once established, lead to the emergence of institutions by engaging actors through specific rules and mechanisms.

[11] Research on social capital emphasizes either social structures or cultural aspects, giving birth to two different approaches. On the one hand, it can be seen as the network of relations one has at their disposal carrying resources that can be activated to pursue a goal through weak and strong (or bonding and bridging) ties (Granovetter 1985). On the other hand, social capital refers to a general trust (civicness) distinctive to specific contexts (Coleman 1990; Putnam 2000). Therefore, the relationship between social capital and local development is not proportional in a one-to-one direction. It is complex, it changes over time and it depends on political and institutional factors as much as cultural traits of the local community.

Peculiar rules and mechanisms at the heart of a new institution can resemble those of a 'Zelizer circuit' making room for a structure that cannot be interpreted by the more classic concepts of market, hierarchy or network. Zelizer (2005) proposes a multi-dimensional definition of a circuit that 1) has well-defined boundaries separating members from non-members; 2) exerts control over exchanges across boundaries; 3) includes transfers that might involve the use of a specific medium; 4) builds connections between participants that are based upon shared meanings; and 5) permits the transfer of well-defined goods through personal interconnections. Different combinations of these elements might 'imply the presence of an institutional structure that reinforces credit, trust and reciprocity within its perimeter, but organize exclusion and inequality in relation to outsiders' (Zelizer 2005: 5).

Well-known useful analogies to circuits are common-pool resources (Ostrom 1990) and trust networks (Tilly 2005), but they fail to fully capture the dynamics of circuits (Zelizer 2005). Circuits tend to emerge in 'those intersections between capitalist markets and pressing problems' (ibidem, 24), where alternative solutions are sought (poor firms' social capital, too-small and local inwards markets, clusters in traditional economic sectors, economic depression, money shortage). Circuits usually face 'significant collective problems of trust in the absence of central authorities that could enforce agreement' (Zelizer 2010: 307). Overall, they emerge from a peculiar structure that encompasses both economic exchange and social values.

Since the idea of circuits has been used in several markets, from art markets (Velthuis 2005), U.S. micro-credit groups (Anthony 2005), and Silicon Valley venture capitalists (Indergaard 2004), while Zelizer (2005) first applied it to local currency and personal care systems, we are going to test it against the Sardex case as a second research question (Section 4.2).

The fact that Sardex could resemble a Zelizer circuit in spite of the fact that it was started and is being run by a company calls for a comparison of the institutional context created by Sardex s.r.l. (Ltd) with that created by the state, in particular in the ability of the former to create and guarantee an environment conducive to constructive economic and social interactions. If it is true that one of the important roles of the state is to provide 'stable and reliable conditions under which firms organize, compete, cooperate and exchange' (Fligstein 1996, 660), another research question at the heart of Section 4.4. is about whether Sardex plays an analogous role, in how it has configured itself, as provider of a robust social structure that supports a stable world (the network of exchange) where economic actors can engage with each other, trust each other, and trade. Moreover, the Sardex design allows for tax transparency, contributing to recognize it as a local institution and to foster its role of enforcer of legality.

4. Sardex: Circuit, Trust and Institution

We will now dissect the Sardex phenomenon through a narrative that binds together several concepts from the sociology of money and credit within an economic sociology perspective. Three main points emerge from the empirical evidence as the analytical lens becomes progressively wider in scope: from an emphasis on the micro-scale in the discussion of social relations and trust (Section 4.1); to the wider concept of 'circuit' (Section 4.2). We argue that these three perspectives taken together highlight the macro-scale view of Sardex as an institution and a laboratory for multi-level governance (Section 4.3). Each of these three sections also answers our research questions from Section 3.

4.1. In Sardex We Trust

As a premise, it is important to note that Sardinia has a reputation for solitary and begrudging individualistic attitudes (Lodde 1998) and, at the same time, for very close-knit family networks (Pinna 1971). Thus, envy and closed communities have traditionally governed economic activities in a traditional and static manner, condemning the region to poor economic performance and limiting innovation and entrepreneurship (Bottazzi 1999). The region also has a tradition for an unwritten (until 1960) code of personal conduct and community behaviour (Codice barbaricino as the 'code' for vengeance, Pigliaru 1959; Sirigu 2007) interpreted externally as a sign of the backwardness of economic and social practices. It has also been linked to a low level of civicness and negative social capital (Barbagli and Santoro 2004). Finally, Sardinia has never achieved a primary role on the national economic stage as its economy is characterized by agriculture, local markets, state-led industrial initiatives and a negative trade balance (Bottazzi 1999).

The first point of discussion in the study of Sardex is trust. In the case of money, trust is built around actors' beliefs about how money is used by others within a specific system. It is community-specific and it relies on social and economic values and reciprocal expectations. Interviews of Sardex members highlight at the micro level how trust, community values, and motivations are crucial to the system's vitality and performance, along with the other features outlined in Section 2.

Trust is also closely related to social capital in its two main definitions, which are both useful to analyse our empirical findings. Trust basically works at two levels: as a starting point to join the network if members know someone within the Sardex organization (direct), and as a lubricant for transactions between members (indirect). In the next section (4.2), we also show how the Sardex team managed to win the trust of the circuit members.

Our empirical findings reflect some of these characteristics. There is a widespread attitude of scepticism towards innovations like Sardex since there is a tendency to perceive others as reluctant and cautious. This veil of diffidence is breached when one personally knows someone who is already a member of the circuit:

> At the beginning people are curious, they want to see what opportunities there are. But then, when it's time to decide, they get cold feet. The first question they ask: 'is it cheaper?' [is there a return? Or, what's the advantage?]. They think of it as an opportunity to speculate and they are afraid of being tricked. It's as if they doubted the good faith of other people. It is as if they said: 'what's the motive behind your offer to help my business? What do you get out of it?' I'm talking about people you know as acquaintances, not people that you've never seen before, who have no reason to trust me. It's colleagues and people who live in the area; they say that it is interesting and that's it. [If you are born in Serramanna] instead of being a bridge of trust (...) we think the opposite. I think that we would have had this problem in any other part of Sardegna. Nobody is a prophet in his own country (Alessandra, retail).

Some are deemed real 'lost causes', or champions of diffidence, especially because they don't (want to) understand the working mechanisms of the currency, resulting in continued loss of clients.

> We asked the local optician why she doesn't join Sardex and she answered that no one in the network sells what she needs for her business and this is a problem; so she could use the Sardex credits "just" for personal purchases such as to shop for food, go to the hairdresser, buy clothes. A pair of new glasses costs 300 or 400 Sardex and with these amounts she would accumulate Sardex credits that it would take her a while to spend. However, the problem for her is that another optician who is a member of the network is going to get the Sardex that I would have paid to her. So she is losing sales (Luciano and Stefano, bar/cafe owners).

After hearing 'people talking about Sardex', individual curiosity and a search on the Internet can lead to asking for more information and, potentially, to joining the network. Other channels are important, like the mainstream press, various bloggers, and social media; but above all referrals from existing participants who understood that the value of the network increases exponentially as new participants join.

We argue that even if the share of social capital – meant as the level of trust towards a generalized other – is low, relational contacts (both strong and weak ties) mediate and support innovation actions such as joining the network. Once the first step is taken, the value of networking is self-reinforcing.

> Let's say that I like innovations and I tried. But to try means also to have confidence and to want to work in the Sardex network. And yes, the fact that my brother was already a member helped quite a bit, especially in becoming accustomed to how it works (Melania, professional in training services).

> We joined from the start because it was something that belonged to Serramanna, to the network where we work. Sardex is going to stay (Luciano and Stefano, bar/cafe owners).

Yet, other motivations are at work too. Usually, joining the network grows out of the hope of finding new or additional trading partners and clients. Especially in a moment of severe economic crisis, new business opportunities are sought to tackle the loss of previous clients.

> [There is a] connection [between economic crisis and the birth of Sardex], in a positive way. It has boosted the economy, has given a push to local trade. It helps us to survive. We are able to go on because of them (Lara, small supermarket).
>
> [I would recommend joining] because Sardex gives us the opportunity to get more business. The customers that Sardex brought me were people that I didn't know, so it has allowed me to find new potential customers in a period of crisis like this (Vinicio, decorator).

The fact that the lack of interest on positive balances stimulates spending, as explained in Section 2.1, is key to making the members realize that they help the network more by spending than by saving, and that what they spend will return to them. Sponsorships, for example, are thus much easier in Sardex:

> I am the president of the local football team and our sports club has also joined the network. We got Sardex credits through sponsors, because it is easier to convince a sponsor to pay in credits than to give you Euros. Both types of sponsors have helped us for the championship. For example the medical examinations of the team and the equipment were paid in Sardex because in the network there are doctors and also companies that sell this type of equipment. For a regional championship like ours this was a big deal (Vinicio, decorator).

As is access to credit and investments, which is more difficult during a liquidity or credit crisis:

> One advantage of the network is that it allows to finance investments without having to pay interest. If I have to invest in some improvements on the house, for example on the heating system, through Sardex I can ask for a Sardex "credit line" to do that kind of work because there are some craftsmen that are part of the network. So I can get the job done without paying interest (Vinicio, decorator).

Belonging to a finite network influences how firms behave in the ways they face uncertainty, and helps establish the relations of trust needed for trading. Sardex entails the creation of ties among actors that did not know each other before, leveraging or filling the void of the lack of a pre-existing rich relational network. Cultural and social embeddedness of economic action appears clear also in a context of low levels of social capital in creating a favourable context for market exchange and community building. Sardex is an integrated network of economic and social ties where a good balance of self-interested and cooperative actions has been reached. Put otherwise, Sardex gains value not only from the institution that supports it (a trustworthy third party, see Section 4.2) but also from the network members that use it in their daily life, as a self-reinforcing mechanism and a self-sustaining system.

4.2. Sardex as a Circuit

The second research question regards whether the ‘Zelizer circuit’ applies to Sardex. At this point of the paper, some of the conditions of a Zelizer circuit are self-evident (Section 3.1). A circuit has well-defined boundaries separating members from non-members, it exerts control over exchanges across boundaries, and includes transfers that involve the use of a specific medium of exchange. In fact, Sardex became a specialized network that employs a distinctive medium for economic exchange with finite and clear boundaries (‘a self-sustaining system’).

A fourth condition of the circuit refers to connections built between participants that are based upon shared meanings. Some respondents captured perfectly the original ‘cultural and political project’ of the founders as tightly connected to the territory and its cultural identity. Thus, Sardinia’s strong cultural identity appears to enhance cohesion among circuit members and strengthen trust, an effect particularly important in the early stages.

> Some members understand perfectly that Sardex was built to provide for local needs not met by the national currency while reflecting a different take on economic exchange. It comes from Sardinians willing to do something for their own land and trying to incentivize new ways to trade locally (Vinicio, decorator).

Others told us that the local currency has to be “understood” in its inner values and logic, not only in its functional properties.

> If the first month I had Sardex credits and didn’t know how to spend them, now I know that I am also able to buy meat, shop for food, buy clothes... in conclusion I can use them as if they were Euros. It’s all a matter of entering into the Sardex logic (Melania, professional in training services).

Results show that – if shared meanings are not present from the beginning – they can be achieved later on. Some of the interviewees think that the local currency was born just out of the economic crisis that hit Europe after 2008, as if it were detached from a project tightly connected to the local economy.

> They were looking for a way to get out of the crisis and they succeeded (Stefano, restaurant owner).

> I think the Sardex idea, the reason, is especially the economic factor that has pushed to look for a different solution (Alessandra, retail).

In contrast to LETS or Time Bank systems, where motivations to join tend to be related to ideals about a society where people and their social relations are prioritized relative to globalized markets (Pacione 1997; Tibbett 1997), in Sardex motivations appear to be – at least initially – merely economic. Although Sardex is a specialized network, it carries an implicit vision that, if not shared in its proper values and meaning at the very beginning (when one decides to enter the circuit), in many cases it is recognized after the circuit proves able to achieve the economic benefits sought. Moreover, as Sardex evolved in scale and scope as well as in its functional, operational, and organizational characteristics, also its narratives and the way it is perceived changed. Based on our interviews, at some point after joining the circuit different forms of social benefit become visible to most of the participants: for example, a close trust relationship with their brokers, implicit trust between trading parties who do not know each other,[12] a sense of shared meaning within a broader community.

In Zelizer's definition (fifth condition), a circuit 'permits the transfer of well-defined goods through personal interconnections', but in Sardex something different is also at work. There is a third party that helps the exchange of goods and services, especially at the beginning, when many members might not know whom to trade with. The broker structure provided by the company is a successful organizational solution at the heart of the network.[13]

Sardex offers a good test for a sixth additional condition – the 'mutual awareness of the participants' – which, as Zelizer (2005) admits, is usually difficult to achieve. 'Mutual awareness' builds on the 'shared meaning' dimension that is key for a steadily growing community. Of course, knowing that some personal or commercial ties already joined the network is an incentive for potential members to jump into the complementary currency experiment. Yet, 'mutual awareness' – acknowledged as 'recognition' of other potential partners – is also supported through a search and self-advertising online system: all the members of the circuit are present on a database that can be browsed with positive feedbacks in terms of visibility and usefulness.

Mutual awareness does not emulate or imply trust, but an understanding that it is possible to go beyond the local (town and market) perspective thanks to a new community (e.g. the region, which is the whole island). This is a strong incentive to scale up and to think differently about one's personal business, breaking diffidence towards market-based economic transactions:

> You meet people who are part of the network and we exchange opinions; you learn from them, and

[12] Sardex recaptures the trust-based credit-granting behavior still common at the village scale.

[13] Sardex s.r.l. employs about 12 brokers (or CTAs – Community Trade Advisors) who provide guidance especially to new entrants in matching supply and demand for B2B transactions. Their central view of the network makes it easier for them than for individual members to find business partners that may be in a different town.

> they learn from you. There is an exchange not just regarding the purchase but also about the ideas, ways of conducting business, advice. You can establish a relationship that is different from the one that you can have with a customer because the usual customer buys, chats and that's it. Instead with Sardex when you enter this big network, I'm not saying that it's as if you entered a big family, but you do have a different relationship. (Alessandra, retail)

Overall, our empirical findings support the hypothesis that the Zelizer circuit applies to Sardex. A circuit exists as structure that cannot be understood by the more classical concepts of market, hierarchy, or network. We think of it as a proper market with a distinctive network of interpersonal relations and whose members recognize and share locally meaningful symbols. It uses a distinct medium as a common tender, which does not compete with the legal tender. It also has a peculiar structure that facilitates both economic exchange and social values and helps solve collective problems of trust.

Sardex's role as mediator

Sardex's role as a mediator is the key feature that can be added to a Zelizer circuit, building on its 5th condition (see Section 3.1). It was essential in the start-up phase and remains central now. It solves problems of coordination and facilitates new economic relations between actors who did not previously know each other, who do not think beyond their current market limits, or who rely on previously existing local industrial networks. A trusted third party is essential to incentivize newcomers to join the community's local currency, supplying the new economic transactions with trust (Uzzi 1996) and ameliorating the aforementioned low levels of trust.

Trust in the Sardex operational team grows out of solved problems, kindness demonstrated in fielding all questions, assistance provided to community members, and the timely suggestions of competitive market ideas. Some think they can "blindly trust Sardex" in case of a payment problem as well as for suggestions and brokerage for collaborations and partnership.

> When I had a problem the staff has always been very efficient and if Chiara, my broker, is not available there are others who are really kind. I'm not very capable with the technologies and at the start with the transactions; they had patience and were very good (Gemma, hairdresser).

> Now the government has imposed the POS [Point Of Sale card reader, i.e. a requirement to use a debit card for all retail and non-retail transactions, for the purpose of traceability], but we are already ahead because we have anticipated this law. Until now, if there were any technical problem with the payments, I turned to Sardex and the issue was solved (Bruno, blacksmith).

> Thanks to Sardex's brokers I got in contact with a training agency in Cagliari that retains my services for web marketing every month. If I compare the years I have worked with the Sardex system, at the beginning I didn't do much in Sardex just because I never looked for any kind of collaboration.

> Actually, this monthly collaboration was pushed by the brokers! (Melania, professional in training services).

The role of Sardex as mediator was reinforced further when a team of brokers was introduced to help member companies find trade partners in the circuit they had no way of finding on their own. The fact that a fee is not charged for this service makes it easier for the brokers to develop strong social ties with the members they serve, which then helps strengthen a generalized environment of trust and collaboration. Such an environment, then, reinforces horizontally a shared 'spirit of community' and – at the same time – legitimizes Sardex's organizational structure as the linchpin of the circuit. Hence, Sardex becomes and is perceived as a facilitator of economic exchange in a context of weaker economic development.

A final remark is that the role of mediator is what truly differentiates Sardex from other complementary currencies, since Sardex s.r.l is formally an organization with its own cultural and political project. Only at first sight can the founders be grouped for their values and motivations with the activists that generally spur and initiate other local currencies like LETS or Time Banks. This is because they decided to concentrate on businesses, going a step further to 'organize' the local system to become a real alternative for local firms. They kept their original vision laden with values in terms of economic and social alternatives to the capitalist economic market while trying to overcome the main causes of failure of local currencies: reliance mainly on voluntarism and decreasing enthusiasm by the participants (Seyfang 2002; Collom 2005). They could also be shut down by state or regulatory intervention and by absence or poor replacement of administrative staff and leadership (as for the Argentinian Trueque, Gomez 2013).

4.3 Sardex as a Laboratory for Multi-Level Institutional Governance

Lastly, we uncover the micro-macro link looking at how Sardex became a valuable actor and a stakeholder in regional governance. We widened our analytical lenses to answer our last research question (Section 3.1) that –Yes – Sardex could be seen as resembling the role of the State in a narrow, newer, finite, regional market as a reference point to turn to in case help or advice are needed, and as a mediator of a network of exchange.

Whereas usually the State reflects a legitimate public interest, Sardex started building its legitimacy on the process: founders were (and are) able to push the operation and growth of the circuit forward in the name of the territory while anchoring the economic exchange on solid networks of trust relations between firms. This is not only key to re-embedding economic exchanges, but also to creating a 'public interest' for the community; that is, a common interest that helps the community come together and interact. This leads Sardex to serving as a building block for the local territory, helping integrate smaller, sparse firms into a community that is not only economic but bears social values. As for the role of the State, Sardex aims to create a stable market representing a complementary economic and social space that glues together and balances economic benefits and non-mainstream social values.

In addition to building legitimacy on the process, Sardex acquires it through tax transparency, as explained in Section 2.1. Many members of the circuit pinpoint Sardex's capacity to make transactions clear, simple and traceable as one of its best features. Sardex becomes itself also a guarantee of payment, which contributes to a positive atmosphere for trading.

> I haven't evaded tax because you've paid 10 and I've written 10, so nothing is done under the table. Indeed, it is also a way to prevent evasion. You cannot evade! (Gemma, hairdresser).

> From the point of view of tax transparency, it works better than other transactions because the process doesn't allow you to evade (Stefano e Luciano, bar/cafe owners).

> We are sure to be paid. If you don't work in Sardex it often happens that you don't get paid. So it's quite a guarantee (Bruno, blacksmith).

The case of Sardex makes evident that if a complementary currency grows out of necessity (in those aforementioned 'intersections between market and pressing problems'), it may eventually acquire formal backing by the State, with positive implications both for the third party that governs the circuit and for the whole community. The former resembles the state as legitimate mediator because, as a mutual credit system, it is recognized as the bearer of a legitimate 'public interest' towards the community and a stakeholder in market-state relations. The latter benefits from the transparency over all transactions, improving the social cohesion between members that allows for stronger trust towards Sardex and within the community.

Finally, as the project progressed it became increasingly possible to view it as a laboratory for a multi-level governance. On one level, the network is interpretable as a space where economic and societal solutions to problems (such as governance structures and rules of exchange) are solved through internal experimentation, as the evolution of Sardex showed so far (Section 2). Initially, governance simply meant a private credit-clearing service provider, an application and vetting process to join the circuit, and a contract-based membership. As for the future, a more participatory governance framework with an advisory board drawing on network members is one of the organizational innovations Sardex is currently considering. The motivation is to try to institutionalize a practice without reducing its power and inherent dynamic nature. Some overarching objectives have come into better focus in addition to giving access to the currency to employees as additional purchasing power: entice larger companies to enter the network, motivate an increase in retail presence, and try to establish a framework of cooperation between labour force and entrepreneurs. On a second level, Sardex has become a trustworthy actor that regional government engages with in the experimentation of economic arrangements that may allow for innovative paths in local development. As such, in a collaborative effort with formal institutions like Regione Sardegna Sardex started developing cooperative strategies to further incentivize a dynamic local economy addressing unemployment and the credit crunch.[14]

If any Public Administration body enters a mutual credit system like Sardex, some advantages are foreseeable. Possible examples are wealth circulation; deepening of social inclusion; increase in commercial activities with corresponding boost in tax revenue; and decrease in public debt and in payment deferment (Martin and Spano 2016). Solving liquidity problems to (at least) local SMEs is truly innovative and potentially disruptive, especially where Euro payments can take months to be effected. In 2013, in Sardinia, the average time gap between invoices to any Public Administration for supplies of goods and services and their payment was 67.84 days compared to 31 days in Lombardia and an Italian average of 41 days.[15]

This is the main reason for international interest in the EU project DigiPay4Growth where Sardex is developing a time-limited credit system[16] that is providing significant relief to the regional government in servicing their backlog of payments to their suppliers. In essence, these are traceable credits that "expire" and become Euros when the regional government's purse is replenished by tax income or national allocations. The system that is being developed includes the participation of the public administration within the same legal framework that applies to the Sardex network. Unlike SMEs, the government would not be allowed to spend or 'go negative'. It first needs to earn a positive balance by selling to participating SMEs its unexpressed potential in terms of goods, services, and assets that are currently not used or underutilized, with conditions and specificities are being studied and defined.

[14] The collaboration was certified through a formal deliberation by Regione Sardegna, 12/9/2014 n. 35/5, http://www.regione.sardegna.it/documenti/1_73_20140922102720.pdf.

[15] http://www.mef.gov.it/focus/article_0012.html

[16] The DigiPay4Growth system relies on Cyclos, the financial software platform initially adopted by Sardex that now is being piloted in other European regions. It is an innovative way of tagging money, using specific algorithms to track and steer flows of money. It was developed by a private company (STRO) and it recently won the 2014 E-pay Innovation Award.

5. Discussion

There is no doubt that Sardex is growing in importance and scale, and, at a comparative level, one may wonder how and to what extent it is replicable in other territories. After 2012, major attention came from organizations outside Sardinia that had an understanding of the model and the capability to bootstrap a network bottom-up in the context of the on-going deepening economic depression. Many entrepreneurs showed interest in applying the Sardex mutual credit system in other Italian regions. These included 7 network start-ups, each employing 5 to 10 people on average: Circuito Tibex.net (Lazio), Linx.net (Lombardia), Piemex.net (Piemonte), Abrex.net (Abruzzo), Marchex.net (Marche), Samex.net (Sannio); Liberex.net (Emilia-Romagna). We interviewed the founders of Liberex in Emilia-Romagna and of the yet-to-be-launched Apulex in Puglia investigating how they discovered Sardex, what they knew about mutual credit systems, and the goals they wanted to achieve in their own regions. Liberex has already been launched, but is experiencing some difficulties in reaching a critical mass in the number of members. The main reason for this seems to be due to the non-adherence to the guidelines Sardex gives, especially related to the internal structure made of brokers who follow members closely. As explained by Giuseppe Littera, it was soon realized that replication 1-to-1 in other regions is impossible: context-specific solutions must be discovered in each case highlighting the relevance of the local institutional features. In the dialogue with private regional actors, managing the dissemination of knowledge without losing market position or integrity of the cultural project emerged as the most difficult task. Life trajectories, the right skill-set, teamwork, and goodwill of the 'replicants' all come in different proportions: they are extremely difficult to measure but are still essential to a stable network. Another major misunderstanding seems to be the idea that the information infrastructure underpinning the Sardinian network is the driving force behind the trading activity generated. This is the familiar techno-centric conception that development follows from technology and ICT take-ups, underestimating the amount of relational/social/educational effort needed to promote a complementary currency network from scratch at the local level. The key factor is the capacity to mobilize and organize local SMEs with the goal of building a trustworthy network of relations. The need for a 'project' might be even stronger in regions not so affected by the economic crisis or with a less marked regional identity.

Another point of discussion is whether complementary currencies – especially the mutual credit system under study – can be regarded as a Local Collective Good (LCG); that is, a generator of 'external economy' at the local level (Le Gales and Voelzkow 2001: 3). LCGs provide infrastructure and services as well as cognitive and normative resources that SMEs are not able to individually produce and systematize, and are fundamentally important for innovation and local development (Trigilia 2005). As a collective good, mutual credit systems provide an infrastructure and a service that we have identified with a specific social structure that operates like a ‘circuit’. At the same time, the relational network among SMEs provides cognitive and normative resources that support economic transactions and consolidate social capital and the community (Section 3).

This experimentation could lead to innovative regional governance policies within a framework where a specific local economy can supply and compensate for contextual deficits or temporary shortages (Le Gales and Voelzkov 2001). Sardex thus resembles a Local Collective Good generating positive externalities for the benefit of the whole territory. It allows for original and cooperative forms of collaboration between productive forces that can open up new forms of co-regulation between state and market. It could also empower local actors to think out of the box, that is, out of traditional economic paths (Trigilia 2001: 128). In fact, its birth and evolution may suggest a parallel with Polanyi’s counter-movement thesis (1944): Sardex is a bottom-up process to ‘defend’ and equip a local society with an alternative development path through new forms of re-embedding of economic transactions along with an original mix of forms of regulation (market, redistribution and reciprocity). Hence, it seems fair to say that Sardex’s ability to mediate on the part of the circuit members could make it an important harbinger of social innovation as it experiments in the building of new bridges between economy and society.

A third point for further discussion is related to Sardex as a new financial space. If we define finance to be composed mainly of two types of activity, investment and banking services, the context within which finance is exercised can lead to very different outcomes. In particular, whereas within the context of capitalism finance in support of entrepreneurship could be said to serve a useful economic function, ‘financialisation’ results when finance supports *financial* entrepreneurship, which is necessarily an “autocatalytic” or positive feedback process that draws resources away from the ‘real’ economy. Although capitalist financial innovation is not necessarily and uniformly destabilising, the empirical record generally points in this direction (Minsky 1992; Ingham 2004; Amato and Fantacci 2012; Lietaer et al 2012). The evidence from Sardex, on the other hand, points to the possibility that outside of a capitalist context financial innovation can be a positive and stabilising force not only for the market but for democratic institutions as well. As might be expected, outside a capitalist context the investment function of finance is much diminished, and the banking services — credit clearing in the case of Sardex — predominate. More interestingly, however, the type of financial innovation that Sardex represents cannot start or be sustained without the social sphere. It is almost a tautology to say that trust and confidence are important to finance, but when finance involves not just banking services but the *creation* of money, clearly very high levels of institutional trust are needed: the circuit members must trust the credit-clearing service, and the government must trust the system, for example with respect to tax transparency. Once this institutional trust has been established, our interviews demonstrate that trust is transitive: the circuit members are more likely to trust each other than customers or suppliers outside the circuit. Together with trust there is also a heightened sense of responsibility, which, we would argue, prepares the ground for higher levels of participatory democracy.

In conclusion, the widening up of our analytical lens progressively showed a tight and compelling micro-macro connection in the social, economic and institutional organization of a complementary currency and innovative financial space like Sardex.

References

Amato, M and Fantacci, L (2012), *The End of Finance*, Cambridge: Polity.

Amato, M and Fantacci, L (2016), *Per un pugno di Bitcoin*, Milano: Università Bocconi Editore.

Anthony, D (2005). Cooperation in Microcredit Borrowing Groups: Identity, Sanctions, and Reciprocity in the Production of Collective Goods. *American Sociological Review*, 70, pp. 496–515.

Barbagli, M and Santoro, M (2004), *Le basi morali dello sviluppo*, AM&D Edizioni, Cagliari.

Blanc, J (2011) *Classifying "CCs": Community, Complementary and Local Currencies, Types and Generations.* International Journal of Community Currency Research, 15, pp. 4-10.

Boonstra, L, Klamer A, Karioti, E, Do Carmo, J A and Geenen S (2013), *Complementary Currency Systems. Social and Economic Effects of Complementary Currencies*, Erasmus University, Rotterdam.

Bottazzi, G (1999), *Eppur si muove. Saggio sulle peculiarità del processo di modernizzazione in Sardegna*, Cagliari: Cuec.

Coleman, J S (1990), *Foundations of Social Theory*, Cambridge: Belknap Press.

Collom, E (2005), Community Currency in the United States: the Social Environments in which It Emerges and Survives, *Environment and Planning A*, 37, pp. 1565-1587.

Crenos Territorio (2014), Appendice Statistica, 210 Rapporto sull'Economia della Sardegna, http://crenos.unica.it/crenosterritorio.

Dodd, N (2014), *The Social Life of Money*, Princeton: Princeton University Press.

Dore, D (2014), *The Social Conditions of Economic Performance*, Stato e mercato, 100, pp. 117-125.

Evans, M S (2009), Zelizer's Theory of Money and the Case of Local Currencies, *Environment and planning*, 41, pp. 1026-1041.

Financial Times (2015), The Sardex Factor, http://www.ft.com/intl/cms/s/2/cf875d9a-5be6-11e5-a28b-50226830d644.html.

Fligstein, N (1996), Markets as Politics: A Political-Cultural Approach to Market Institutions, *American Sociological Review*, 61, pp. 656-73.

Fligstein, N (2001), *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies.* Princeton: Princeton University Press.

Gelleri C (2009), Chiemgauer Regiomoney: Theory and Practice of a Local Currency, *International Journal of Community Currency Research*, 13, pp. 61-75.

Gomez, G (2013), *Balancing Growth and Solidarity in the Argentine Community Currency Systems* (Trueque), paper prepared for the UNRISD Conference Potential and Limits of Social and

Solidarity Economy, 6–8 May 2013, Geneva, Switzerland.

Graeber, D (2011), *Debt: The First 5000 Years*, Melville Books.

Granovetter, M (1985), Economic Action and Social Structure: the Problem of Embeddedness, *American Journal of Sociology*, 91, 3, pp. 481–510.

Hodgson, G (1998), *Economics and Institutions*, Cambridge: Polity Press.

Indergaard, M (2004), *Silicon Alley: the Rise and Fall of a New Media District*, New York: Routledge.

Ingham, G (2004), *The Nature of Money*, Cambridge: Polity.

Knapp, G F (1973), *The State Theory of Money*, (1th edition 1924), New York: Augustus M Kelley.

La Repubblica (2012), *Vivere (bene) senza denaro*, http://www.repubblica.it/tecnologia/apps/2012/01/20/news/moneta_km_zero-28478109

Lietaer, BA (2001), *The Future of Money*, London: Century.

Lietaer, B, Arnsperger, C, Goerner, S and Brunnhuber, S (2012). *Money and Sustainability: The Missing Link*, Club of Rome report, Triarchy Press.

Littera, G, AUTHOR1, AUTHOR2 and Antoniadis, P (2016), Sardex, A Successful Story between Theory and Practice, *International Journal of Community Currency Research*, under review.

Le Gales, P and Voelzkov, H (2001), *Introduction: The Governance of Local Economies*, in Crouch, C., Le Gales, P., Trigilia, C. and Voelzkov, H. (2001). Local Production Systems in Europe: Rise or Demise?. Oxford: Oxford University Press, pp. 1-24.

Lodde, S (1998), *Invidia e imprenditorialità: alcune considerazioni sul ruolo delle emozioni nello sviluppo economico*, http://veprints.unica.it/324/1/98-5.pdf.

Martin, J and Spano, A (2016), Complementary Currencies: What Role for Local and Regional Government?, *Regional Studies*, forthcoming.

Minsky, H P (1992). The Financial Instability Hypothesis. Jerome Levy Economics Institute, Working Paper 74, http://economics.illinoisstate.edu/gawater/eco441/documents/Minskypaper.pdf

Ostrom, E (1990), *Governing the Commons: The Evolution of Institutions and Collective Action*, Cambridge University Press.

Pacione, M (1997), Local Exchange Trading Systems as a Response to the Globalisation of Capitalism, *Urban Studies*, 34, pp. 1179–1199.

Pigliaru, A (1959), *La vendetta barbaricina come ordinamento giuridico*, Milano: Giuffrè.

Pinna, L (1971), *La famiglia esclusiva. Parentela e clientelismo in Sardegna*, Bari: Laterza.

Polanyi, K (1944), *The Great Transformation: the Political and Economic Origins of Our Time*, Boston: Beacon Press.

Portes, A (1998), Social Capital: its Origin and Applications in Modern Sociology, *Annual Review of Sociology*, 24, pp. 1-24.

Powell, W (1990), Neither Market Nor Hierarchy: Network Forms of Organization, *Research in Organization Behavior*, 12, pp. 295-336.

Powell, W and DiMaggio, P (1991), *The New Institutionalism in Organizational Analysis*, Chicago: University of Chicago Press.

Putnam, R (2000), *Bowling Alone*, New York: Simon & Schuster.

Sardex (2016), *Presentazione aziendale*. February 6th, www.sardex.net.

Seyfang, G (2002), Tackling Social Exclusion with Community Currencies: Learning from LETS to Time Banks, *International Journal of Community Currency Research*, 6.

Sirigu, P (2007), *Il codice barbaricino*, Cagliari: Davide Zedda Editore.

Studer, T (1998), *WIR and the Swiss National Economy*, Basel: WIR Bank.

Tibbett, R (1997), Alternative Currencies: A Challenge to Globalisation? *New Political Economy*, 2, pp. 127–135.

Trigilia, C (2001), Social Capital and Local Development, *European Journal of Social Theory*, 4, 4.

Trigilia, C (2005), Sviluppo locale. Un progetto per l'Italia, Roma-Bari, Laterza.

Ufficio Studi CGIA Mestre (2014), Comunicato - Aumenta il rischio usura per famiglie e imprese, http://www.cgiamestre.com/wp-content/uploads/2014/08/COMUNICATO.pdf.

Uzzi, B (1996), The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: the Network Effect, *American Sociological Review*, 61, pp. 674-698.

Velthuis, O (2005), *Talking Prices. Symbolic Meanings of Prices on the Market for Contemporary Art*, Princeton: Princeton University Press.

Tilly, C (2005), *Trust and Rule*, Cambridge: Cambridge University Press.

Weber, M (1968), *Economy and Society*, Guenther Roth and Claus Wittig (Eds), New York.

White, H C (1981), Where Do Markets Come From? *American Journal of Sociology*, 87, pp. 517-547.

Zelizer, V (1994), *The Social Meaning Of Money: Pin Money, Paychecks, Poor Relief and Other Currencies*, Basic Books.

Zelizer V (1999), Multiple Markets: Multiple Cultures, in *Diversity and its Discontents*, N Smelser and J Alexander (Eds.), Princeton: Princeton University Press, pp. 194-212.

Zelizer, V (2005), Circuits in Economic Life, Working Paper, University of Milan, http://www.socpol.unimi.it/papers/2009-06-26_Viviana%20Zelizer%20.pdf.

Zelizer, V (2010), *Economic Lives*, Princeton: Princeton University Press.

Zelizer, V (2012), How I Became a Relational Economic Sociologist and What Does It Mean?, *Politics and Society*, 40, 2, pp. 145-174.